



Lightning Protection / Earthing

Catalogue valid as of January 1, 2015

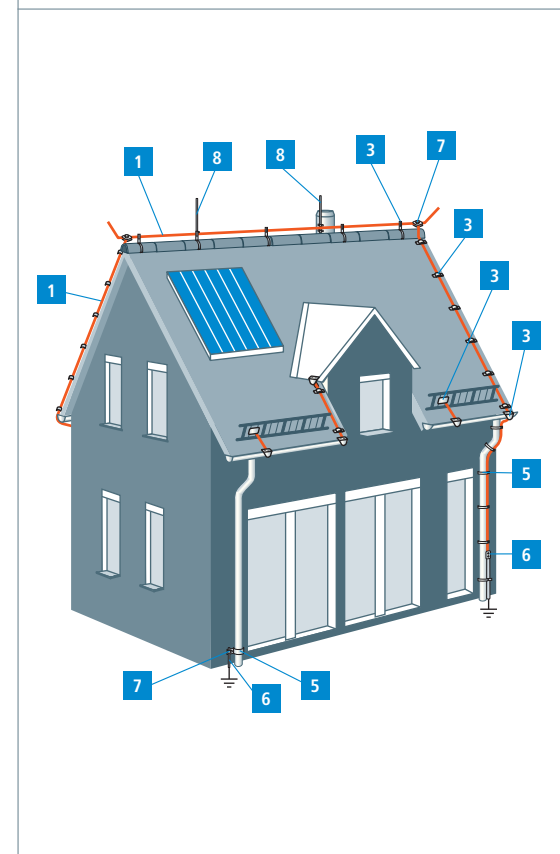
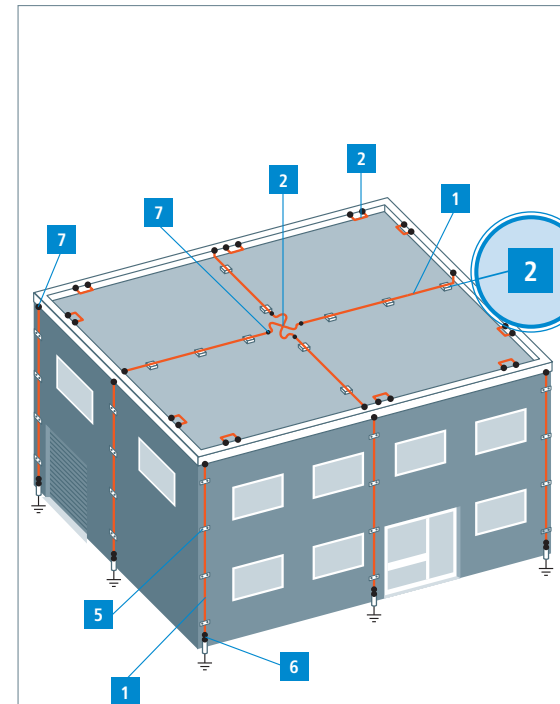


Faster product selection

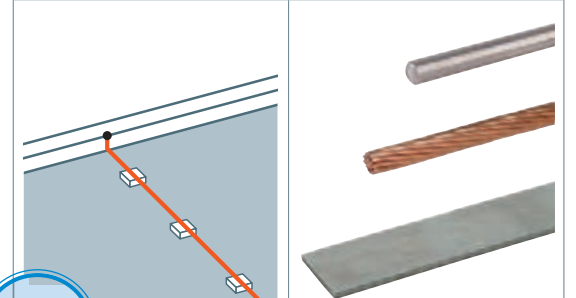
Welcome to our catalogue 2015.

Here you will find numerous new products. Additionally we offer a new catalogue structure which will help you to quickly find a suitable product solution.

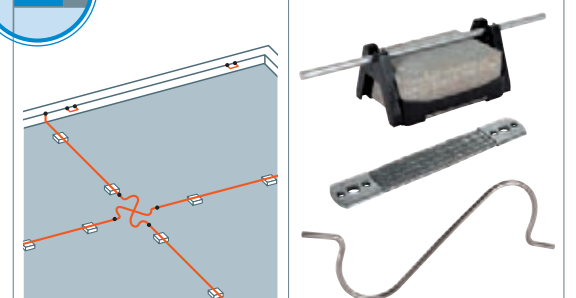
Air-termination System / Down Conductor / Isolated Lightning Protection



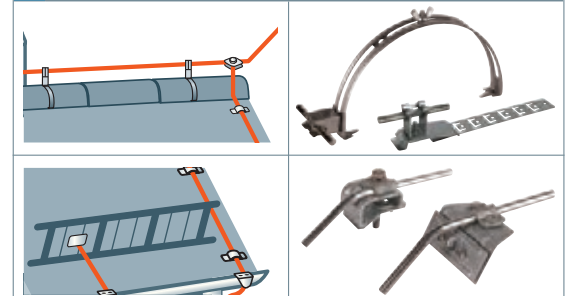
1 Round Wires, Strips, Cables, Rods



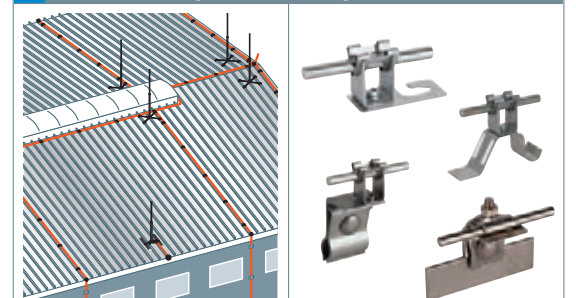
2 Flat Roof – Roof Conductor Holders, Bridging Brails



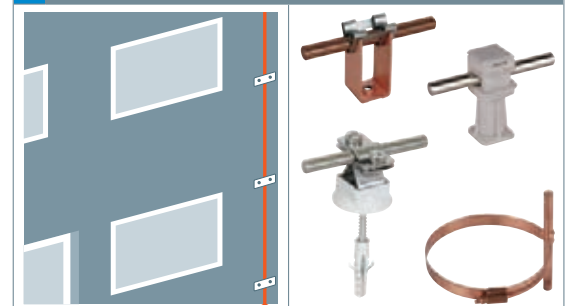
3 Pitched Roof – Roof Conductor Holders



4 Metal Roof / Corrugated Sheet Roofing – Roof Conductor Holders



5 Down Conductor – Conductor Holders





HVI®light Conductor (cut to length)

- Conductor length according to customer specification

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HVI® Conductor (cut to length)

- Conductor length according to customer specification

Page 168



HVI®Conductor integrated in the supporting tube with air-termination tip / air-termination rod

- Complete set
- Preassembled

Page 166

HVI® Conductor integrated in the supporting tube with air-termination tip and tripod



- Complete set
- Preassembled and ready to install

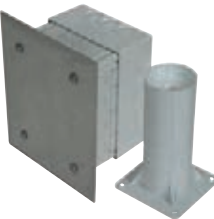
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200 kA (10/350 μ s) connection components

- Disconnecting clamps
- MV clamps
- KS connectors

Page 88



Test joint boxes for external thermal insulation composite systems

- Telescopic from 90 to 140 mm
- Stainless steel cover protected from wind-driven rain

Page 80



Pipe clamp GSG for Ex zone 2/22

- Secured against self-loosening

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Air-termination System / Down Conductor / Isolated Lightning Protection

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HVI®Lightning Protection

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Protection against Step and Touch Voltage

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Earthing / Equipotential Bonding

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Main Catalogue

valid as of January 1, 2015

This catalogue replaces the Main Lightning Protection Catalogue 2013/2014. We reserve the right to introduce changes in configuration and technology, dimensions, weights and materials in the course of technical progress. Illustrations are not binding. We accept no liability for misprints, modifications and errors. Any reproduction of this catalogue, as a whole or in parts, is only allowed upon approval of DEHN + SÖHNE.



Our promise



"We are a reliable partner for our customers and employees."

Dr. Philipp Dehn
Managing Partner



"First and foremost, our innovations must benefit our customers."

Dr. Peter Zahlmann
Managing Director



"We put our customers in the focus of our activities."

Helmut Pusch
Managing Director

Our Promise – DEHN protects.

Our family-owned company specialises in **surge protection**, **lightning protection** and **safety equipment**. Therefore, we are doing the utmost to protect lives and assets. Our pioneering spirit and innovative ideas have defined our company for 105 years and made us a market leader with more than 1,600 employees. Our market insight, determination and ideas are reflected in our products and safety concepts.

As early as in 1923, our founder Hans Dehn started to produce external lightning protection and earthing components to optimise protection of buildings and installations. In 1954, we launched the world's first series of surge protective devices. Constant further development of these devices ensures safe operation and permanent availability of electrical and electronic installations. Also during the 1950s, our third sector, safety equipment, was added to our portfolio.

The Bavarian town of Neumarkt in der Oberpfalz is the heart of our activities where product managers and developers advance our protection technologies. Here we manufacture our high-quality safety products.

Fair partnership for the best solution

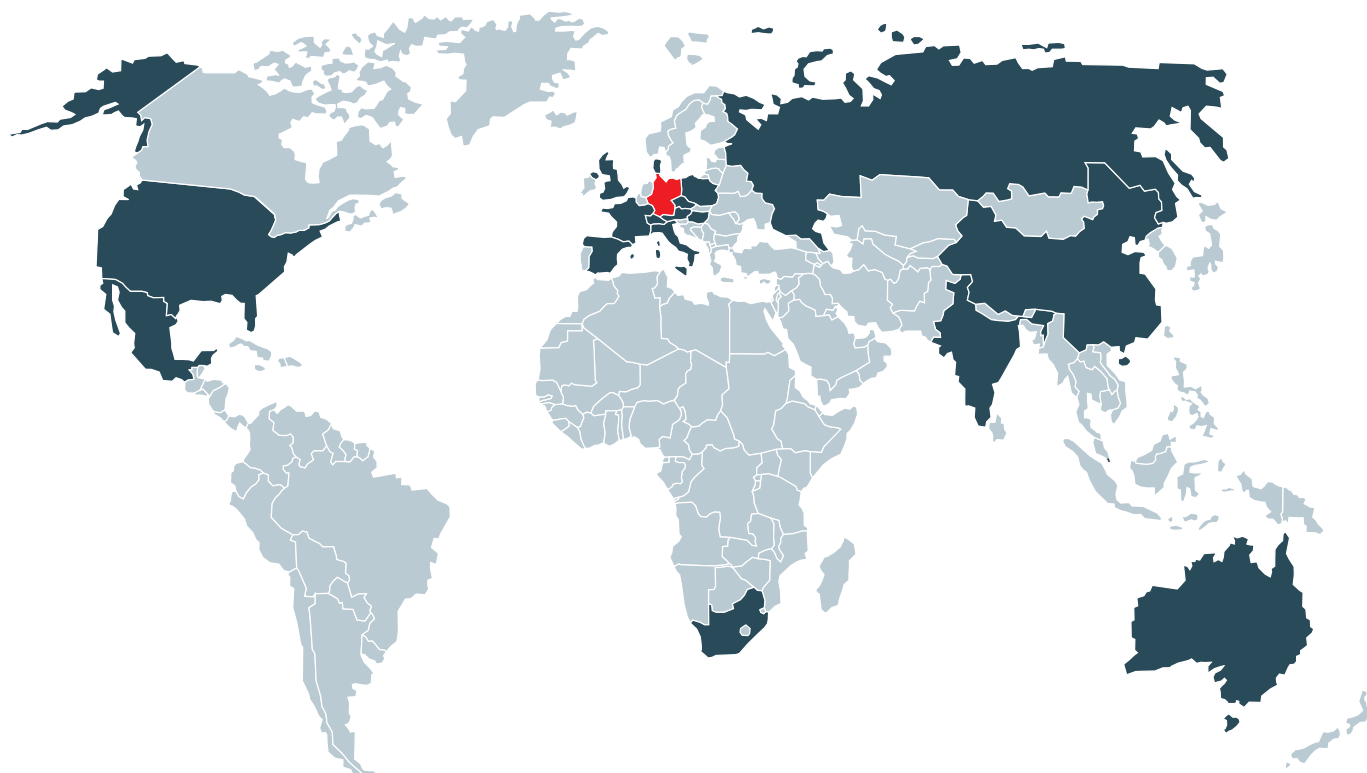
Our goal is to be a reliable and fair partner for our industrial, commercial and technical customers all over the world. To this end, we always focus on the best protection solution.

Our sales teams in Germany, our global network of 18 subsidiaries and offices as well as more than 70 international sales partners ensure competent and customer-oriented marketing of our products. Proximity and close contact to our customers is of utmost importance to us, be it on-site support by our experienced team, our telephone hotline or personal contact at trade fairs. In hundreds of seminar, workshops, trainings and conferences held every year throughout the world, we impart practical knowledge on our products and solutions based on specific sample applications, physical interactions and standardisation. Our "Lightning Protection Guide" and brochures will broaden your practical knowledge.

DEHN stands for innovation, top quality and consistent customer and market orientation – also in the future.

DEHN protects.





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■ Sales activities in more than 70 countries worldwide

Algeria	Equatorial Guinea	Luxembourg	Romania
Angola	Finland	Malawi	Rwanda
Argentina	Gabon	Malaysia	Saudi Arabia
Belgium	Gambia	Mali	Sweden
Belize	Greece	Mauritius	Senegal
Bolivia	Guatemala	Macedonia	Serbia
Botswana	Guinea	Mozambique	Seychelles
Brazil	Guinea-Bissau	Myanmar	Sierra Leone
Bulgaria	Honduras	Namibia	Singapore
Burundi	Indonesia	New Zealand	Slovakia
Cambodia	Ireland (Republic)	Nicaragua	Slovenia
Cameroon	Iceland	Netherlands	Sri Lanka
Canada	Israel	Niger	St. Helena
Cape Verde	Ivory Coast	Nigeria	Swaziland
Central African Republic	Japan	Northern Ireland	Syria
Chad	Jordan	Norway	Tanzania
Chile	Kenya	Oman	Thailand
Colombia	Korea	Pakistan	Togo
Comoros	Laos	Panama	Uganda
Costa Rica	Latvia	Peru	Ukraine
Croatia	Lebanon	Philippines	United Arab Emirates
Democratic Republic of the Congo	Lesotho	Portugal	Venezuela
Ecuador	Liberia	Qatar	Vietnam
El Salvador	Libyen	Republic of the Congo	Yemen
	Lithuania	Reunion	Zambia
			Zimbabwe

■ Subsidiaries and representative offices

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Switzerland:	ELVATEC AG
Turkey:	DEHN office Istanbul
USA:	DEHN Inc.

Benjamin Franklin, inventor of the lightning rod, recognised lightning as an electrical phenomenon back in 1752. It is common knowledge today that lightning protection is more than a "cage" of air-termination system, down conductors and earth-termination system. A comprehensive protection system which is explained and specified in standard, is necessary. The current standard series IEC/EN 62305 is an internationally coordinated standard and provides a comprehensive overall concept for lightning protection.

DEHN offers components and devices for complete lightning protection systems. Components for the installation of the external lightning protection system have to meet the mechanical and electrical requirements as specified in the standard series EN 62561-x. Our products are of course manufactured and tested in accordance with these relevant standards.

It has been, and will always be our aim to be one step ahead of the current state of engineering and to continuously improve in the interest and benefit of our customers.

In our highly specialised laboratories lightning parameters are simulated in order to test installations/systems for lightning safety and to upgrade them if necessary.

Special solutions for lightning and surge protective systems can be tested and analysed in accordance with the current international and national standards. In addition, we have been working actively on international and national standardisation committees for decades. You can be assured that our devices and extensive knowledge are based on the current state of standardisation. Implementation of a functional lightning protection system requires the application of components and devices that are tested and conform to the latest standards. The installers of lightning protection systems have to choose the components in accordance with the



installation requirements of individual sites and to install them correctly. Apart from the mechanical requirements, the electrical criteria also have to be considered and complied with in lightning protection engineering. DEHN provides tests and analyses of lightning and surge protection systems for your safety.

IEC 62305 / EN 62305 Protection against lightning

Part 1
General principles

Part 2
Risk management

Part 3
Physical damage to structures and life hazard

Part 4
Electrical and electronic systems within structures

IEC 62561 / EN 62561 Lightning protection system components (LPSC)

Part 1
Requirements for connection components

Part 2
Requirements for conductors and earth electrodes

Part 3
Requirements for isolating spark gaps

Part 4
Requirements for conductor fasteners

Part 5
Requirements for earth electrode inspection housings and earth electrode seals

Test Reports, Test Certificates and Data Sheets

DEHN provides you with detailed installation instructions, data sheets and test reports in order to support you in the design of installations and systems. The necessary technical details are practice-orientated and documentation is continuously updated and always available at www.dehn-international.com. After the system installation we also assist you in the technical documentation, e.g. concerning a system inspection and the corresponding test certificates (e.g. a lightning protection system tested in accordance with IEC/EN 62305-3 or a documentation of the earth-termination system). These are also available under www.dehn-international.com.

Numerous brochures with practical information on our products as well as many application proposals complete the range of services available and can also be downloaded at www.dehn-international.com.

Planning Software for Lightning Protection Systems

The DEHNsupport Toolbox software program provides easy to use and practical programs for planners and installers, ranging from a complete risk assessment to the calculation of the air-termination rod length, the determination of the separation distance and the calculation of the length of the earth electrodes. Designing of a lightning protection system is thus considerably easier. See also page 12 for more details.

LIGHTNING PROTECTION GUIDE Reference Book

The DEHN LIGHTNING PROTECTION GUIDE has been an indispensable aid for technical experts and is the benchmark for practice-orientated technical literature in the field of lightning and surge protection of buildings and structures. Whatever you need for the practical understanding of lightning and surge protection – the LIGHTNING PROTECTION GUIDE provides comprehensive and detailed expert knowledge about e.g. standards, regulations, project planning basics, installation examples and application proposals for special cases on more than 400 pages. The DEHN LIGHTNING PROTECTION GUIDE is available as book, as pdf file, on CD or at www.dehn-international.com.



DEHNacademy

DEHN offers a wide spectrum for practice-orientated education and training in the fields of surge protection, lightning protection / earthing and safety equipment. In seminars we give instructions and training for the practical application of components and devices in special structures and systems.



DVD

A picture is worth a thousand words. With DVD (DS708) we provide 3D-animated films to show the use of our products, and we invite you to meet DEHN on a tour through the company with the DEHNTour (DS707) DVD.

Tender Specifications

A current description of our products for tenders (delivery list texts) is available in the service download area at www.dehn-international.com.

DEHN – quick and direct

Proximity to our customers is important to us! We are at your disposal for any questions on special application topics concerning DEHN products under the service hotline +49 9181 906-1750. You can also contact our competent partners in your region. We shall be pleased to provide you with the name of the contact person of our subsidiaries or representatives. More details and information at www.dehn-international.com.

The lightning protection / earthing catalogue comprises components for lightning protection, earthing and equipotential bonding. More technical information is available at www.dehn-international.com. We also shall be pleased to send you brochures.

Failure of technical installations and systems in residential and functional buildings is very unpleasant and expensive. Therefore, faultless operation of devices must be ensured both during normal operation and thunderstorms. The number of annually registered lightning activities in Germany maintained at a constantly high level over many years. Damage statistics of insurance companies clearly show that there are deficits in terms of lightning and surge protection measures both in the private and commercial sector (**Figure 1**).

A professional solution allows to take adequate protection measures. The lightning protection zone concept, for example, enables designers, constructors and operators of buildings and installations to consider, implement and monitor different protection measures. All relevant devices, installations and systems are thus reliably protected at a reasonable expense.

Sources of interference

Surges occurring during a thunderstorm are caused by direct / nearby lightning strikes or remote lightning strikes (**Figure 2** and **Figure 3**). Direct or nearby lightning strikes are lightning strikes to a building, its surroundings or electrically conductive systems entering the building (e.g. low-voltage supply, telecommunication and data lines). The resulting impulse currents and impulse voltages as well as the associated electromagnetic field (LEMP) are particularly dangerous for the devices to be protected with regard to the amplitude and energy content involved. In case of a direct or nearby lightning strike, surges are caused by the voltage drop at the conventional earthing impedance R_{St} and the resulting potential rise of the building in relation to the remote earth (**Figure 3**, case 2). This means the highest load for electrical installations in buildings.

The characteristic parameters of the impulse current present (peak value, rate of current rise, charge, specific energy) can be described by means of the 10/350 μ s impulse current wave form. They have been defined in

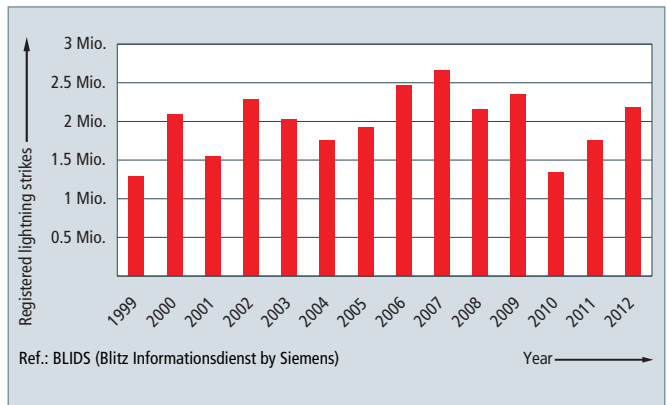


Figure 1: Lightning activity registered in Germany from 1999 to 2012.

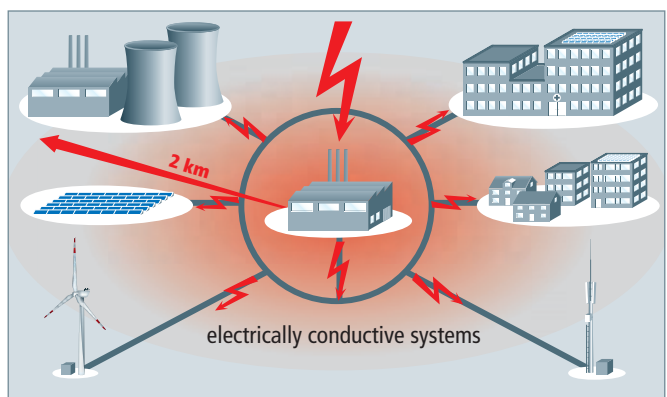


Figure 2: General risks for buildings and installations resulting from lightning strikes.

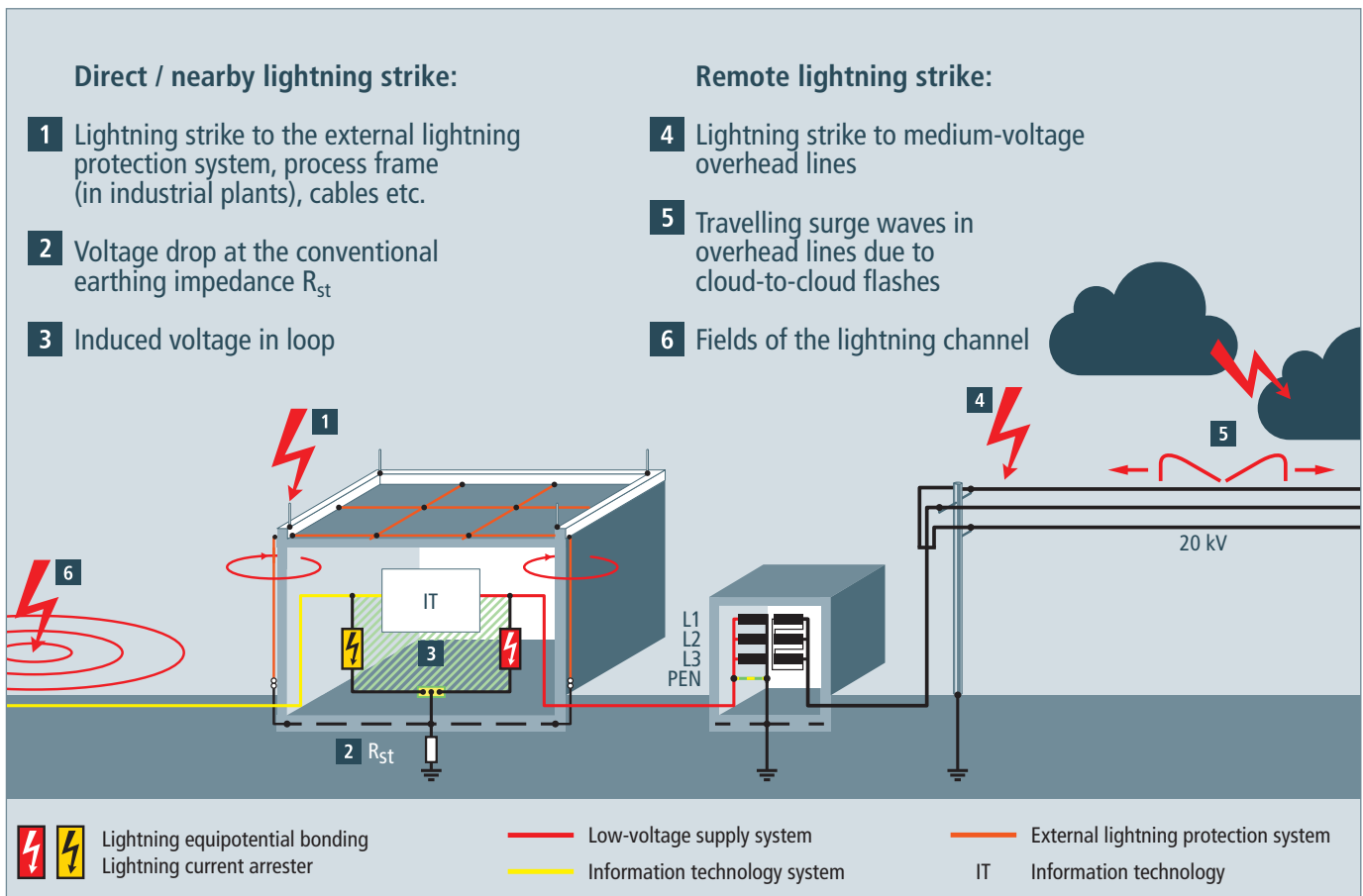


Figure 3: Causes of surges during lightning discharges.

international, European and national standards as test current for components and devices protecting against direct lightning strikes (**Figure 4**). In addition to the voltage drop at the conventional earthing impedance, surges are generated in the electric building installation and the systems and devices connected to it due to the inductive effect of the electromagnetic lightning field (**Figure 3, case 3**). The energy of these induced surges and of the resulting impulse currents is far lower than the energy of a direct lightning impulse current and is therefore described by a 8/20 μ s impulse current wave form (**Figure 4**). Components and devices that do not have to conduct currents resulting from direct lightning strikes are therefore tested with such 8/20 μ s impulse currents.

Protection scheme

Lightning strikes are called remote if they occur at a farer distance to the object to be protected, strike medium-voltage overhead lines or their surroundings or occur as cloud-to-cloud lightning discharges (**Figure 3, cases 4, 5, 6**). Similar to induced surges, the effects of remote lightning strikes on the electrical installation of a building are handled by devices and components which have been dimensioned according to 8/20 μ s impulse current waves. Surges caused by switching operations (SEMP) are, for example, generated by:

- Disconnection of inductive loads (e.g. transformers, reactors, motors)
- Arc ignition and interruption (e.g. arc welding equipment)
- Tripping of fuses

The effects of switching operations in the electrical installation of a building can also be simulated by impulse currents of 8/20 μ s wave form under test conditions. To ensure continuous availability of complex power supply and information technology systems even in case of direct lightning interference, further surge protection measures for electrical and electronic installations and devices based on a lightning protection system for the building are required. It is important to take all causes of surges into account. To do so, the lightning protection zone concept as described in IEC 62305-4 is applied (**Figure 5**).

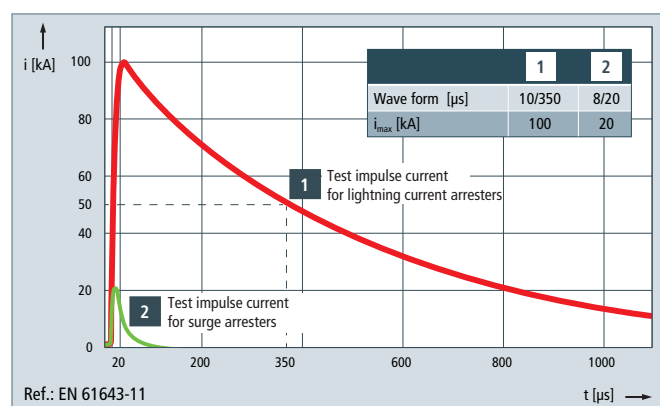


Figure 4: Test impulse currents for lightning current and surge arresters.

Lightning protection zone concept

The building is divided into different endangered zones. These zones help to define the necessary protection measures, in particular the lightning and surge protection devices and components. Part of an EMC compatible (Electromagnetic Compatibility) lightning protection zone concept is the external lightning protection system (including air-termination system, down-conductor system, earth-termination system), equipotential bonding, spatial shielding and surge protection for the power supply and information technology systems. Definitions apply as classified in **Table 1**.

According to the requirements and loads placed on surge protective devices, they are categorised as lightning current arresters, surge arresters and combined arresters. The highest requirements are placed on the discharge capacity of lightning current arresters and combined arresters used at the transition from lightning protection zone 0_A to 1 or 0_A to 2. These arresters must be capable of conducting partial lightning currents of 10/350 μ s wave form several times without being destroyed in order

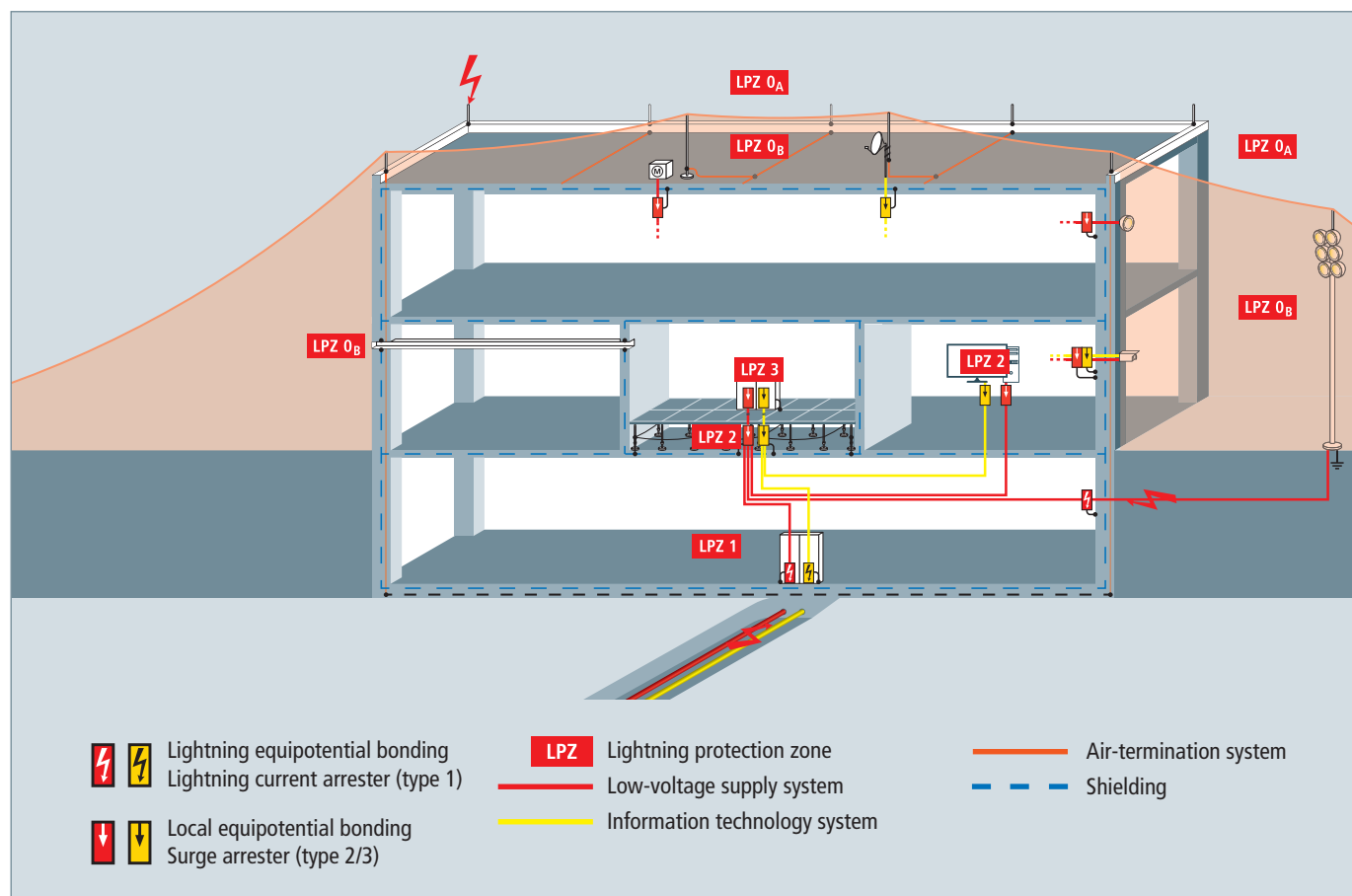
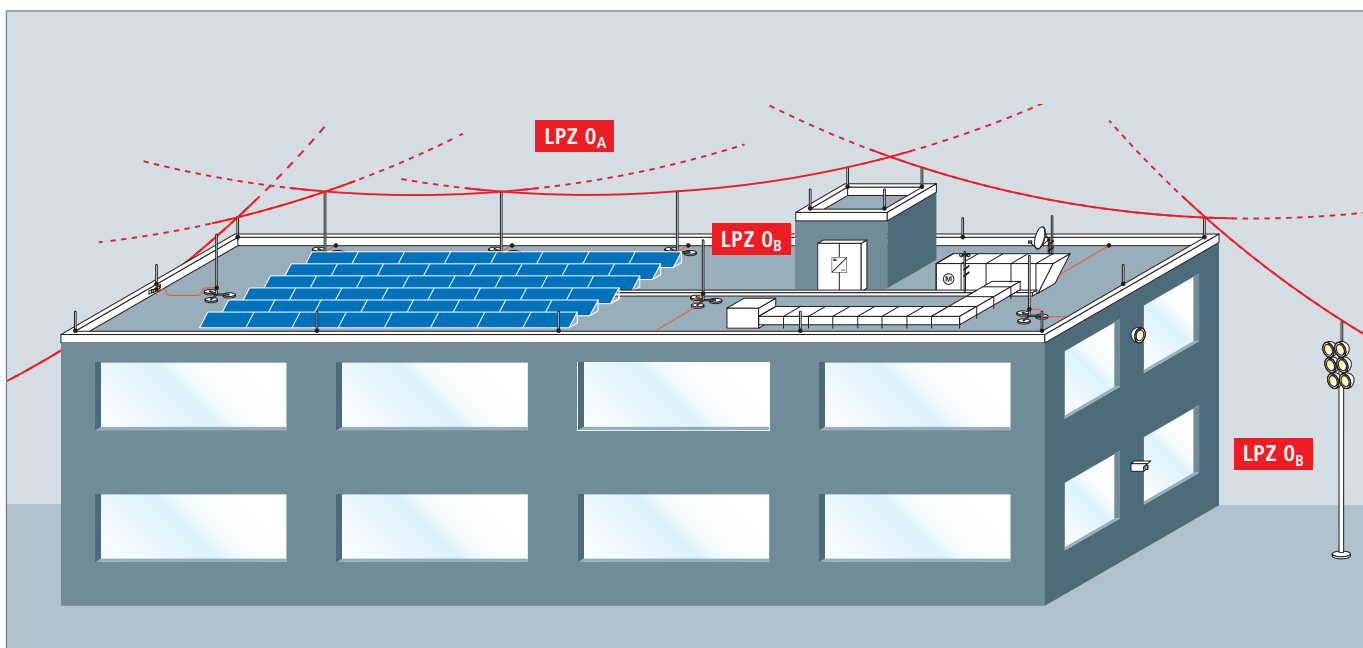
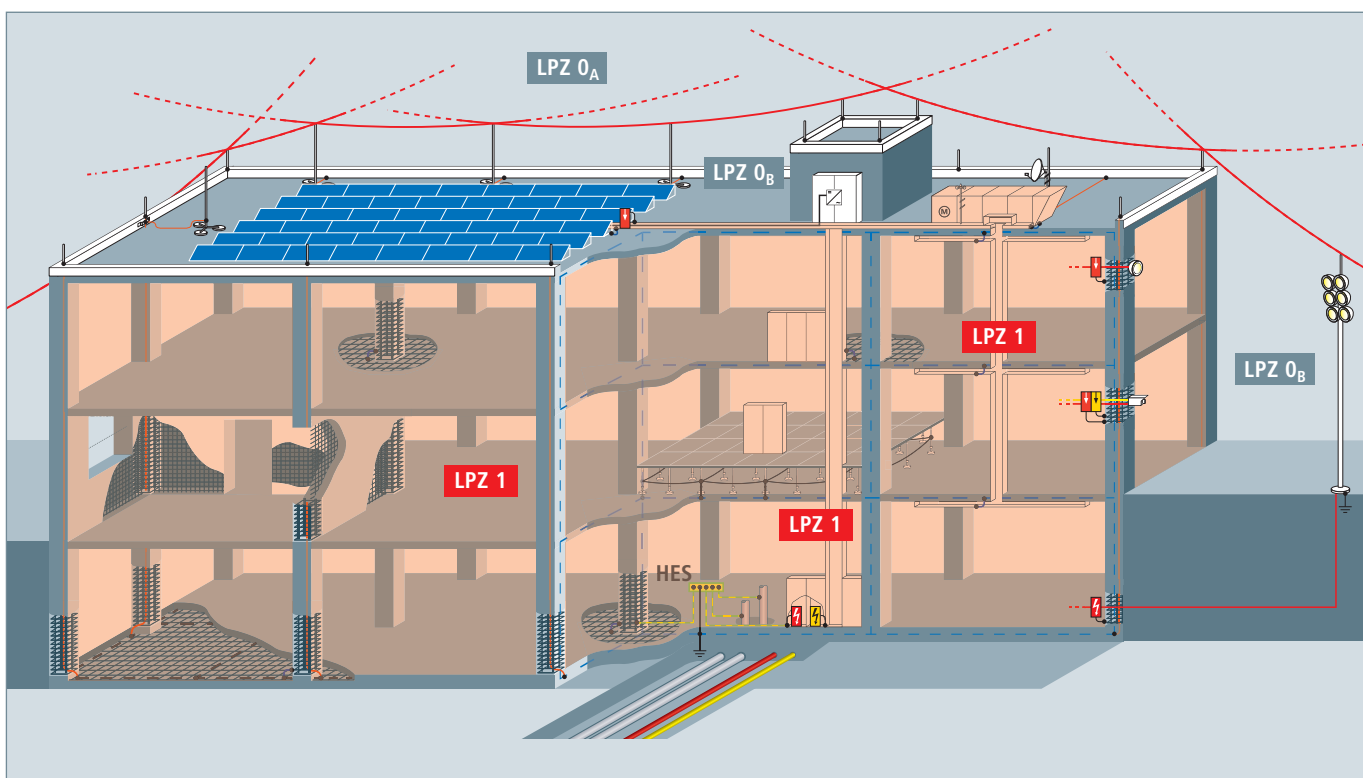


Figure 5: Overall view of a lightning protection zone concept.



▲ Figure 5.1: Transition from LPZ 0_A to LPZ 0_B (above)

▼ Figure 5.2: Transitions from LPZ 0_A to LPZ 1 and LPZ 0_B to LPZ 1 (below)



to prevent the ingress of destructive partial lightning currents into the electrical installation of a building. At the transition point from LPZ 0_B to 1 or downstream of the lightning current arrester at the transition point from LPZ 1 to 2 and higher, surge arresters are used to protect against surges. Their task is both to reduce the residual energy of the upstream protection stages even further and to limit the surges induced or generated in the installation itself.

The lightning and surge protective measures at the boundaries of the lightning protection zones described above equally apply to power supply and information technology systems. All measures described in the EMC compatible lightning protection zone concept help to achieve continuous availability of electrical and electronic devices and installations. For more detailed technical information, DEHN offers a "Lightning Protection Guide" which can be downloaded at www.dehn-international.com/en/downloads.

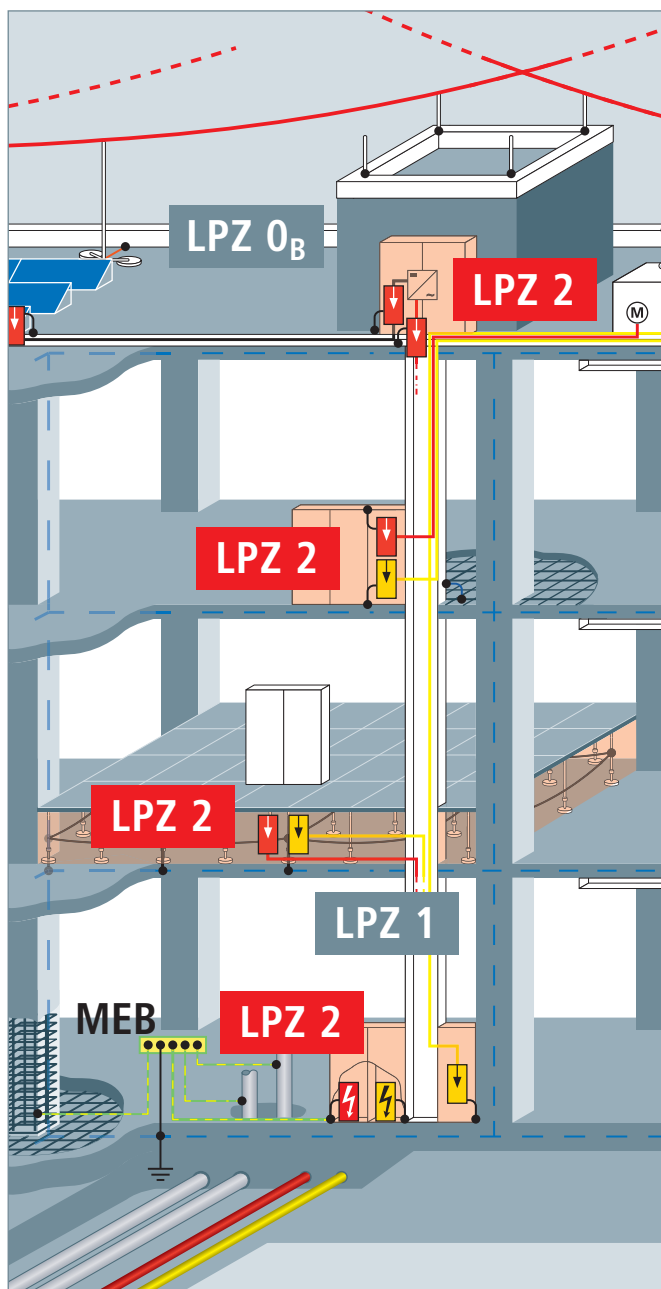


Figure 5.3: Transition from LPZ 1 to LPZ 2

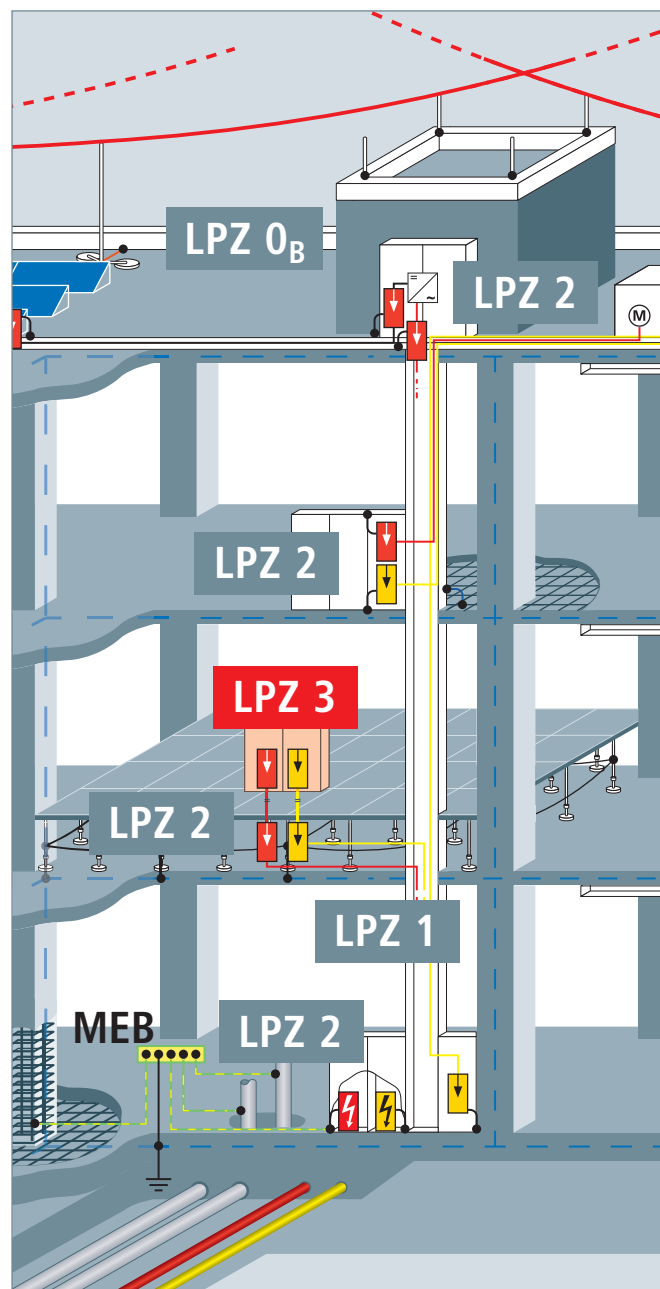






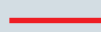
Figure 5.4: Transition from LPZ 2 to LPZ 3

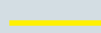
  Lightning equipotential bonding
Lightning current arrester (type 1)


  Local equipotential bonding
Surge arrester (type 2/3)


LPZ Lightning protection zone

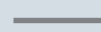
MEB Main earthing busbar

 Low-voltage supply system

 Information technology system

 Equipotential bonding

 Air-termination system

 Supply line (metal)

 Shielding

IEC 62305-4:2010

Outer zones:

LPZ 0 Zone where the threat is due to the unattenuated lightning electromagnetic field and where the internal systems may be subjected to **full or partial lightning surge current**.

LPZ 0 is subdivided into:

LPZ 0A Zone where the threat is due to the direct lightning flash and the full lightning electromagnetic field. The **internal systems** may be subjected to **full lightning surge current**.

LPZ 0B Zone protected against direct lightning flashes but where the threat is the full lightning electromagnetic field. The **internal systems** may be subjected to **partial lightning surge currents**.

Inner zones (protected against direct lightning flashes):

LPZ 1 Zone where the surge current is limited by current sharing and **isolating interfaces and/or by SPDs** at the boundary. **Spatial shielding** may **attenuate** the lightning electromagnetic field.

LPZ 2 ... n Zone where the surge current may be further limited by current sharing and isolating interfaces and/or by **additional SPDs** at the boundary. **Additional spatial shielding** may be used to further attenuate the lightning electromagnetic field.

Table 1: Definition of lightning protection zones.



Detailed information and a demo version are available at www.dehn-international.com

System requirements

- Supported Operating Systems:
Windows® XP
Windows® Vista
Windows® 7
Windows® 8
- Office package with word processing and spreadsheet
- Internet connection (optional)

Program contents

Calculation Program for Lightning Protection Systems

The DEHNsupport Toolbox is a calculation tool for the specific determination and implementation of lightning and surge protection measures based on the requirements of the IEC/EN 62305-1 to 4 standard series. In addition to international requirements, country-specific adaptations are integrated in the software which are regularly extended. In order to specifically support users with their application, the DEHNsupport Toolbox offers a variety of planning aids:

DEHN Risk Tool; risk management in accordance with IEC/EN 62305-2 (update)

Risk analysis: An analysis of the hazard potential for structures allows an economically reasonable selection of protection measures which are suitable for the characteristics and the utilisation of the building.

DEHN Distance Tool; calculation of the separation distance in accordance with IEC/EN 62305-3

A 3D building model with automatic calculation of the separation distances s forms the basis of the DEHN Distance Tool module. This automatic calculation is based on nodal analysis, saves time and simplifies work steps.

DEHN Air-termination Tool; calculation of the air-termination rod length in accordance with IEC/EN 62305-3

This software tool allows for calculating air-termination rod lengths depending on the class of LPS.

DEHN Earthing Tool; calculation of the earth electrode length in accordance with IEC/EN 62305-3

This software tool allows for determining the necessary earth electrode length depending on the type of earth electrode and soil resistivity.

Order Information

The DEHNsupport Toolbox software can be obtained from DEHN. The product includes two single-user licences. Server installation is possible. The DEHNsupport Toolbox software is available in different combinations:

Basic Edition

DEHNsupport Basic Edition software including risk analysis as well as calculation of the earth electrode length, air-termination rod length and separation distance (conventional).

Distance Edition (Single-User Installation)

DEHNsupport Distance Edition software including risk analysis as well as calculation of the earth electrode length, air-termination rod length and separation distance according to nodal analysis.

Distance Edition (Multi-User Installation)

Multi-user installation is also available. The price depends on the number of users.

Upgrade from Basic to Distance Edition

An upgrade for calculating the separation distance according to nodal analysis can be obtained for an already installed Basic Edition.

More detailed information, an request form and a DEMO version are available at www.dehn-international.com.

Components used for installing the external lightning protection system shall meet certain mechanical and electrical requirements, which are specified in the EN 62561-x standard series. Lightning protection components are categorised according to their function, for example connection components (EN 62561-1), conductors and earth electrodes (EN 62561-2).

Testing of conventional lightning protection components

Metal lightning protection components (clamps, conductors, air-termination rods, earth electrodes) exposed to weathering have to be subjected to artificial ageing/conditioning prior to testing to verify their suitability for the intended application. In accordance with EN 60068-2-52 and EN ISO 6988 metal components are subjected to artificial ageing and tested in two steps.

Natural weathering and exposure to corrosion of lightning protection components

Step 1: Salt mist treatment

This test is intended for components or devices which are designed to withstand exposure to a saline atmosphere. The test equipment (Figure 1) consists of a salt mist chamber where the specimens are tested with test level 2 for more than three days. Test level 2 includes three spraying phases of 2 h each, using a 5% sodium chloride solution (NaCl) at a temperature between 15 °C and 35 °C followed by a humidity storage at a relative humidity of $93 \pm 3\%$ and a temperature of 40 ± 2 °C for 20 to 22 hours in accordance with EN 60068-2-52.

Step 2: Humid sulphurous atmosphere treatment

This test is to evaluate the resistance of materials or objects condensed humidity containing sulphur dioxide in accordance with EN ISO 6988.

The test equipment (Figure 2) consists of a test chamber where the specimens are treated with a concentration of sulphur dioxide in a volume fraction of 667×10^{-6} ($\pm 24 \times 10^{-6}$) in seven test cycles. Each cycle which has duration of 24 h is composed of a heating period of 8 h at a temperature of 40 ± 3 °C in a humid, saturated atmosphere which is followed by a rest period of 16 h. After that, the humid sulphurous atmosphere is replaced.

Both components for outdoor use and components buried in the ground are subjected to ageing / conditioning. For components buried in the ground additional requirements and measures have to be considered. No aluminium clamps or conductors may be buried in the ground. If stainless steel is to be buried in the ground, only high-alloy stainless steel may be used, e.g. StSt (V4A). In accordance with the German DIN VDE 0151 standard, StSt (V2A) is not allowed. Components for indoor use such as equipotential bonding bars do not have to be subjected to ageing / conditioning. The same applies to components which are embedded in concrete. These components are therefore often made of non-galvanised (black) steel.

Air-termination systems / air-termination rods

Air-termination rods are typically used as air-termination systems. They are available in many different designs, for example with a length of 1 m for installation with concrete base on flat roofs, up to the telescopic lightning protection masts with a length of 25 m for biogas plants.

EN 62561-2 specifies the minimum cross sections and the permissible materials with the corresponding electrical and mechanical properties for air-termination rods.

In case of air-termination rods with larger heights, the bending resistance of the air-termination rod and the stability of complete systems (air-termination rod in a tripod) have to be verified by means of a static calculation. The required cross sections and materials have to be selected based on this calculation. The wind speeds of the relevant wind load zone also have to be taken into account for this calculation.

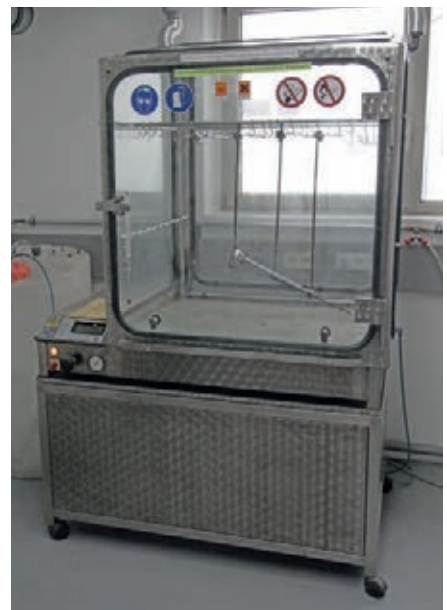
Testing of connection components

Connection components, or often simply called clamps, are used as lightning protection components to connect conductors (down conductor, air-termination conductor, earth entry) to each other or to an installation.

Figure 1:
Test in a salt mist chamber.



Figure 2:
Test in a Kesternich chamber.



Depending on the type of clamp and clamp material, a lot of different clamp combinations are possible. The conductor routing and the possible material combinations are decisive in this respect. The kind of conductor routing describes how a clamp connects the conductors in cross or parallel arrangement.

In case of a lightning current load, clamps are subjected to electrodynamic and thermal forces which highly depend on the kind of conductor routing and the clamp connection. **Table 1** shows materials which may be combined without causing contact corrosion.

The combination of different materials with one another and their different mechanical strengths and thermal properties have different effects on the connection components when lightning current flows through them. This is particularly evident for stainless steel (StSt) connection components where high temperatures occur due to the low conductivity as soon as lightning currents flow through them. Therefore, a lightning current test in compliance with EN 62561-1 has to be carried out for all clamps. In order to test the worst case, not only the different conductor combinations, but also the material combinations specified by the manufacturer have to be tested.

Tests based on the example of an MV clamp

At first, the number of test combinations has to be determined. The MV clamp used is made of stainless steel (StSt) and hence can be combined with steel, aluminium, StSt and copper conductors as stated in Table 1. Moreover, it can be connected in cross and parallel arrangement which also has to be tested. This means that there are eight possible test combinations for the MV clamp used (Figures 3 and 4).

In accordance with EN 62561 each of these test combinations has to be tested on three suitable specimens / test set-ups. This means that 24 specimens of this single MV clamp have to be tested to cover the complete range. Every single specimen is mounted with the adequate tightening torque in compliance with normative requirements and is subjected to artificial ageing by means of salt mist and humid sulphurous atmosphere treatment as described above. For the subsequent

	Steel	Aluminium	Copper	StSt	Titanium	Tin
Steel (St/tZn)	yes	yes	no	yes	yes	yes
Aluminium	yes	yes	no	yes	yes	yes
Copper	no	no	yes	yes	no	yes
StSt	yes	yes	yes	yes	yes	yes
Titanium	yes	yes	no	yes	yes	yes
Tin	yes	yes	yes	yes	yes	yes

Table 1: Possible material combinations for air-termination systems and down conductors and for connection with structural parts.



Figure 3: New and aged components.



Figure 4: Test combinations for MV clamps (parallel and cross arrangement).



Figure 5: Specimen fixed on insulating plate (MV clamp) for a test in the impulse current laboratory.

electrical test the specimens have to be fixed on an insulating plate (Figure 5).

Three lightning current impulses of 10/350 µs wave shape with 50 kA (normal duty) and 100 kA (heavy duty) are applied to every specimen. After being loaded with lightning current, the specimens must not show signs of damage.

In addition to the electrical tests where the specimen is subjected to electrodynamic forces in case of a lightning current load, a static-mechanical load was integrated in the EN 62561-1 standard. This static-mechanical test is particularly required for parallel connectors, longitudinal connectors, etc. and is carried out with different conductor materials and clamping ranges. Connection components made of stainless steel are tested under worst case conditions with a single stainless steel conductor only (extremely smooth surface). The connection components, for example the MV clamp shown in Figure 6, are prepared with a defined

tightening torque and then loaded with a mechanical tensile force of 900 N (± 20 N) for one minute. During this test period, the conductors must not move more than one millimetre and the connection components must not show signs of damage. This additional static-mechanical test is another test criterion for connection components and also has to be documented in the manufacturer's test report in addition to the electrical values.

The contact resistance (measured above the clamp) for a stainless steel clamp must not exceed 2.5 mΩ or 1 mΩ in case of other materials. The required loosening torque has to be ensured. A manufacturer's test report is prepared for every test combination. A detailed test report is available from the manufacturer upon request or a less detailed report (Figure 7) can be downloaded from the internet (www.dehn-international.com => Products => Product data).



Consequently installers of lightning protection systems have to select the connection components for the duty (H or N) to be expected on site. A clamp for duty H (100 kA), for example, has to be used for an air-termination rod (full lightning current) and a clamp for duty N (50 kA) has to be used in a mesh or at an earth entry (lightning current already distributed).

Conductors

EN 62561-2 also places special demands on conductors such as air-termination and down conductors or earth electrodes e.g. ring earth electrodes, for example:

- Mechanical properties (minimum tensile strength, minimum elongation),
- Electrical properties (max. resistivity) and
- Corrosion resistance properties (artificial ageing as described above).

The mechanical properties have to be tested and observed. **Figure 8** shows the test set-up for testing the tensile strength of circular conductors (e.g. aluminium). The quality of coating (smooth, continuous) as well as the minimum thickness and adhesion to the base material are important and have to be tested particularly if coated materials such as galvanised steel (St/tZn) are used.

This is described in the standard in the form of a bending test. For this purpose, a specimen is bent through a radius equal to 5 times of its diameter to an angle of 90°. In doing so, the specimen may not show sharp edges, breakage or exfoliation. Moreover, the conductor materials shall be easy to process when installing lightning protection systems. Wires or strips (coils) are supposed to be easily straightened by means of a wire straightener (guide pulleys) or by means of torsion. Furthermore, it should be easy to install / bend the materials at structures or in the soil. These standard requirements are relevant product features which have to be documented in the corresponding product data sheets of the manufacturers.

Earth electrodes / earth rods

The separable DEHN earth rods are made of special steel and are completely hot-dip galvanised or consist of high-alloy stainless steel (StSt (V4A); material No. 1.4571). A coupling joint which allows connection of the rods without enlarging the diameter is a special feature of these earth rods. Every rod provides a bore and a pin end.

EN 62561-2 specifies the requirements for earth electrodes such as material, geometry, minimum dimensions as well as mechanical and electrical properties. The coupling joints linking the individual rods are weak points. For this reason EN 62561-2 requires that additional mechanical and electrical tests have to be performed to test the quality of these coupling joints.

For this test, the rod is put into a guide with a steel plate as impact area. The specimen consists of two joined rods with a length of 500 mm each. Three specimens of each type of earth electrode are to be tested. The top end of the specimen is impacted by means of a vibration hammer with an adequate hammer insert for a duration of two minutes. The blow rate of the hammer must be $2000 \pm 1000 \text{ min}^{-1}$ and the single stroke impact energy must be $50 \pm 10 \text{ [Nm]}$.

If the couplings have passed this test without visible defects, they are subjected to artificial ageing by means of salt mist and humid sulphurous atmosphere treatment. Then the couplings are loaded with three lightning current impulses of 10/350 μs wave shape of 50 kA and 100 kA each. The contact resistance (measured above the coupling) of stainless steel earth rods must not exceed 2.5 m Ω . To test whether the coupling joint is still firmly connected after being subjected to this lightning current load, the coupling force is tested by means of a tensile testing machine.

The installation of a functional lightning protection system requires that components and devices tested according to the latest standard are used. Installers of lightning protection systems have to select and correctly install the components according to the requirements at the installation site. In addition to mechanical requirements, electrical criteria of the latest state of lightning protection are to be considered and complied with.

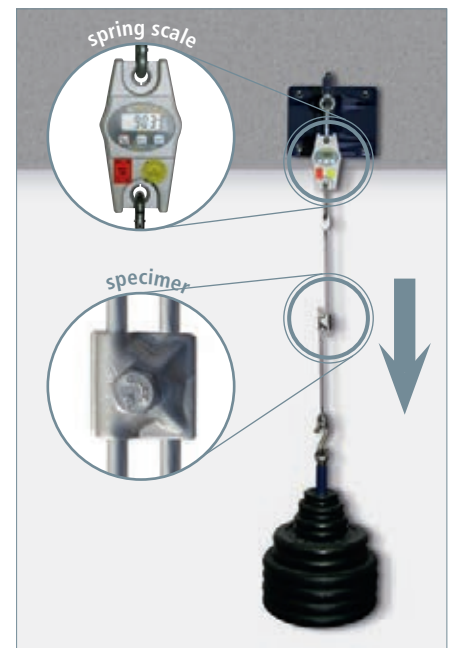


Figure 6:
Static-mechanical
test.

Manufacturer's Test Report

Testing according to EN 62561-1

MV Clamps Part No. 390 050 Material: St/tZn

For static mechanical load (900 N) been suitable.



non-binding figure

Application: overground

Conductor connected	Test Result
Conductor (1): Rd 8 Al	H
Conductor (2): Rd 8 Al	
Conductor (1): Rd 8 St/tZn	H
Conductor (2): Rd 8 St/tZn	
Conductor (1): Rd 8 StSt	H
Conductor (2): Rd 8 StSt	
Conductor (1): Rd 8 StSt	H
Conductor (2): Rd 8 StSt	

Application: protected areas

Conductor connected	Test Result
Conductor (1): Rd 10 St/tZn	N
Conductor (2): Rd 8 reinforcement	
Conductor (1): Rd 10 St/tZn	N
Conductor (2): threaded rod M10 St/tZn	
Conductor (1): Rd 10 St/tZn	N
Conductor (2): threaded rod M10 St/tZn	
Conductor (1): Rd 8 reinforcement	N
Conductor (2): Rd 8 reinforcement	
Conductor (1): Rd 10 St	H
Conductor (2): Rd 8 reinforcement	

Caption

Withstand lightning current class H 100 kA (10/350 μs)

Withstand lightning current class N 50 kA (10/350 μs)

Protected areas are e.g. terminals installed in concrete or EBB installed in buildings

Detailed data of testing conditions can be requested on demand.

Figure 7: Less detailed manufacturer's test report.

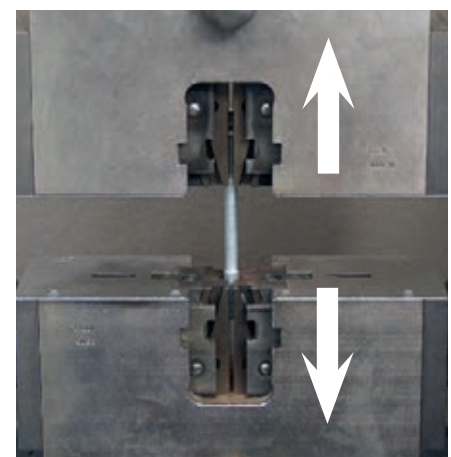


Figure 8:
Tensile testing of
conductors.



Medium-voltage supply.



Ring equipotential bonding.

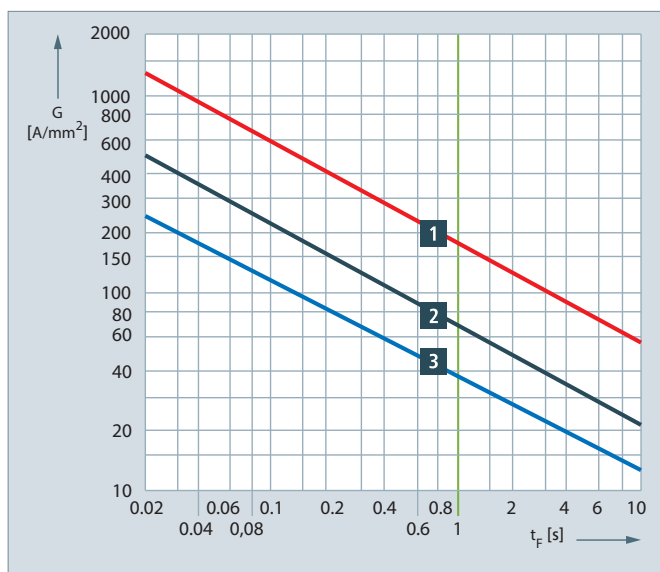


Diagram 1: Ampacity of earth electrode materials.

Equipment of different electrical systems interacts in electrical installations:

- High-voltage technology (HV systems)
- Medium-voltage technology (MV systems)
- Low-voltage technology (LV systems)
- Information technology (IT systems)

The basis for a reliable interaction of the different systems is a common earth-termination system and a common equipotential bonding system. It is important that all conductors, clamps and connectors are specified for the various applications.

The following standards have to be considered for buildings with integrated transformers:

- EN 61936-1: Power installations exceeding 1 kV a.c.
- EN 50522: Earthing of power installations exceeding 1 kV a.c.

Conductor materials and connection components for use in HV, MV and LV systems have to withstand the thermal stress resulting from the 50 Hz currents. Due to the prospective short-circuit currents (50 Hz), the cross sections of the earth electrode material have to be specifically determined for the various systems / buildings. Line-to-earth short-circuit currents (normative requirement double earth fault current I''_{KEE}) must not inadmissibly heat of the components.

Unless there are special requirements of the network operator, the following is taken as a basis:

- Duration of the fault current (disconnection time) of 1 s
- Maximum permissible temperature of 300 °C of the earthing conductor and connection component / clamp materials used

The material and the current density G (in A/mm²) in relation to the fault current duration are decisive for the selection of the earthing conductor cross section.

Diagram 1 shows the permissible 50 Hz short-circuit current density (G) for the conductor materials copper, steel (galvanised – tZn) and high-alloy stainless steel (StSt (V4A), material No. 1.4571/1.4404).

Detailed short-circuit current (I_k) values for a current flow duration of 1 s of the earthing conductors, earth rods and various connection components / clamps can be found in the technical data or our product data sheets at www.dehn-international.com.

- 1** Copper
 - 2** Galvanised steel
see also EN 50522, Figure D1
 - 3** StSt (V4A) (1.4571) determined
by testing (test report EPM No. 6337 of 16.12.1993)
- t_f Duration of fault current
G Short-circuit current density

System configurations and the associated currents to earth

Medium-voltage systems can be operated as systems with isolated neutral, systems with low-impedance neutral earthing, solidly earthed neutral systems or inductively earthed neutral systems (compensated systems). In case of an earth fault, the latter allows to limit the capacitive current flowing at the fault location to the residual earth fault current I_{RES} by means of a compensation coil (suppression coil with inductance $L = 1/3\omega CE$) and is thus widely used. Only this residual current (typically up to max. 10 % of the uncompensated earth fault current) stresses the earth-termination system in case of a fault. The residual current is further reduced by connecting the local earth-termination system to other earth-termination systems (e.g. by means of the connecting effect of the cable shield of the medium-voltage cables). To this end, a reduction factor r is defined. If a system has a prospective capacitive earth fault current of 150 A, a maximum residual earth fault current of about 15 A, which would stress the local earth-termination system, is assumed in case of a compensated system. If the local earth-termination system is connected to other earth-termination systems, this current would be further reduced.

Type of high-voltage system		Relevant for thermal stress a) e) Earth electrode	Earthing conductor	Relevant for earth potential rise and touch voltages
System with isolated neutral		I''_{KEE}	I''_{KEE}	$I_E = r \cdot I_C$
System with arc-suppressant earthing	Substations with arc-suppression coils	I''_{KEE}	$I''_{KEE}^{c)}$	$I_E = r \cdot \sqrt{I_L^2 + I_{RES}^2}$
	Substations without arc-suppression coils	I''_{KEE}	$I''_{KEE}^{c)}$	$I_E = r \cdot I_{RES}$

a) Current distribution in the earth electrode network may be considered
e) The minimum cross-sections of Annex C are to be considered
c) Earthing conductor according to the maximum coil current

I''_{KEE} Double earth fault current ($I''_{KEE} \approx 0.85 \times I''_{k3p}$)
 I_L Sum of the rated currents of the parallel arc-suppression coils
 I_C Calculated capacitive earth fault current
 I_{RES} Earth fault residual current ($\approx 10 \% \times I_C$)
 r Reduction factor according to Annex I
 I_E Current to earth

Based on EN 50522, Table 1.

Dimensioning of earth-termination systems with respect to the ampacity

For this purpose, different worst case scenarios must be examined. In medium-voltage systems, a double earth fault would be the most critical case. A first earth fault (for example at a transformer) may cause a second earth fault in another phase (for example a faulty cable sealing end in a medium-voltage system). According to table 1 of the EN 50522 standard (Earthing of power installations exceeding 1 kV a.c.), a double earth fault current I''_{KEE} , which is defined as follows, will flow via the earthing conductors in this case:

$$I''_{KEE} = 0.85 \cdot I''_k$$

(I''_k = three-pole initial symmetrical short-circuit current)

In a 20 kV installation with an initial symmetrical short-circuit current I''_k of 16 kA and a disconnection time of 1 second, the double earth fault current would be 13.6 kA. The ampacity of the earthing conductors and the earthing busbars in the station building or transformer room must be rated according to this value. In this context, current splitting can be considered in case of a ring arrangement (a factor of 0.65 is used in practice). **Planning must always be based on the actual system data (system configuration, line-to-earth short-circuit current, disconnection time).**

The EN 50522 standard specifies the maximum short-circuit current density G (A/mm²) for different materials. The cross section of a conductor is determined from the material and the disconnection time.

Time	St/tZn	Copper	StSt (V4A)
0.3 s	129 A/mm ²	355 A/mm ²	70 A/mm ²
0.5 s	100 A/mm ²	275 A/mm ²	55 A/mm ²
1 s	70 A/mm ²	195 A/mm ²	37 A/mm ²
3 s	41 A/mm ²	112 A/mm ²	21 A/mm ²
5 s	31 A/mm ²	87 A/mm ²	17 A/mm ²

Table: Short-circuit current density G (temperature of max. 300° C).

The calculated current is now divided by the current density G of the relevant material and the corresponding disconnection time and the minimum cross section A_{min} of the conductor is determined.

$$A_{min} = \frac{I''_{KEE} \text{ (branch)}}{G} \text{ [mm}^2\text{]}$$

The calculated cross section allows to select a conductor. This cross section is always rounded up to the next larger nominal cross section.

In case of a compensated system, for example, the earth-termination system itself (the part in direct contact with earth) is loaded with a considerably lower current namely only with the residual earth fault current $I_E = r \times I_{RES}$ reduced by the factor r . This current does not exceed some 10 A and can permanently flow without problems if common earthing material cross sections are used.

Minimum cross sections of earth electrodes

The minimum cross sections with regard to the mechanical strength and corrosion are defined in the German DIN VDE 0151 standard (Material and minimum dimensions of earth electrodes with respect to corrosion).

Extreme weather conditions are on the rise all over the world as a result of global warming. Consequences such as high wind speeds, an increased number of storms and heavy rainfall cannot be ignored. Therefore, designers and installers will face new challenges particularly with regard to wind loads. This does not only affect building structures (statics of the structure), but also air-termination systems.

In the field of lightning protection, the DIN 1055-4:2005-03 and DIN 4131 standards have been used as dimensioning basis so far. In July 2012, these standards were replaced by the Eurocodes which provide Europe-wide standardised structural design rules (planning of structures).

The DIN 1055-4:2005-03 standard was integrated in Eurocode 1 (EN 1991-1-4: Actions on structures – Part 1-4: General actions - Wind actions) and DIN V 4131:2008-09 in Eurocode 3 (EN 1993-3-1: Part 3-1: Towers, masts and chimneys – Towers and masts). Thus, these two standards form the basis for dimensioning air-termination systems for lightning protection systems, however, Eurocode 1 is primarily relevant.

The following parameters are used to calculate the actual wind load to be expected:

- Wind zone (Germany is divided into four wind zones with different base wind speeds)
- Terrain category (the terrain categories define the surrounding of a structure)
- Height of the object above ground level
- Height of the location (above sea level, typically up to 800 m above sea level)

Other influencing factors such as:

- Icing
- Position on a ridge or top of a hill
- Object height above 300 m
- Terrain height above 800 m (sea level)

have to be considered for the specific installation environment and have to be calculated separately.

The combination of the different parameters results in the gust wind speed which is to be used as a basis for dimensioning air-termination systems and other installations such as elevated ring conductors. In our catalogue, the maximum gust wind speed is specified for our products to be able to determine the required number of concrete bases depending on the gust wind speed, for example in case of isolated air-termination systems. This does not only allow to determine the static stability, but also to reduce the necessary weight and thus the roof load.

Important note:

The "maximum gust wind speeds" specified in this catalogue for the individual components were determined according to the Germany-specific calculation requirements of Eurocode 1 (DIN EN 1991-1-4/NA:2010-12) which are based on the wind zone map for Germany and the associated country-specific topographic particularities.

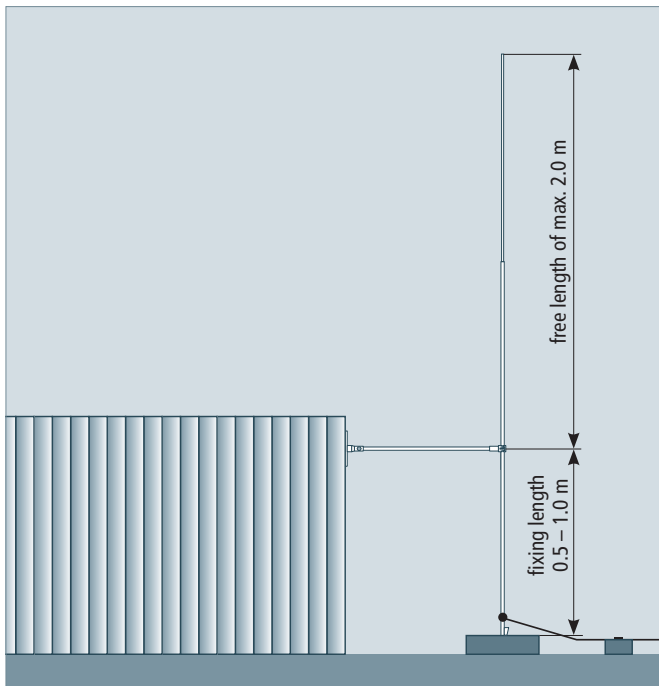
When using products of this catalogue in other countries, the country-specific particularities and other locally applicable calculation methods, if any, described in Eurocode 1 (EN 1991-1-4) or in other locally applicable calculation regulations (outside Europe) must be observed. Consequently, the maximum gust wind speeds mentioned in this catalogue only apply to Germany and are only a rough orientation for other countries. The gust wind speeds have to be newly calculated according to the country-specific calculation methods!

When installing air-termination rods in concrete bases, the information / gust wind speeds in the table have to be considered. This information applies to conventional air-termination rod materials (Al, St/tZn, Cu and StSt).

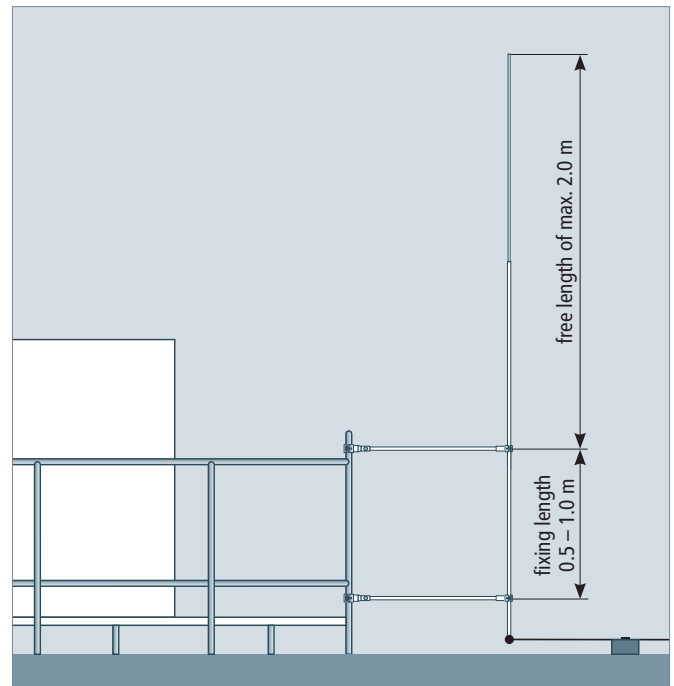
If air-termination rods are fixed by means of spacers, the calculations are based on the below **installation possibilities**.

The maximum permissible gust wind speeds are specified for the relevant products and have to be considered for selection / installation. A higher mechanical strength can be achieved by means of e.g. an angled support (two spacers arranged in a triangle) (on request).

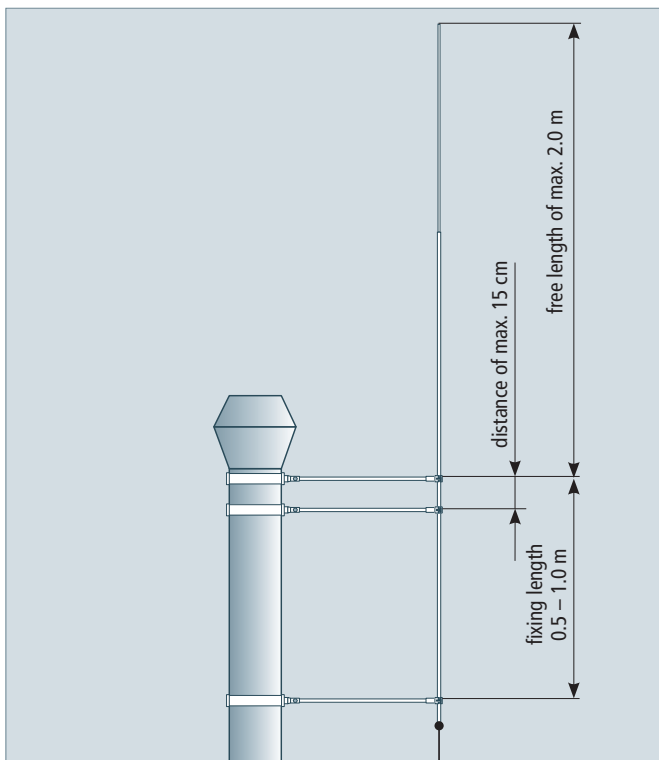
Height	Concrete Bases 1x 8,5 kg Part No. 102 075	Concrete Bases 1x 17 kg Part No. 102 010	Concrete Bases 2x 17 kg Part No. 102 010
1.0 m (Ø10 mm)	135 km/h	—	—
1.5 m (Ø16/10 mm)	—	150 km/h	185 km/h
2.0 m (Ø16/10 mm)	—	105 km/h	155 km/h
2.5 m (Ø16/10 mm)	—	—	120 km/h



Installation possibility 1



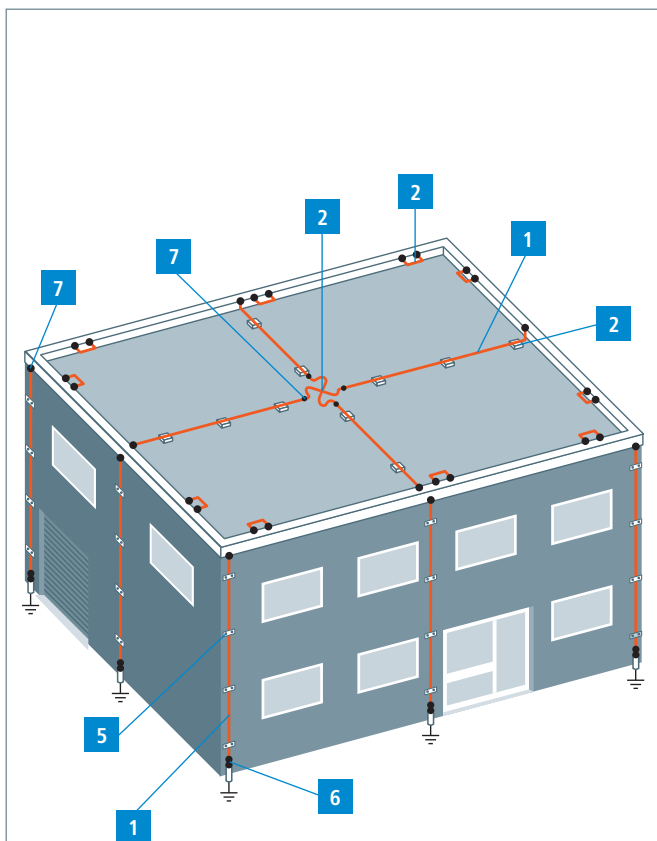
Installation possibility 2



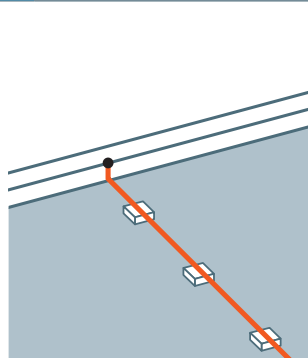
Installation possibility 3



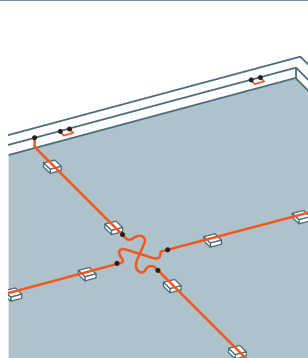
DEHN protects.



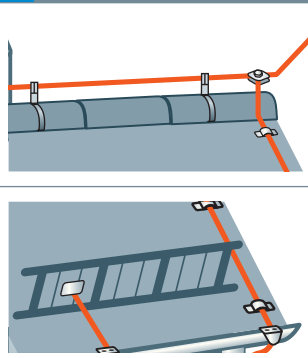
1 Round Wires, Strips, Cables, Rods



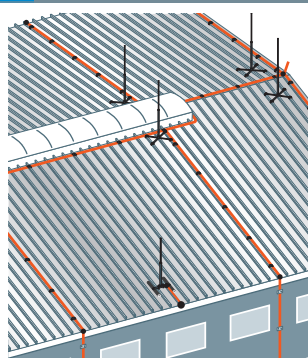
2 Flat Roof – Roof Conductor Holders, Bridging Braids



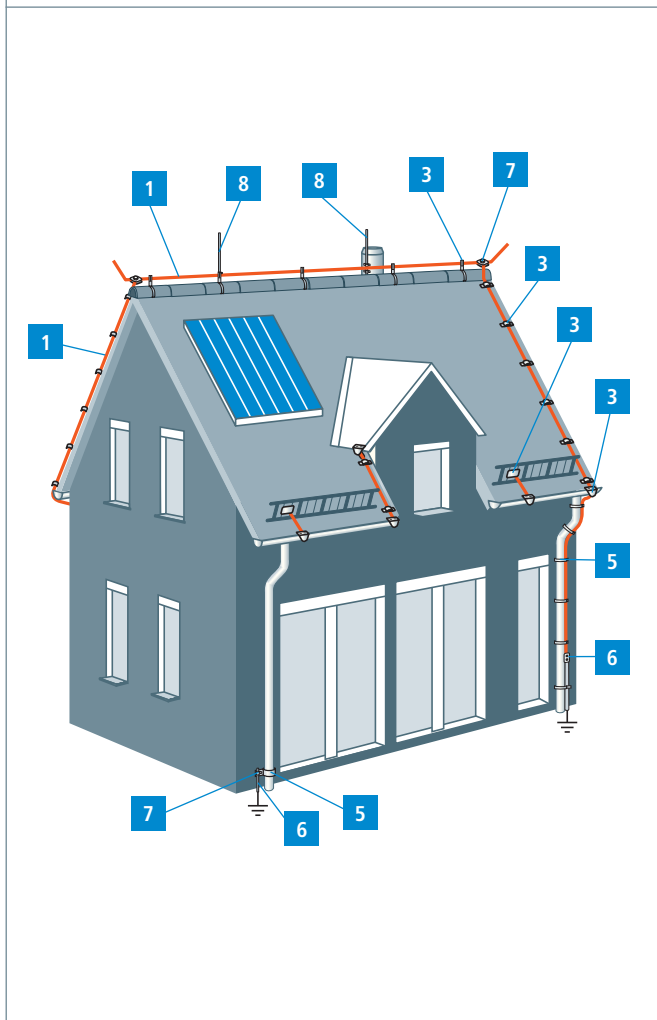
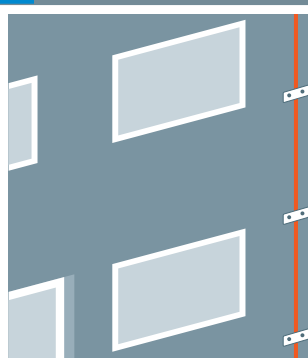
3 Pitched Roof – Roof Conductor Holders

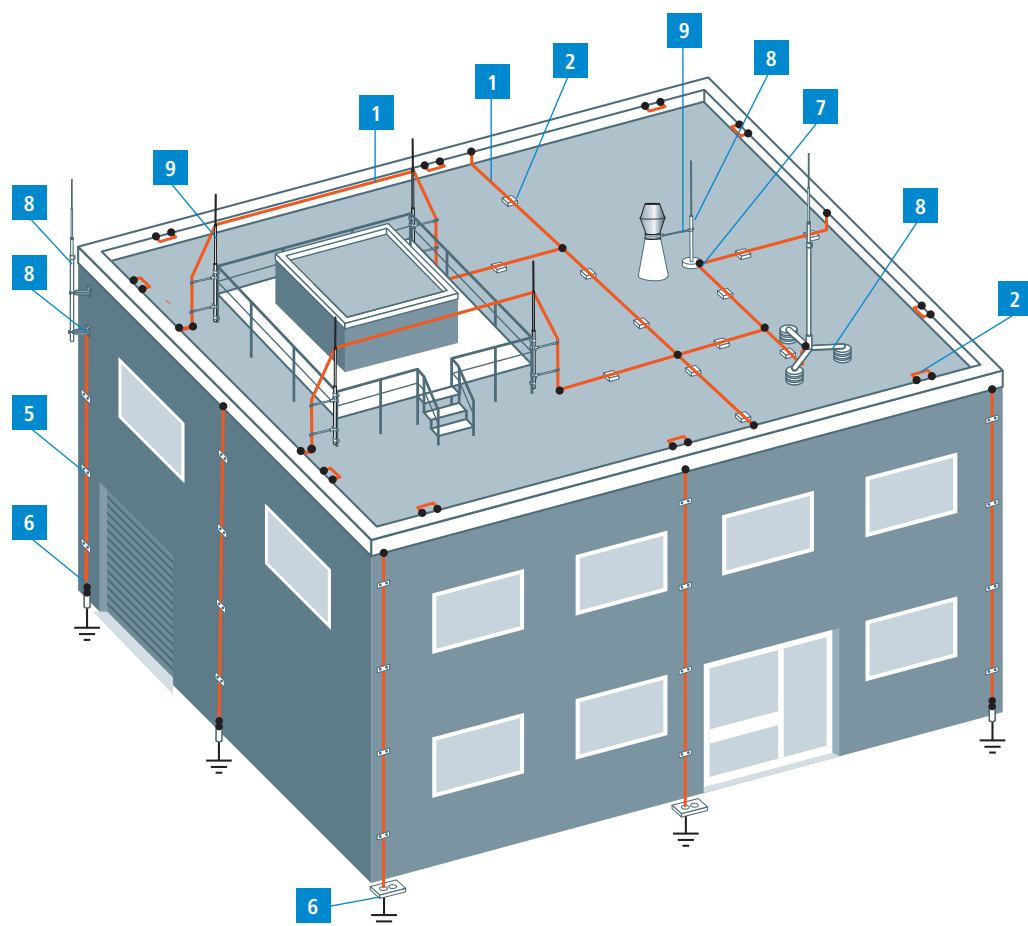
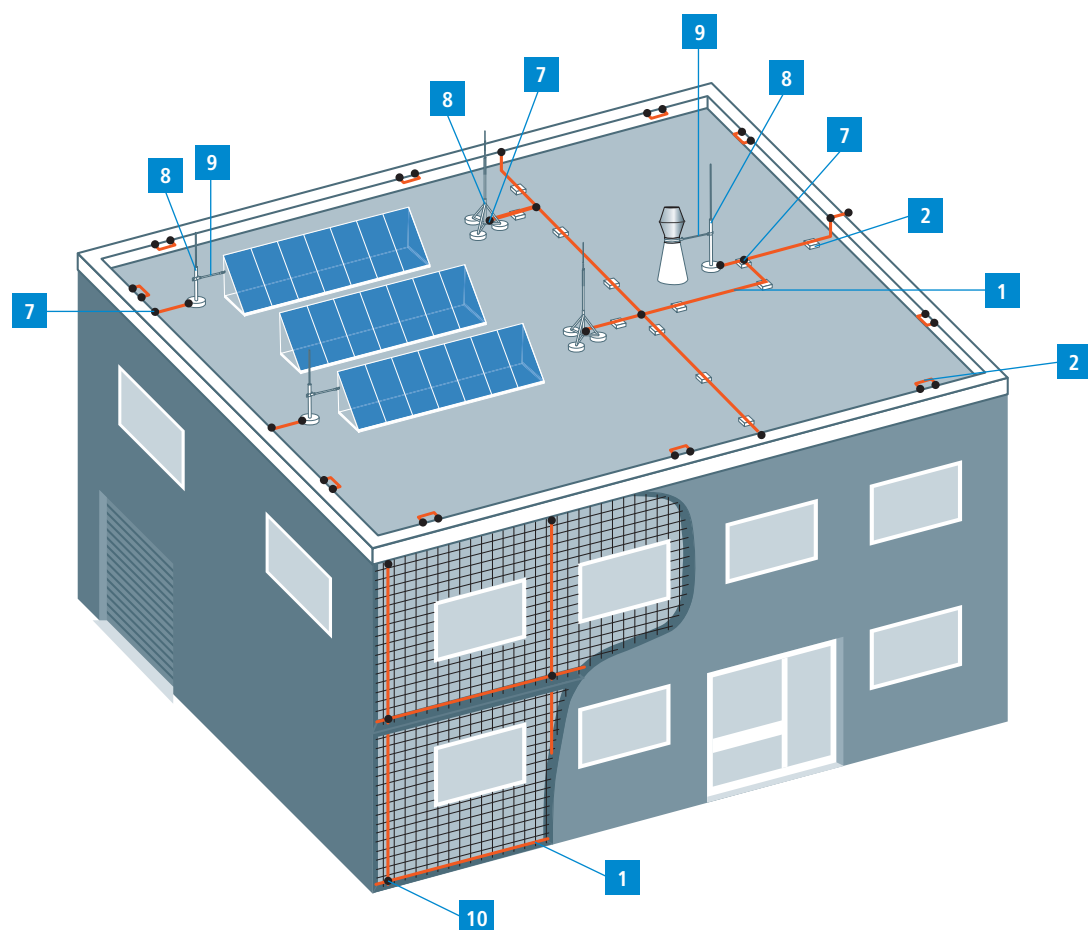


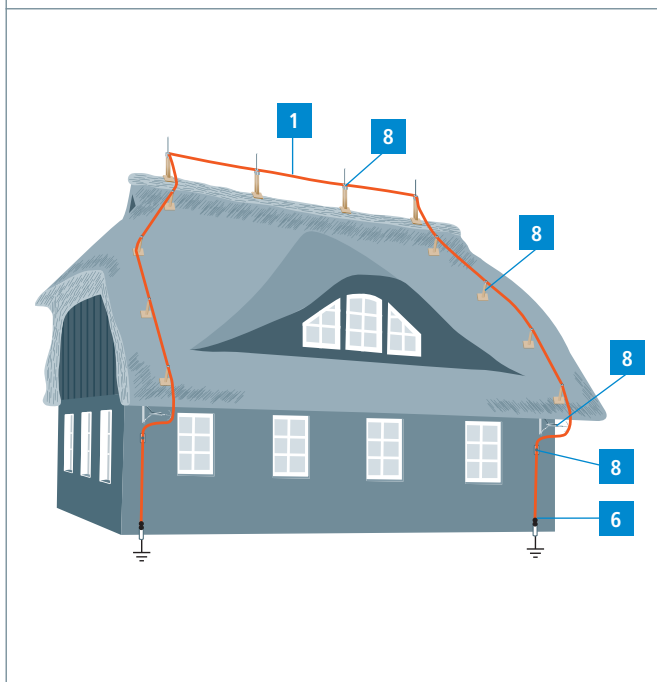
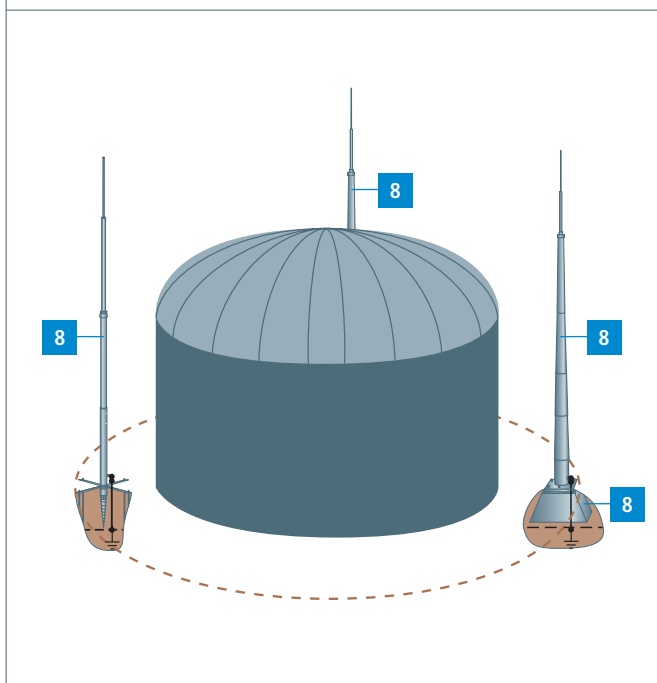
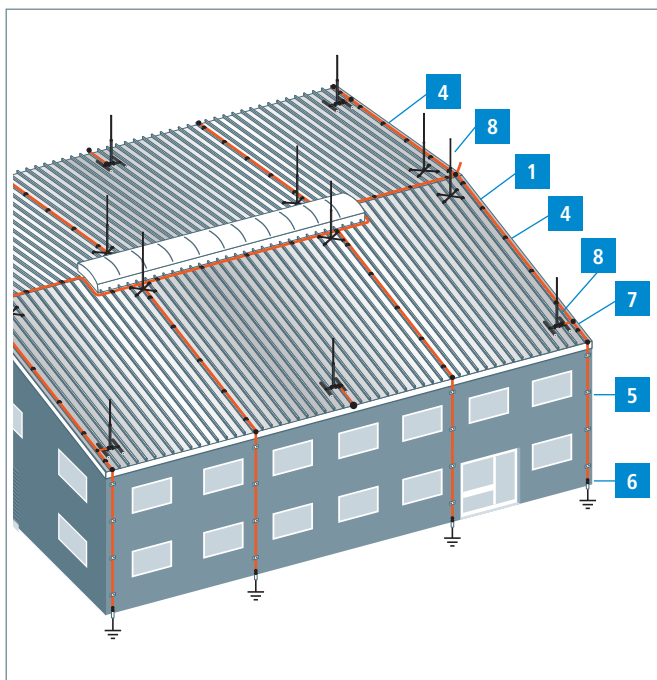
4 Metal Roof / Corrugated Sheet Roofing – Roof Conductor Holders



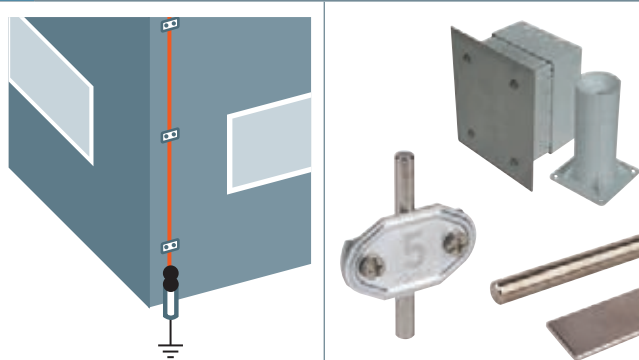
5 Down Conductor – Conductor Holders



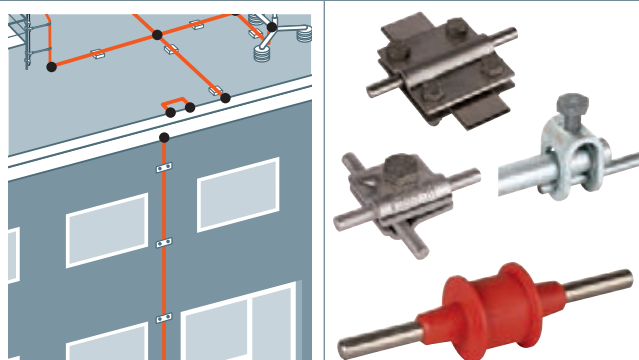




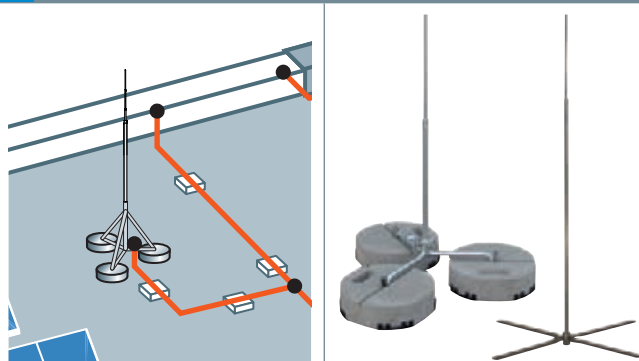
6 Connection Lugs, Conductor Holders, Test Joint Boxes



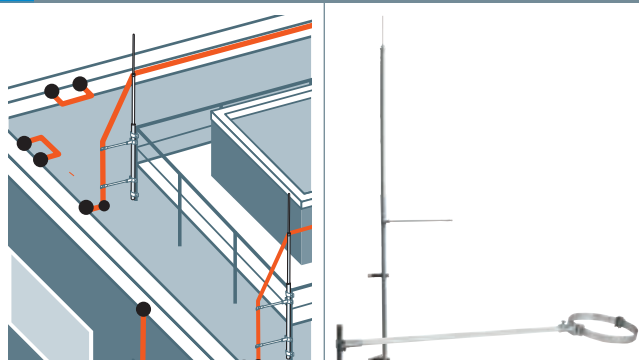
7 Clamps, Connectors, Spark Gaps



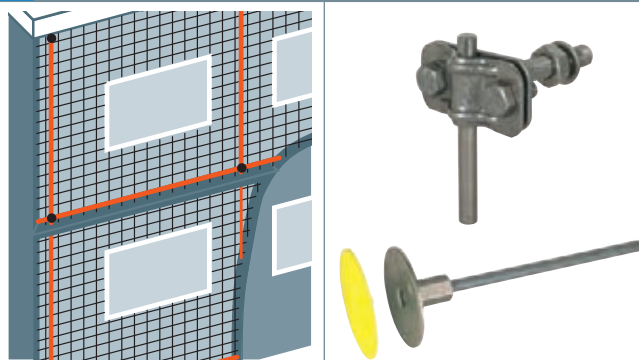
8 Air-termination Rods, Accessories



9 Isolated Lightning Protection



10 Reinforcement Technology



DEHN protects.



Round Wires

According to EN 62561-2, for use in lightning protection and earth-termination systems.

DEHNalu wire

General technical data:			
Standard	EN 62561-2		
Part No.	840 008	840 108	840 018
Diameter Ø conductor	8 mm	8 mm	8 mm
Cross-section	50 mm ²	50 mm ²	50 mm ²
Material	AlMgSi	AlMgSi	AlMgSi
Characteristics	semi-rigid	semi-rigid	torsionally soft
Coil weight	approx. 20 kg	approx. 3 kg	approx. 20 kg
PU	148 m	21 m	148 m
Part No.	840 028	840 010	
Diameter Ø conductor	8 mm	10 mm	
Cross-section	50 mm ²	78 mm ²	
Material	AlMgSi	Al	
Characteristics	torsionally soft	torsionally soft	
Coil weight	approx. 3 kg	approx. 21 kg	
PU	21 m	100 m	

Note: Al and AlMgSi must not be installed directly (without distance) on, in, or under plaster, mortar or concrete, and not in soil.

DEHNalu wire with plastic sheath

Wire with plastic sheath (halogen-free, frost-resistant and UV stabilised) as additional mechanical protection / corrosion protection e.g. for installation behind facades.

Part No.	840 118	840 128 ^{NEW}
Diameter Ø conductor	8 mm	8 mm
Cross-section	50 mm ²	50 mm ²
Material	AlMgSi	Al
Characteristics	soft	soft
Standard	EN 62561-2	EN 62561-2
Diameter Ø outside	11 mm	11 mm
Material of sheath	plastic	plastic
Sheath thickness	1.5 mm	1.5 mm
Coil weight	approx. 20 kg	approx. 20 kg
PU	100 m	100 m

DEHNCupal wire

New composite material. Lighter than copper.

For use above ground as air-termination and down conductor, or for equipotential bonding.

Part No.	833 008
Diameter Ø conductor	8 mm
Cross-section	50 mm ²
Material	Al / Cu
Characteristics	torsionally soft
Standard	EN 62561-2
Cu sheath	min. 0.26 mm
Coil weight	approx. 20 kg
PU	110 m

Note: DEHNCupal wire can be twisted or straightened with the wire straightening devices.

Copper wire

Part No.	830 008	830 108	830 038
Diameter Ø conductor	8 mm	8 mm	8 mm
Cross-section	50 mm ²	50 mm ²	50 mm ²
Material	Cu	Cu	Cu
Characteristics	soft F20	soft F20	semi-rigid F25
Standard	EN 62561-2	EN 62561-2	EN 62561-2
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	9.8 kA	9.8 kA	9.8 kA
Coil weight	approx. 45 kg	approx. 9 kg	approx. 45 kg
PU	100 m	20 m	100 m



Steel wire

With zinc coating $\geq 50 \mu\text{m}$ average (approx. 350 g/m²).

Part No.	800 008	800 010	800 310
Diameter Ø conductor	8 mm	10 mm	10 mm
Cross-section	50 mm ²	78 mm ²	78 mm ²
Material	St/tZn	St/tZn	St/tZn
Standard	EN 62561-2	EN 62561-2	EN 62561-2
Short-circuit current (50 Hz) (1 s; $\leq 300^\circ\text{C}$)	—	5.5 kA	5.5 kA
Coil weight	approx. 50 kg	approx. 50 kg	approx. 18.5 kg
PU	127 m	81 m	31 m

Stainless steel wire

Stainless steel wire (Rd 10 mm) for use in soil has to be made of StSt (V4A) with a molybdenum proportion of $> 2\%$, e.g. 1.4571, in accordance with EN 62561-2 and IEC/EN 62305-3.

General technical data:				
Standard	EN 62561-2			
Part No.	860 908	860 920	860 950 ^{NEW}	860 910
Diameter Ø conductor	8 mm	10 mm	10 mm	10 mm
Cross-section	50 mm ²	78 mm ²	78 mm ²	78 mm ²
Material	StSt	StSt	StSt	StSt
Material No.	1.4301 / 1.4303	1.4301 / 1.4303	1.4301 / 1.4303	1.4301 / 1.4303
ASTM / AISI:	—	—	—	—
Short-circuit current (50 Hz) (1 s; $\leq 300^\circ\text{C}$)	—	—	—	—
Coil weight	approx. 50 kg	approx. 12 kg	approx. 31 kg	approx. 50 kg
PU	127 m	21 m	50 m	81 m
Part No.	860 008	860 010	860 020	860 050 ^{NEW}
Diameter Ø conductor	8 mm	10 mm	10 mm	10 mm
Cross-section	50 mm ²	78 mm ²	78 mm ²	78 mm ²
Material	StSt (V4A)	StSt (V4A)	StSt (V4A)	StSt (V4A)
Material No.	1.4571 / 1.4404	1.4571 / 1.4404	1.4571 / 1.4404	1.4571 / 1.4404
ASTM / AISI:	316Ti / 316L	316Ti / 316L	316Ti / 316L	316Ti / 316L
Short-circuit current (50 Hz) (1 s; $\leq 300^\circ\text{C}$)	—	2.9 kA	2.9 kA	2.9 kA
Coil weight	approx. 50 kg	approx. 50 kg	approx. 12 kg	approx. 31 kg
PU	127 m	81 m	19 m	50 m

Steel wire with plastic sheath

With plastic sheath as additional mechanical protection / corrosion protection e.g. at connections to the lightning protection system. Suitable for installation on, in and under plaster, mortar or concrete.

Part No.	800 108	800 110
Diameter Ø conductor	8 mm	10 mm
Cross-section	50 mm ²	78 mm ²
Material	St/tZn	St/tZn
Standard	EN 62561-2	EN 62561-2
Diameter Ø outside	11 mm	13 mm
Material of sheath	plastic	plastic
Sheath thickness	1.5 mm	1.5 mm
Coil weight	approx. 33 kg	approx. 34 kg
PU	75 m	50 m

Conductor materials will be delivered in original coil weights only.

More conductor materials and components as specified in the standard series EN 62561-2 upon request.

Protective Cap for Terminal Lugs

For attaching to round wires or strips as striking marker (as required according to DIN 18014) and accident prevention during the construction phase.

Part No.	478 099
Material	PVC
Diameter Ø	70 mm
Attach to FI	30 x 3.5 mm
Attach to Rd	10 mm
Colour	green ● / yellow ●
PU	20 pc(s)

Dripping Water Protective Collars

Prevent rain water draining down the round wire, thus less façade pollution.

Part No.	276 056	276 057
Material	plastic	plastic
Conductor Rd	8 mm	8 mm
Colour	grey ●	brown ●
Diameter Ø	37 mm	37 mm
PU	100 pc(s)	100 pc(s)



Strips

According to EN 62561-2, for use in earth-termination and lightning protection systems as well as for ring equipotential bonding.

Steel strip

Zinc coating $\geq 70 \mu\text{m}$ average (approx. 500 g/m²).

General technical data:	
Material	St/tZn
Standard	EN 62561-2

Part No.	810 225	810 335	852 335
Width	20 mm	30 mm	30 mm
Thickness	2.5 mm	3.5 mm	3.5 mm
Cross-section	50 mm ²	105 mm ²	105 mm ²
Short-circuit current (50 Hz) (1 s; $\leq 300^\circ\text{C}$)	—	7.3 kA	7.3 kA
Coil weight	approx. 40 kg	approx. 42 kg	approx. 21 kg
PU	100 m	50 m	25 m

Part No.	810 304	810 404	810 405
Width	30 mm	40 mm	40 mm
Thickness	4 mm	4 mm	5 mm
Cross-section	120 mm ²	160 mm ²	200 mm ²
Short-circuit current (50 Hz) (1 s; $\leq 300^\circ\text{C}$)	8.4 kA	11.2 kA	14 kA
Coil weight	approx. 50 kg	approx. 50 kg	approx. 50 kg
PU	52 m	40 m	30 m



Copper strip

Part No.	831 225
Width	20 mm
Thickness	2.5 mm
Cross-section	50 mm ²
Material	Cu
Standard	EN 62561-2
Short-circuit current (50 Hz) (1 s; $\leq 300^\circ\text{C}$)	9.8 kA
Coil weight	approx. 45 kg
PU	100 m



Stainless steel strip

Stainless steel strip for use in soil has to be made of StSt (V4A) with a molybdenum proportion of $> 2\%$, e.g. 1.4571, 1.4404, according to EN 62561-2, IEC/EN 62305-3 and DIN VDE 0151.

Part No.	860 925	860 900	860 325	860 335
Width	30 mm	30 mm	30 mm	30 mm
Thickness	3.5 mm	3.5 mm	3.5 mm	3.5 mm
Cross-section	105 mm ²	105 mm ²	105 mm ²	105 mm ²
Material	StSt	StSt	StSt (V4A)	StSt (V4A)
Material No.	1.4301 / 1.4303	1.4301 / 1.4303	1.4571 / 1.4404	1.4571 / 1.4404
ASTM / AISI:	—	—	316Ti / 316L	316Ti / 316L
Standard	EN 62561-2	EN 62561-2	EN 62561-2	EN 62561-2
Short-circuit current (50 Hz) (1 s; $\leq 300^\circ\text{C}$)	—	—	3.9 kA	3.9 kA
Coil weight	approx. 21 kg	approx. 49 kg	approx. 21 kg	approx. 49 kg
PU	25 m	60 m	25 m	60 m



Other dimensions and materials upon request.

Cables

For use in lightning protection and earth-termination systems.

Aluminium cable

E.g. for spanning in case of isolated air-termination systems (DEHNiso Combi).

Part No.	840 050
Cross-section	50 mm ²
Cable structure qty x Ø wire	19 x 1.8 mm
Material	Al
Standard	EN 62561-2
Diameter Ø outside	9 mm
Coil weight	approx. 13.5 kg
PU	100 m

Note: Al must not be installed directly (without distance) on, in or under plaster, mortar or concrete, and not in soil.

Steel cable

E.g. for equipotential bonding.

Part No.	801 050
Cross-section	42 mm ²
Cable structure qty x Ø wire	[6x] 19 x 0.65 mm
Material	St/gal Zn
Diameter Ø outside	10 mm
Coil weight	approx. 33 kg
PU	100 m

Stainless steel cable

E.g. for equipotential bonding.

Part No.	850 008	850 010
Cross-section	27 mm ²	42 mm ²
Cable structure qty x Ø wire	[7x] 19 x ca. 0.59 mm	[7x] 19 x ca. 0.68 mm
Material	StSt (V4A)	StSt (V4A)
Material No.	1.4571 / 1.4404	1.4571 / 1.4404
ASTM / AISI:	316Ti / 316L	316Ti / 316L
Diameter Ø outside	8 mm	10 mm
Coil weight	approx. 23.5 kg	approx. 39.5 kg
PU	100 m	100 m

Copper cable

General technical data:

Material	Cu
Standard	EN 62561-2

Part No.	832 739	832 740	832 192
Cross-section	50 mm ²	50 mm ²	70 mm ²
Cable structure qty x Ø wire	19 x 1.8 mm	19 x 1.8 mm	19 x 2.1 mm
Diameter Ø outside	9 mm	9 mm	10.5 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	9.8 kA	9.8 kA	13.7 kA
Coil weight	approx. 22 kg	approx. 44 kg	approx. 30 kg
PU	50 m	100 m	50 m

Part No.	832 193	832 095	832 120
Cross-section	70 mm ²	95 mm ²	120 mm ²
Cable structure qty x Ø wire	19 x 2.1 mm	19 x 2.5 mm	19 x 2.8 mm
Diameter Ø outside	10.5 mm	12.5 mm	14.5 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	13.7 kA	18.5 kA	23.4 kA
Coil weight	approx. 60 kg	approx. 42 kg	approx. 53 kg
PU	100 m	50 m	50 m

Copper cable tinned

General technical data:			
Material	Cu/gal Sn		
Standard	EN 62561-2		
Part No.	832 839	832 202	832 292
Cross-section	50 mm ²	70 mm ²	70 mm ²
Cable structure qty x Ø wire	19 x 1.8 mm	19 x 2.1 mm	19 x 2.1 mm
Diameter Ø outside	9 mm	10.5 mm	10.5 mm
Short-circuit current (50 Hz) (1 s; ≤ 150 °C)	7.2 kA	10.1 kA	10.1 kA
Coil weight	approx. 44 kg	approx. 30 kg	approx. 60 kg
PU	100 m	50 m	100 m
Part No.	832 295	832 320	
Cross-section	95 mm ²	120 mm ²	
Cable structure qty x Ø wire	19 x 2.5 mm	19 x 2.8 mm	
Diameter Ø outside	12.5 mm	14.5 mm	
Short-circuit current (50 Hz) (1 s; ≤ 150 °C)	13.8 kA	17.3 kA	
Coil weight	approx. 42 kg	approx. 53 kg	
PU	50 m	50 m	



Other dimensions and materials upon request.



DEHN protects.

Roof Conductor Holders for Flat Roofs



Roof conductor holders to fix round conductors and strips (by means of adapters) on flat roofs.

- Conductor holder with support plate of weather-resistant plastic, UV stabilised and halogen-free
- Frost-resistant concrete block in accordance with EN 1338 for paving stones, frost-resistance tested according to EN 1926 (frost-dew-test)
- Concrete block and support plate separately recyclable

With double conductor holder Type FB2

Part No.	253 050	253 060
Conductor leading	loose	fixed
Material of conductor holder	plastic	plastic
Colour of conductor holder	black ●	black ●
Conductor holder support Rd	8 mm	8 mm
Weight	1 kg	1 kg
Block	concrete (C35/45)	concrete (C35/45)
Dimension	141 x 86 x 70 mm	141 x 86 x 70 mm
PU	10 pc(s)	10 pc(s)



With double conductor holder Type KF2

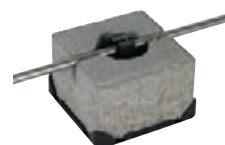
For clamping into roofing sheet stripes (up to 5 mm thick) which are welded with or adhered to the roofing sheet.

Part No.	253 051
Conductor leading	loose
Material of conductor holder	plastic
Colour of conductor holder	black ●
Conductor holder support Rd	8 mm
Dimension	141 x 86 x 70 mm
PU	100 pc(s)



With single conductor holder Type FB

Part No.	253 015
Conductor leading	loose
Material of conductor holder	plastic
Colour of conductor holder	black ●
Conductor holder support Rd	8 mm
Weight	1 kg
Block	concrete (C35/45)
Dimension	100 x 100 x 70 mm
PU	10 pc(s)



With single conductor holder Type KF

For clamping on roofing sheet stripes (up to 2.5 mm thick) which are welded with or adhered to the roofing sheet.

Part No.	253 030
Conductor leading	loose
Material of conductor holder	plastic
Colour of conductor holder	black ●
Conductor holder support Rd	8 mm
Dimension	110 x 100 x 75 mm
PU	100 pc(s)



Separate plastic top Type KF Part No. 253 016 upon request.

Accessories for Roof Conductor Holders for Flat Roofs

Adapter for Round Conductors Type FB and KF

For snapping onto roof conductor holders for conductors Rd 10 mm, loose conductor leading.

Note: Adapters for conductors Rd 6 mm upon request.

Part No.	253 023
Conductor holder support Rd	10 mm
Material	plastic
Colour	black ●
PU	50 pc(s)



Accessories for Roof Conductor Holders for Flat Roofs

Adapter for Conductor Holders Type FB and KF

For snapping on roof conductor holder (Part No. 253 015) for flat conductors 30 mm, loose conductor leading.



Part No.	253 021
Conductor holder support Fl	30 mm
Material	plastic
Colour	black ●
PU	50 pc(s)

Clip for Type FB and KF

For snapping onto roof conductor holders (Part No. 253015), for additional fixing of the holder at the installed air-termination conductor in case of pitched roofs.



Part No.	253 025
Conductor holder support Rd	8 mm
Material	plastic
Colour	black ●
PU	50 pc(s)

Roof Conductor Holders for Flat Roofs with Fixing Bores

For the installation of air-termination systems on flat roofs and walls.

Type St/tZn, large

With conductor holder DEHNQUICK, fixed conductor leading, height up to conductor mid 60 mm.



Part No.	202 060
Material of roof conductor holder	St/tZn
Dimension	100 x 100 mm
Fixing	[4x] Ø4 / [4x] Ø10 mm
Material of roof conductor holder	St/tZn
Conductor holder support Rd	6-10 mm
PU	50 pc(s)

Type St/tZn, small

With conductor holder DEHNQUICK, fixed conductor leading, height up to conductor mid 60 mm.



Part No.	202 030
Material of roof conductor holder	St/tZn
Dimension	50 x 60 mm
Fixing	[4x] Ø5.2 mm
Material of roof conductor holder	St/tZn
Conductor holder support Rd	6-10 mm
PU	50 pc(s)

Round fixing plate St/tZn, large

Plate with threaded bolt M8, e.g. for DEHNSnap or DEHNhold for use e.g. at roofing felt, concrete, steel and brickwork.



Part No.	297 015
Material of roof conductor holder	St/tZn
Dimension	approx. Ø100 mm
Fixing	[4x] Ø4 / [4x] Ø10 mm
PU	25 pc(s)

Round fixing plate plastic, small

Plate with threaded bolt M8, e.g. for DEHNSnap or DEHNhold for use e.g. at roofing felt, concrete, steel and brickwork.



Part No.	297 025
Material of roof conductor holder	plastic
Colour	grey ●
Dimension	Ø40 mm
Fixing	[4x] Ø4 mm
PU	100 pc(s)

Roof Bushings

Down conductor bushing and sealing of roofs.

For flat roofs

The max. processing temperature of +110 °C has to be minded on installation. In case of connection heights exceeding 100 mm, roof bushing and conductor are to be wrapped with a self-adhesive universal sealing tape (alu-fix tape).

Part No.	552 030
Material	plastic
Colour	black ●
Bushing Rd	8 / 10 / 16 mm
Bushing Fl	20 x 2.5 / 30 x 3.5 mm
Diameter Ø	250 mm
PU	25 pc(s)



For tiled and corrugated plate roofing

Bore Ø16 mm

Part No.	552 010
Bore	Ø16 mm
Material	plastic
Colour	black ●
Bushing Rd	8-10 mm
Diameter Ø	34 mm
PU	25 pc(s)



Expansion Pieces

For temperature-related length compensation of longer conductors (loose conductor leading in the holders required).

Round design

For connection e.g. by MV clamp (Part No. 390 051).

Part No.	374 011
Material	Al
Dimension	Ø8 mm
Length	approx. 395 mm
Standard	EN 62561-2
PU	25 pc(s)

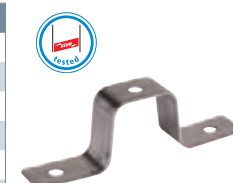


Flat design

For connection e.g. with KS connector (Part No. 301 000).

Note: At crossing points two expansion pieces may be connected with one screw M10 x 20 mm and nut.

Part No.	374 020
Material	Al
Dimension	30 x 2 mm
Length	170 mm
Fixing	[2x] Ø11 mm
Central bore	Ø11 mm
Standard	EN 62561-1
PU	50 pc(s)

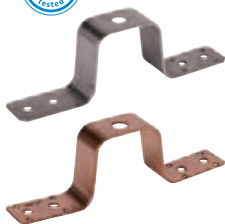


Bridging Brackets

For connection and bonding of metal claddings, for riveting or screwing.

Application note:

According to DIN EN 62305-3 Suppl. 1, four rivets Ø5 mm shall be used to connect material of ≥ 0.5 mm thickness, or two StSt tapping screws Ø6.3 mm (on both sides) for material of ≥ 2 mm thickness.



Short design with central bore

Part No.	377 006	377 027
Material	Al	Cu
Dimension	30 x 2 mm	28 x 2 mm
Length	170 mm	170 mm
Fixing	[8x] Ø5.2 / [4x] Ø6.5 mm	[8x] Ø5.2 / [4x] Ø6.5 mm
Central bore	Ø11 mm	Ø11 mm
Standard	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)

Short design without central bore



Part No.	377 016
Material	Al
Dimension	30 x 2 mm
Length	170 mm
Fixing	[8x] Ø5.2 / [4x] Ø6.5 mm
Standard	EN 62561-1
PU	50 pc(s)

Long design with central bore



Part No.	377 026
Material	Al
Dimension	30 x 2 mm
Length	220 mm
Fixing	[8x] Ø5.2 / [4x] Ø6.5 mm
Central bore	Ø11 mm
Standard	EN 62561-1
PU	50 pc(s)

Bridging Brackets

For connecting metal claddings (riveting or screwing) or as expansion compensation piece for round wires; connection e.g. by KS connector Part No. 301 019.

Application note:

According to DIN EN 62305-3 Suppl. 1, four rivets Ø5 mm shall be used to connect material of ≥ 0.5 mm thickness, or two StSt tapping screws Ø6.3 mm (on both sides) for material of ≥ 2 mm thickness.

Short design



Part No.	377 015	377 007
Material	Al	Cu
Length	180 mm	180 mm
Cross-section	50 mm ²	50 mm ²
Fixing	[8x] Ø5.2 / [2x] Ø10.5 mm	[8x] Ø5.2 / [2x] Ø10.5 mm
Fixing possibility	blind rivets / screws	blind rivets / screws
Standard	EN 62561-1	EN 62561-1
PU	10 pc(s)	10 pc(s)

Short design for fixing with drilling screws

Part No.	377 045
Material	Al
Length	180 mm
Cross-section	50 mm ²
Fixing	[4x] Ø6.5 / [2x] Ø10.5 mm
Fixing possibility	drilling screws / screws
Standard	EN 62561-1
PU	100 pc(s)



Long design with central bore

Note: At crossing points two bridging braids can be connected with a screw M10 x 20 mm and nut.

Part No.	377 115	377 107
Material	Al	Cu
Length	300 mm	300 mm
Cross-section	50 mm ²	50 mm ²
Fixing	[8x] Ø5.2 / [3x] Ø10.5 mm	[8x] Ø5.2 / [3x] Ø10.5 mm
Central bore Ø	10.5 mm	10.5 mm
Fixing possibility	blind rivets / screws	blind rivets / screws
Standard	EN 62561-1	EN 62561-1
PU	10 pc(s)	10 pc(s)



Bridging Cables

For connecting / bridging of metal claddings by screwing or as expansion compensation piece for round wires; connection e.g. with KS connector Part No. 301 019.

Application note:

According to DIN EN 62305-3 Suppl. 1, two rivets Ø6 mm shall be used to connect material of ≥ 0.5 mm thickness, or two StSt tapping screws Ø6.3 mm (on both sides) for material of ≥ 2 mm thickness.

Part No.	377 210	377 310	377 410	377 510
Length (l1)	200 mm	300 mm	400 mm	500 mm
Material of cable lug	Al	Al	Al	Al
Material of cable	Cu	Cu	Cu	Cu
Cross-section	16 mm ²	16 mm ²	16 mm ²	16 mm ²
Fixing	[4x] Ø6.5 / [2x] Ø10.5 mm	[4x] Ø6.5 / [2x] Ø10.5 mm	[4x] Ø6.5 / [2x] Ø10.5 mm	[4x] Ø6.5 / [2x] Ø10.5 mm
Insulation	rubber EM5 black	rubber EM5 black	rubber EM5 black	rubber EM5 black
Standard	EN 62561-1	EN 62561-1	EN 62561-1	EN 62561-1
PU	10 pc(s)	10 pc(s)	10 pc(s)	10 pc(s)



Drilling Screw

Self-tapping with hexagon head and collar for connecting bridging brackets, braids or cables e.g. to the metal capped parapet (for materials of ≥ 2 mm thickness).

Part No.	528 619
Material	StSt
Dimension	6.3 x 19 mm
Head	SW 10
Standard	DIN 7504
PU	200 pc(s)



Blind Rivet

With StSt pin for the connection of bridging brackets, bridging braids or bridging cables, according to DIN EN 62305-3 Suppl. 1.



Part No.	528 610
Material	Al / StSt
Head	Ø5 mm
Length	10 mm
Standard	similar to DIN 7337
PU	500 pc(s)

Bridging Cable with Saddle Clamps

- For connecting or bridging of metal claddings (e.g. metal cappings of roof parapet segments) without boring
- With one cleat each e.g. for connection to the air-termination system and for erection of air-termination rods (Rd 8-10 mm)
- For use at parapet capping seams angled 0°-45° and up to max. 18 mm long

Thus pollution by bore chippings can be avoided.

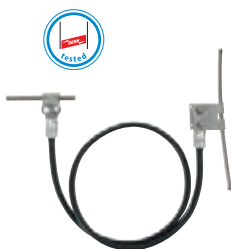


Part No.	365 419
Clamping range of seam	0.7-10 mm
Material of saddle clamps	StSt
Length	200 mm
Material of cable	Cu
Cross-section	16 mm ²
Standard	EN 62561-1
PU	5 pc(s)

Connection Kit for Safety Rope System

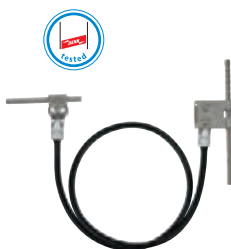
System for connecting the safety rope systems on roofs with the air-termination system; with premounted connection lug for the safety rope and clamping frame.

Rope diameter 6 mm



Part No.	365 509
Clamping range of connection lug	Ø6 mm
Rope structure	7 x 7 / 7 x 19
Material of connection lug	StSt
Clamping range of clamping frame	Rd 6-10 mm
Length	1000 mm
Material of rope	Cu
Cross-section	16 mm ²
Temperature range	-40 °C ... +80 °C
Insulation	rubber EM5 black
Standard	EN 62561-1
PU	1 pc(s)

Rope diameter 8 mm



Part No.	365 519
Clamping range of connection lug	Ø8 mm
Rope structure	7 x 7 / 7 x 19
Material of connection lug	StSt
Clamping range of clamping frame	Rd 6-10 mm
Length	1000 mm
Material of rope	Cu
Cross-section	16 mm ²
Temperature range	-40 °C ... +80 °C
Insulation	rubber EM5 black
Standard	EN 62561-1
PU	1 pc(s)

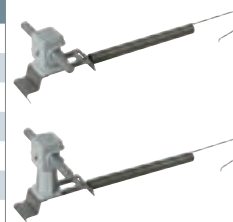
Roof Conductor Holders with Tension Spring for Ridge and Hip Tiles

For fixing air-termination conductors on the ridge e.g. of tiled roofs.

SPANNsnap light

For fixing by StSt tension spring, with DEHNSnap conductor holder, for conductor Rd 8 mm, loose conductor leading, laterally adjustable.

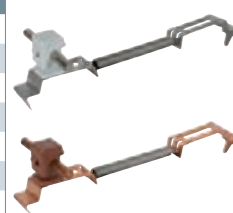
Part No.	204 469	204 449
Material of roof conductor holder	StSt	StSt
Clamping range of ridge tile width	180-280 mm	180-280 mm
Height of conductor holder (h1)	16 mm	36 mm
Material of conductor holder	plastic	plastic
Colour of conductor holder	grey ●	grey ●
Conductor holder support Rd	8 mm	8 mm
PU	25 pc(s)	25 pc(s)



SPANNsnap

For fixing by StSt tension spring, with DEHNSnap conductor holder, for conductor Rd 8 mm, loose conductor leading, laterally adjustable.

Part No.	204 269	204 267	204 249	204 247
Material of roof conductor holder	StSt	Cu	StSt	Cu
Clamping range of ridge tile width	180-280 mm	180-280 mm	180-280 mm	180-280 mm
Height of conductor holder (h1)	16 mm	16 mm	36 mm	36 mm
Material of conductor holder	plastic	plastic	plastic	plastic
Colour of conductor holder	grey ●	brown ●	grey ●	brown ●
Conductor holder support Rd	8 mm	8 mm	8 mm	8 mm
PU	25 pc(s)	25 pc(s)	25 pc(s)	25 pc(s)



SPANNgrip light

For fixing by StSt tension spring, with DEHNgrip conductor holder, for conductor Rd 8 mm, loose conductor leading, laterally adjustable.

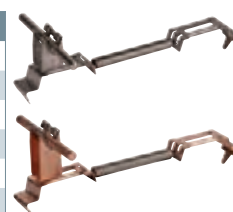
Part No.	206 439	206 449
Material of roof conductor holder	StSt	StSt
Clamping range of ridge tile width	180-280 mm	180-280 mm
Height of conductor holder (h1)	20 mm	32 mm
Material of conductor holder	StSt	StSt
Conductor holder support Rd	8 mm	8 mm
PU	25 pc(s)	25 pc(s)



SPANNgrip

For fixing by StSt tension spring, with DEHNgrip conductor holder, for conductor Rd 8 mm, loose conductor leading, laterally adjustable.

Part No.	206 239	206 237	206 249	206 247
Material of roof conductor holder	StSt	Cu	StSt	Cu
Clamping range of ridge tile width	180-280 mm	180-280 mm	180-280 mm	180-280 mm
Height of conductor holder (h1)	20 mm	20 mm	32 mm	32 mm
Material of conductor holder	StSt	Cu	StSt	Cu
Conductor holder support Rd	8 mm	8 mm	8 mm	8 mm
PU	25 pc(s)	25 pc(s)	25 pc(s)	25 pc(s)



Roof Conductor Holders Adjustable to Ridge and Hip Tiles

For fixing air-termination conductors on the ridge e.g. of tiled roofs.

Continuously adjustable with conductor holder DEHNSnap

Loose conductor leading, laterally adjustable (top middle to the bottom).

General technical data:			
Clamping range	180-280 mm		
Material of conductor holder	plastic		
Conductor holder support Rd	8 mm		
Length of supporting claw	23 mm		
Part No.	204 109	204 911	204 107
Material of roof conductor holder	StSt	StSt	Cu
Height of conductor holder (h1)	16 mm	16 mm	16 mm
Colour of conductor holder	grey ●	brown ●	brown ●
PU	25 pc(s)	25 pc(s)	25 pc(s)
Part No.	204 129	204 913	204 127
Material of roof conductor holder	StSt	StSt	Cu
Height of conductor holder (h1)	36 mm	36 mm	36 mm
Colour of conductor holder	grey ●	brown ●	brown ●
PU	25 pc(s)	25 pc(s)	25 pc(s)

Continuously adjustable with conductor holder DEHNgrip

Loose conductor leading, laterally adjustable (top middle to the bottom).

General technical data:			
Clamping range	180-280 mm		
Conductor holder support Rd	8 mm		
Standard	EN 62561-4		
Part No.	206 109	206 809	206 807
Material of roof conductor holder	StSt	StSt	Cu
Height of conductor holder (h1)	20 mm	20 mm	20 mm
Material of conductor holder	StSt	StSt	Cu
Length of supporting claw	23 mm	15 mm	15 mm
PU	25 pc(s)	25 pc(s)	25 pc(s)
Part No.	206 817	206 819	
Material of roof conductor holder	Cu	StSt	
Height of conductor holder (h1)	32 mm	32 mm	
Material of conductor holder	Cu	StSt	
Length of supporting claw	15 mm	15 mm	
PU	25 pc(s)	25 pc(s)	

Stepwise adjustable with conductor holder DEHNQUICK

Fixed conductor leading.

General technical data:			
Conductor holder support Rd	6-10 mm		
Length of supporting claw	24 mm		
Part No.	202 020	202 021	202 900
Material of roof conductor holder	St/tZn	St/tZn	StSt
Clamping range	120-240 mm	200-280 mm	120-240 mm
Material of conductor holder	St/tZn	St/tZn	StSt
PU	25 pc(s)	25 pc(s)	25 pc(s)
Part No.	202 027	202 227	
Material of roof conductor holder	Cu	Cu	
Clamping range	120-240 mm	200-280 mm	
Material of conductor holder	Cu	Cu	
PU	25 pc(s)	25 pc(s)	



Roof Conductor Holders for Ridge and Hip Tiles

For fixing air-termination conductors on the ridge.

FIRSTsnap

For attaching to the ridge clamps of dry ridges, with conductor holder DEHNsnap, loose conductor leading.

Part No.	204 029	204 039
Material of roof conductor holder	StSt	StSt
Height of conductor holder	16 mm	16 mm
Material of conductor holder	plastic	plastic
Colour of conductor holder	grey ●	brown ●
Conductor holder support Rd	8 mm	8 mm
PU	50 pc(s)	50 pc(s)



Two-screw cleat with spacer and elastic sealing

For tiled, slated and corrugated sheet roofs, with weather-resistant spacer and elastic sealing, fixed conductor leading.

Part No.	216 000
Material of roof conductor holder	plastic
Bore	Ø12 mm
Material of conductor holder	St/tZn
Conductor holder support Rd	7-10 mm
Conductor holder support Fl	20 mm
PU	25 pc(s)



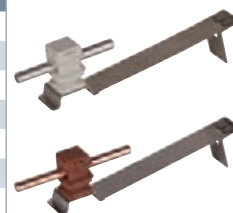
Roof Conductor Holders with Angled Flexible Base Brace for Roof Surfaces

With flexible base brace made of StSt (0.3 mm) for hooking at the roof tile, adjustable to interlocking tiles.

FLEXIsnap

With flexible base brace for hooking at interlocking tiles, loose conductor leading.

Part No.	204 935	204 936	204 937	204 938
Material of roof conductor holder	StSt	StSt	StSt	StSt
Length of brace	170 mm	170 mm	170 mm	170 mm
Height of conductor holder (h1)	16 mm	16 mm	36 mm	36 mm
Material of conductor holder	plastic	plastic	plastic	plastic
Colour of conductor holder	grey ●	brown ●	grey ●	brown ●
Conductor holder support Rd	8 mm	8 mm	8 mm	8 mm
PU	50 pc(s)	50 pc(s)	50 pc(s)	50 pc(s)



FLEXIgrip

With flexible base brace for hooking at interlocking tiles, loose conductor leading.

Part No.	204 949	204 957
Material of roof conductor holder	StSt	StSt
Length of brace	170 mm	170 mm
Height of conductor holder (h1)	32 mm	32 mm
Material of conductor holder	StSt	Cu
Conductor holder support Rd	8 mm	8 mm
PU	50 pc(s)	50 pc(s)



Roof Conductor Holders with Embossed Brace for Roof Surfaces

For fixing of air-termination conductors and down conductors.

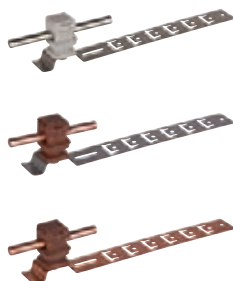
UNIsnap height 16 mm

With preformed bending points for hooking at the tiles or battens, with DEHNsnap conductor holder, loose conductor leading.

General technical data:	
Height of conductor holder	16 mm
Material of conductor holder	plastic
Conductor holder support Rd	8 mm

Part No.	204 149	204 921	204 147
Material of roof conductor holder	StSt	StSt	Cu
Length of brace (l1)	205 mm	205 mm	205 mm
Colour of conductor holder	grey ●	brown ●	brown ●
PU	50 pc(s)	50 pc(s)	50 pc(s)

Part No.	204 159	204 157	204 169
Material of roof conductor holder	StSt	Cu	StSt
Length of brace (l1)	335 mm	335 mm	475 mm
Colour of conductor holder	grey ●	brown ●	grey ●
PU	50 pc(s)	50 pc(s)	50 pc(s)



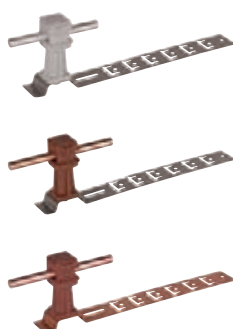
UNIsnap height 36 mm

With preformed bending points for hooking to the roof tiles or battens, with conductor holder DEHNsnap, loose conductor leading.

General technical data:	
Height of conductor holder	36 mm
Material of conductor holder	plastic
Conductor holder support Rd	8 mm

Part No.	204 179	204 924	204 177	204 189
Material of roof conductor holder	StSt	StSt	Cu	StSt
Length of brace (l1)	205 mm	205 mm	205 mm	335 mm
Colour of conductor holder	grey ●	brown ●	brown ●	grey ●
PU	50 pc(s)	50 pc(s)	50 pc(s)	50 pc(s)

Part No.	204 925	204 187	204 199	204 197
Material of roof conductor holder	StSt	Cu	StSt	Cu
Length of brace (l1)	335 mm	335 mm	475 mm	475 mm
Colour of conductor holder	brown ●	brown ●	grey ●	brown ●
PU	50 pc(s)	50 pc(s)	50 pc(s)	50 pc(s)



UNIsnap with clamping part

With preformed bending points for hooking at tiles or battens and additional clamping part e.g. for slated roofs, with DEHNsnap conductor holder, loose conductor leading.

Part No.	204 089
Material of roof conductor holder	StSt
Length of brace (l1)	205 mm
Height of conductor holder	16 mm
Material of conductor holder	plastic
Colour of conductor holder	grey ●
Conductor holder support Rd	8 mm
PU	50 pc(s)



DEHNSnap with Alu base brace

Easily adjustable to interlocking tiles, DEHNSnap conductor holder, loose conductor leading.

Part No.	204 170	204 171
Material of roof conductor holder	Al	Al
Length of brace (l1)	205 mm	205 mm
Height of conductor holder	36 mm	36 mm
Material of conductor holder	plastic	plastic
Colour of conductor holder	grey ●	brown ●
Conductor holder support Rd	8 mm	8 mm
PU	50 pc(s)	50 pc(s)



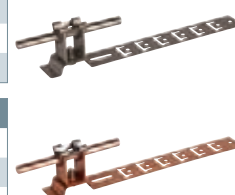
UNIgrip height 20 mm

With preformed bending points for hooking at tiles or battens, with DEHNgrip conductor holder, loose conductor leading.

General technical data:	
Height of conductor holder	20 mm
Conductor holder support Rd	8 mm
Standard	EN 62561-4

Part No.	206 209	206 207	206 219
Material of roof conductor holder	StSt	Cu	StSt
Length of brace (l1)	205 mm	205 mm	335 mm
Material of conductor holder	StSt	Cu	StSt
PU	50 pc(s)	50 pc(s)	50 pc(s)

Part No.	206 217	206 229	206 227
Material of roof conductor holder	Cu	StSt	Cu
Length of brace (l1)	335 mm	475 mm	475 mm
Material of conductor holder	Cu	StSt	Cu
PU	50 pc(s)	50 pc(s)	50 pc(s)



UNIgrip height 32 mm

With preformed bending points for hooking at the roof tiles or battens, with conductor holder DEHNgrip, loose conductor leading.

Part No.	206 309	206 319	206 329
Material of roof conductor holder	StSt	StSt	StSt
Length of brace (l1)	205 mm	335 mm	475 mm
Height of conductor holder	32 mm	32 mm	32 mm
Material of conductor holder	StSt	StSt	StSt
Conductor holder support Rd	8 mm	8 mm	8 mm
Standard	EN 62561-4	EN 62561-4	EN 62561-4
PU	50 pc(s)	50 pc(s)	50 pc(s)



UNIgrip with clamping part height 20 mm

With preformed bending points for bending and hooking and additional clamping part, e.g. for slate roofs, with conductor holder DEHNgrip, loose conductor leading.

Part No.	206 289
Material of roof conductor holder	StSt
Length of brace (l1)	205 mm
Height of conductor holder	20 mm
Material of conductor holder	StSt
Conductor holder support Rd	8 mm
Standard	EN 62561-4
PU	50 pc(s)



DEHNgrip with Alu base brace

Easily fittable to interlocking tiles, with DEHNgrip conductor holder, loose conductor leading.

Part No.	206 170	206 171
Material of roof conductor holder	Al	Al
Length of brace (l1)	205 mm	205 mm
Height of conductor holder	20 mm	32 mm
Material of conductor holder	StSt	StSt
Conductor holder support Rd	8 mm	8 mm
Standard	EN 62561-4	EN 62561-4
PU	50 pc(s)	50 pc(s)



Roof Conductor Holders with Brace for Roof Surfaces

For insertion at tiled, slated and roofing felt roofs.

Straight

Straight, with conductor holder DEHNQUICK, for conductors Rd 6-10 mm, fixed conductor leading.



Part No.	202 040	202 902	202 037	202 008
Material of roof conductor holder	St/tZn	StSt	Cu	St/tZn
Height of brace (h1)	55 mm	55 mm	55 mm	70 mm
Length of brace (l1 / t1)	260 / 2 mm	260 / 1 mm	260 / 2 mm	420 / 2 mm
Material of conductor holder	St/tZn	StSt	Cu	St/tZn
Conductor holder support Rd	6-10 mm	6-10 mm	6-10 mm	6-10 mm
PU	50 pc(s)	50 pc(s)	50 pc(s)	50 pc(s)

Cranked

With conductor holder DEHNQUICK, fixed conductor leading.



Part No.	202 010	202 901	202 017
Material of roof conductor holder	St/tZn	StSt	Cu
Height of brace (h1)	55 mm	55 mm	55 mm
Length of brace (l1 / t1)	260 / 2 mm	260 / 1 mm	260 / 2 mm
Material of conductor holder	St/tZn	StSt	Cu
Conductor holder support Rd	6-10 mm	6-10 mm	6-10 mm
PU	50 pc(s)	50 pc(s)	50 pc(s)

Roof Conductor Holders with Angled Brace for Roof Surfaces

For hooking at the roof tiles.

With conductor holder DEHNSnap

Loose conductor leading.



Part No.	204 359
Material of roof conductor holder	StSt
Length of brace (l1)	169 mm
Height of conductor holder	16 mm
Material of conductor holder	plastic
Colour of conductor holder	grey ●
Conductor holder support Rd	8 mm
PU	50 pc(s)

With conductor holder DEHNgrip

Loose conductor leading.



Part No.	206 359
Material of roof conductor holder	StSt
Length of brace (l1)	169 mm
Height of conductor holder	20 mm
Material of conductor holder	StSt
Conductor holder support Rd	8 mm
Standard	EN 62561-4
PU	50 pc(s)

With conductor holder DEHNQUICK

For hooking at the roof tiles or battens, fixed lengthwise or crosswise onductor leading.



Part No.	202 050	202 080
Material of roof conductor holder	St/tZn	St/tZn
Length of brace (l1)	115 / (48) mm	410 / (36) mm
Material of conductor holder	St/tZn	St/tZn
Conductor holder support Rd	6-10 mm	6-10 mm
PU	25 pc(s)	50 pc(s)

Roof Conductor Holders with Clamping Device for Roof Surfaces

For fixing air-termination conductors and down conductors.

PLATTENsnap

For fixing at overlapping constructions, with DEHNsnap conductor holder, loose conductor leading.

Part No.	204 069	204 079
Material of roof conductor holder	StSt	StSt
Clamping range	4-6 mm	4-6 mm
Height of conductor holder	16 mm	16 mm
Material of conductor holder	plastic	plastic
Colour of conductor holder	grey ●	brown ●
Conductor holder support Rd	8 mm	8 mm
PU	50 pc(s)	50 pc(s)



ZIEGELsnap

For fixing between flat tiles (pantiles) and plates, with DEHNsnap conductor holder, loose conductor leading.

Part No.	204 049	204 059
Material of roof conductor holder	StSt	StSt
Clamping range	4-16 mm	4-16 mm
Height of conductor holder	16 mm	16 mm
Material of conductor holder	plastic	plastic
Colour of conductor holder	grey ●	brown ●
Conductor holder support Rd	8 mm	8 mm
PU	50 pc(s)	50 pc(s)



ZIEGELgrip

Part No.	206 049 <small>NEW</small>
Material of roof conductor holder	StSt
Clamping range	4-16 mm
Height of conductor holder	20 mm
Material of conductor holder	StSt
Conductor holder support Rd	8 mm
Standard	EN 62561-4
PU	50 pc(s)



DEHNgrip for bitumen shingles

As well as for roof and wall plates, loose conductor leading.

Part No.	206 389	206 399
Material of roof conductor holder	StSt	StSt
Clamping range	2-8 mm	8-18 mm
Height of conductor holder	20 mm	20 mm
Material of conductor holder	StSt	StSt
Conductor holder support Rd	8 mm	8 mm
Standard	EN 62561-4	EN 62561-4
PU	50 pc(s)	50 pc(s)



Roof Conductor Holders with Preformed Brace for Roof Surfaces

For hooking at the roof tile groove.

For hooking at the lower groove, with DEHNgrip conductor holder

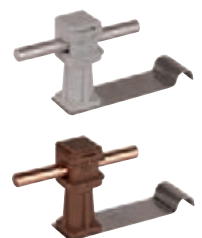
Loose conductor leading.



Part No.	206 349
Material of roof conductor holder	StSt
Length of brace	103 mm
Height of conductor holder	20 mm
Material of conductor holder	StSt
Conductor holder support Rd	8 mm
Standard	EN 62561-4
PU	50 pc(s)

For hooking at the lower groove, with DEHNSnap conductor holder

For hooking at the lower groove of the pantile, with DEHNSnap conductor holder, loose conductor leading, brace length 90 mm.



Part No.	204 229	204 239
Material of roof conductor holder	StSt	StSt
Length of brace	90 mm	90 mm
Height of conductor holder	36 mm	36 mm
Material of conductor holder	plastic	plastic
Colour of conductor holder	grey ●	brown ●
Conductor holder support Rd	8 mm	8 mm
PU	50 pc(s)	50 pc(s)

For hooking at the upper groove, with DEHNgrip conductor holder

For hooking at the groove of tiles, with DEHNgrip conductor holder, loose conductor leading, brace length 87 mm.



Part No.	206 369
Material of roof conductor holder	StSt
Length of brace	87 mm
Height of conductor holder	20 mm
Material of conductor holder	StSt
Conductor holder support Rd	8 mm
Standard	EN 62561-4
PU	50 pc(s)

Gutter Clamps with Single-screw Technique

For connecting conductors with gutters.

With clamping frame



Part No.	339 100	339 101
Clamping range of bead	16-22 mm	16-22 mm
Material of clamp	St/tZn	Al
Clamping range Rd	8-10 mm	8-10 mm
Width	40 mm	40 mm
Standard	EN 62561-1	EN 62561-1
PU	25 pc(s)	25 pc(s)

With double cleat



Part No.	339 110	339 111
Clamping range of bead	16-22 mm	16-22 mm
Material of clamp	St/tZn	Al
Clamping range Rd	8-10 mm	8-10 mm
Width	40 mm	40 mm
Standard	EN 62561-1	EN 62561-1
PU	25 pc(s)	25 pc(s)

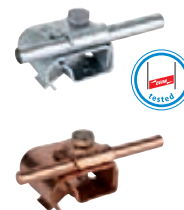
Gutter Clamps

For connecting conductors with gutters.

With clamping frame

Longitudinal or crosswise conductor leading.

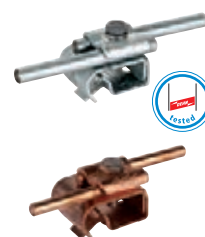
Part No.	339 060	339 061	339 067	339 069
Clamping range of bead	16-22 mm	16-22 mm	16-22 mm	16-22 mm
Material of clamp	St/tZn	Al	Cu	StSt
Clamping range Rd	6-10 mm	6-10 mm	6-10 mm	6-10 mm
Material of cleat	St/tZn	Al	Cu	StSt
Width / material thickness	40 mm	40 / 3 mm	40 / 2 mm	40 / 2 mm
Standard	EN 62561-1	EN 62561-1	EN 62561-1	EN 62561-1
PU	25 pc(s)	25 pc(s)	25 pc(s)	25 pc(s)



With double cleat

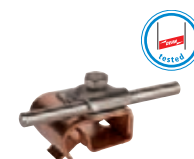
Longitudinal or crosswise conductor leading.

Part No.	339 050	339 051	339 057	339 059
Clamping range of bead	16-22 mm	16-22 mm	16-22 mm	16-22 mm
Material of clamp	St/tZn	Al	Cu	StSt
Clamping range Rd	8-10 mm	8-10 mm	8-10 mm	8-10 mm
Material of cleat	St/tZn	StSt	Cu	StSt
Width / material thickness	40 / 2 mm	40 / 3 mm	40 / 2 mm	40 / 2 mm
Standard	EN 62561-1	EN 62561-1	EN 62561-1	EN 62561-1
PU	25 pc(s)	25 pc(s)	25 pc(s)	25 pc(s)



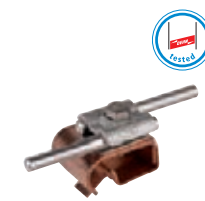
Bimetallic, for gutters Cu, with clamping frame (St/tZn) and intermediate plate (Cupal)

Part No.	339 167
Clamping range of bead	16-22 mm
Material of clamp	Cu / St/tZn
Clamping range Rd	6-10 mm
Standard	EN 62561-1
PU	25 pc(s)



Bimetallic, for gutters Cu, with double cleat (St/tZn) and intermediate plate (Cupal)

Part No.	339 157
Clamping range of bead	16-22 mm
Material of clamp	Cu / St/tZn
Clamping range Rd	8-10 mm
Standard	EN 62561-1
PU	25 pc(s)



With two-screw cleat, width 40 mm

Longitudinal conductor leading.

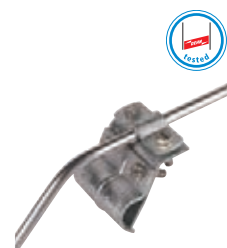
Part No.	338 000	338 001	338 007	338 009
Clamping range of bead	13-25 mm	13-25 mm	13-25 mm	13-25 mm
Material of clamp	St/tZn	Al	Cu	StSt
Clamping range Rd	7-10 mm	7-10 mm	7-10 mm	7-10 mm
Material of cleat	St/tZn	Al	Cu	StSt
Width / material thickness	40 / 3 mm	40 / 3 mm	40 / 3 mm	40 / 2,5 mm
Standard	EN 62561-1	EN 62561-1	EN 62561-1	EN 62561-1
PU	25 pc(s)	25 pc(s)	25 pc(s)	25 pc(s)



With two-screw cleat, width 60 mm

Longitudinal conductor leading.

Part No.	339 010
Clamping range of bead	13-25 mm
Material of clamp	St/tZn
Clamping range Rd	7-10 mm
Material of cleat	St/tZn
Width / material thickness	60 / 2.5 mm
Standard	EN 62561-1
PU	25 pc(s)



Snow Guard Clamps

For connecting conductors to snow guards, longitudinal connection with two-screw cleat.



For conductors Rd 7-10 mm.

Part No.	343 000	343 007
Clamping range	3-13 mm	3-13 mm
Material of clamp	St/tZn	Cu
Width	90 mm	90 mm
Clamping range Rd	7-10 mm	7-10 mm
Standard	EN 62561-1	EN 62561-1
PU	25 pc(s)	25 pc(s)

Roof Conductor Holders for Metal Roofs

For fixing additional air-termination systems on metal roofs.

Using two roof conductor holders (clamps / clamping frames) which are tested for the corresponding roof profile provides a lightning current carrying capability of 100 kA (10/350 µs).

For roofing with round standing seam, with clamping frame

Part No.	223 010	223 040
Material of roof conductor holder	StSt	Al
Clamping range	Ø20-25 mm	Ø20-25 mm
Material of conductor holder	StSt	Al
Conductor holder support Rd	6-10 mm	6-10 mm
Conductor leading	fixed	fixed
Standard	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)



For roofing with round standing seam, with DEHNgrip

Loose conductor leading.

Part No.	223 011	223 041
Material of roof conductor holder	StSt	Al
Clamping range	Ø20-25 mm	Ø20-25 mm
Height of conductor holder	20 mm	20 mm
Material of conductor holder	StSt	StSt
Conductor holder support Rd	8 mm	8 mm
Conductor leading	loose	loose
Standard	EN 62561-4	EN 62561-4
PU	50 pc(s)	50 pc(s)



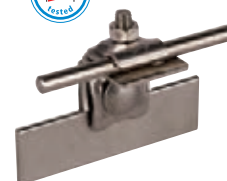
For roofing with clamping seam (e.g. RIB ROOF Speed 500 by Zambelli)

Part No.	223 070
Material of roof conductor holder	Al
Clamping range	approx. 18 / 22 mm
Material of conductor holder	Al
Conductor holder support Rd	6-10 mm
Conductor leading	fixed
Standard	EN 62561-1
PU	50 pc(s)



For roofing with standing seam, with clamping frame

Part No.	365 059
Material of roof conductor holder	StSt
Clamping range	0.7-8 mm
Material of conductor holder	StSt
Conductor holder support Rd	6-10 mm
Conductor leading	fixed
Standard	EN 62561-1
PU	50 pc(s)



For roofing with standing seam, with DEHNgrip

Part No.	223 031
Material of roof conductor holder	StSt
Clamping range	0.7-8 mm
Height of conductor holder	20 mm
Material of conductor holder	StSt
Conductor holder support Rd	8 mm
Conductor leading	loose
Standard	EN 62561-4
PU	50 pc(s)



For roofs with trapezoidal sheeting, with clamping frame

For hooking in the fixing screws of the roof.



Part No.	223 020
Material of roof conductor holder	StSt
Material of conductor holder	StSt
Conductor holder support Rd	6-10 mm
Conductor leading	fixed
Standard	EN 62561-1
PU	50 pc(s)

For roofs with trapezoidal sheeting, with DEHNgrip

For hooking in the fixing screws of the roof.



Part No.	223 021
Material of roof conductor holder	StSt
Height of conductor holder	20 mm
Material of conductor holder	StSt
Conductor holder support Rd	8 mm
Conductor leading	loose
Standard	EN 62561-4
PU	50 pc(s)

Roof Conductor Holders with Adhesive Pad

For the installation of air-termination systems e.g. on trapezoidal sheet metal roofing. The conductor holder may be used at plane (unstructured) surfaces such as metal roofs / metal surfaces. The conductor holders are adhesively fixed on the roof (remove the protective film from the pad).



With conductor holder DEHNsnap



Part No.	297 110
Material of roof conductor holder	plastic
Colour of roof conductor holder	grey ●
Material of conductor holder	plastic
Conductor holder support Rd	8 mm
Height of conductor holder	36 mm
Colour of conductor holder	grey ●
Conductor leading	loose
Dimension	Ø67 mm
PU	50 pc(s)

With conductor holder DEHNgrip



Part No.	297 120
Material of roof conductor holder	plastic
Colour of roof conductor holder	grey ●
Material of conductor holder	StSt
Conductor holder support Rd	8 mm
Height of conductor holder	32 mm
Conductor leading	loose
Dimension	Ø67 mm
Standard	EN 62561-4
PU	50 pc(s)

Accessory for Roof Conductor Holders with Adhesive Pad



Special Cleanser

Special cleanser for surfaces to attach the roof conductor holder with adhesive pad. One litre of this liquid is sufficient for approx. 1000 spots to be cleaned. Mind the instructions for use on the bottle.
Dangerous goods regulations allow for transportation only in Germany and Austria. Alternatively use ISOPROPYL ALCOHOL 99,1 to 99,9% (CAS - NO. 67-63-0).

Part No.	297 199
Cleanness	99.1-99.9 %
PU	1 liter

Roof Conductor Holders for Corrugated Sheet Roofing

For the installation of conductors on the ridge and on the roof surface. Corrugations 177 mm (profile 5) and 130 mm (profile 8).

For corrugated sheet roofing profile 5 with DEHNQUICK

For installation on the roof surface.

Part No.	202 005
Material of roof conductor holder	St/tZn
Material of conductor holder	St/tZn
Conductor holder support Rd	6-10 mm
Conductor leading	fixed
PU	50 pc(s)



For corrugated sheet roofing profile 5 with DEHNgrip

For installation on the roof surface.

Part No.	206 105
Material of roof conductor holder	St/tZn
Height of conductor holder	20 mm
Material of conductor holder	StSt
Conductor holder support Rd	8 mm
Conductor leading	loose
Standard	EN 62561-4
PU	50 pc(s)



For corrugated sheet roofing profile 5 and profile 8 with DEHNQUICK

For installing ridge conductors and conductors on the roof surface, angled design.

Part No.	202 015
Material of roof conductor holder	St/tZn
Material of conductor holder	St/tZn
Conductor holder support Rd	6-10 mm
Conductor leading	fixed
PU	50 pc(s)



For corrugated sheet roofing profile 5 and profile 8 with DEHNQUICK

For installing ridge conductors and conductors on the roof surface, angled design.

Part No.	202 906
Material of roof conductor holder	StSt
Material of conductor holder	StSt
Conductor holder support Rd	6-10 mm
Conductor leading	fixed
PU	50 pc(s)



For corrugated sheet roofing profile 5 and profile 8 with DEHNgrip

For installing ridge conductors and conductors on the roof surface, straight design.

Part No.	206 339
Material of roof conductor holder	StSt
Height of conductor holder	20 mm
Material of conductor holder	StSt
Conductor holder support Rd	8 mm
Conductor leading	loose
Standard	EN 62561-4
PU	50 pc(s)



For corrugated sheet roofing profile 5 and profile 8 with DEHNSnap

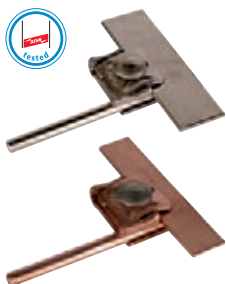
For installing ridge conductors and conductors on the roof surface, straight design.

Part No.	204 906	204 916
Material of roof conductor holder	StSt	StSt
Height of conductor holder	16 mm	16 mm
Material of conductor holder	plastic	plastic
Colour of conductor holder	grey ●	brown ●
Conductor holder support Rd	8 mm	8 mm
Conductor leading	loose	loose
PU	50 pc(s)	50 pc(s)



Saddle Clamps

For connecting conductors with seams of the same or of different materials.

**With clamping frame**

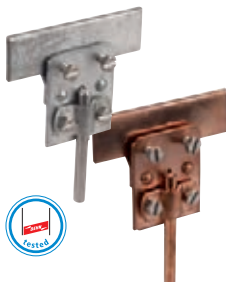
Lengthwise or crosswise conductor leading.

Part No.	365 030	365 031	365 037	365 039
Clamping range of flange	0.7-8 mm	0.7-8 mm	0.7-8 mm	0.7-8 mm
Material of clamp	St/tZn	Al	Cu	StSt
Clamping range Rd	6-10 mm	6-10 mm	6-10 mm	6-10 mm
Standard	EN 62561-1	EN 62561-1	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)	50 pc(s)	50 pc(s)

**With double cleat**

Lengthwise or crosswise conductor leading.

Part No.	365 010	365 017	365 019
Clamping range of flange	0.7-8 mm	0.7-8 mm	0.7-8 mm
Material of clamp	St/tZn	Cu	StSt
Clamping range Rd	8-10 mm	8-10 mm	8-10 mm
Standard	EN 62561-1	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)	50 pc(s)

**With two-screw cleat**

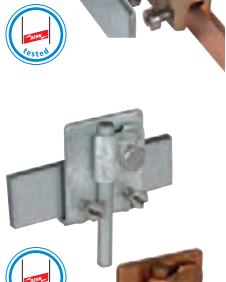
Lengthwise or crosswise conductor leading.

Part No.	251 002	251 027
Clamping range of flange	0.7-5 mm	0.7-5 mm
Material of clamp	St/tZn	Cu
Clamping range Rd	7-10 mm	7-10 mm
Standard	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)

**With two-screw cleat, e.g. for standing seams**

Lengthwise or crosswise conductor leading.

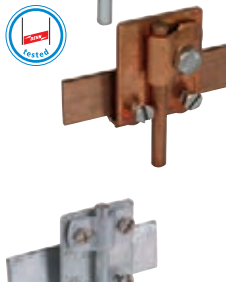
Part No.	365 000	365 007
Clamping range of flange	0.7-6 mm	0.7-6 mm
Material of clamp	ZDC	RCB
Clamping range Rd	7-10 mm	7-10 mm
Standard	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)

**With clamping frame, for hooking at seams**

Close to a roof or wall surface.

Lengthwise or crosswise conductor leading.

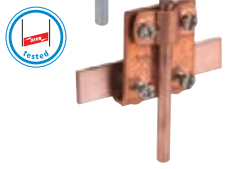
Part No.	365 020	365 027
Clamping range of flange	0.7-10 mm	0.7-10 mm
Material of clamp	St/tZn	Cu
Clamping range Rd	6-10 mm	6-10 mm
Standard	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)

**With two-screw cleat, for hooking at seams**

Close to a roof or wall surface.

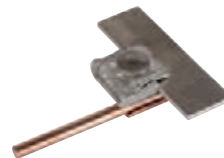
Lengthwise or crosswise conductor leading.

Part No.	365 040	365 047
Clamping range of flange	0.7-10 mm	0.7-10 mm
Material of clamp	St/tZn	Cu
Clamping range Rd	7-10 mm	7-10 mm
Standard	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)



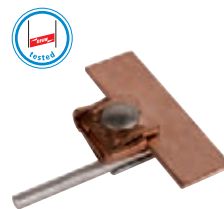
Bimetallic, for St/tZn seams, with intermediate plate (Cupal)

Part No.	365 127
Clamping range of flange	0.7-8 mm
Material of clamp	Cu / St/tZn
Clamping range Rd	6-10 mm
PU	50 pc(s)



Bimetallic, for Cu seams, with intermediate plate (Cupal)

Part No.	365 117
Clamping range of flange	0.7-8 mm
Material of clamp	St/tZn / Cu
Clamping range Rd	6-10 mm
Standard	EN 62561-1
PU	50 pc(s)



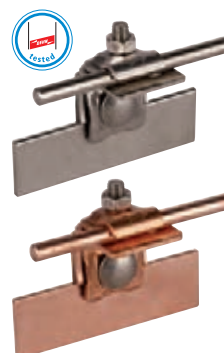
Saddle Clamps with Enlarged Contact Surface

For connecting conductors with seams; enlarged contact surface.

Angled design

Lengthwise or crosswise connection.

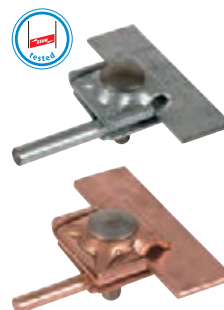
Part No.	365 050	365 051	365 057	365 059
Clamping range of seam	0.7-8 mm	0.7-8 mm	0.7-8 mm	0.7-8 mm
Material of clamp	St/tZn	Al	Cu	StSt
Clamping range Rd	6-10 mm	6-10 mm	6-10 mm	6-10 mm
Standard	EN 62561-1	EN 62561-1	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)	50 pc(s)	50 pc(s)



Straight design

Lengthwise or crosswise connection.

Part No.	365 220	365 221	365 227	365 229
Clamping range of seam	0.7-10 mm	0.7-10 mm	0.7-10 mm	0.7-10 mm
Material of clamp	St/tZn	Al	Cu	StSt
Clamping range Rd	8-10 mm	8-10 mm	8-10 mm	8-10 mm
Standard	EN 62561-1	EN 62561-1	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)	50 pc(s)	50 pc(s)



UNI Saddle Clamp

For integrating mounting systems e.g. of PV installations into the functional equipotential bonding / functional earthing (optionally black conductor) and lightning equipotential bonding. The StSt contact plate (intermediate element) allows for different materials of conductors (Cu, Al, St/tZn and StSt) to be connected to the usual mounting systems, e.g. to aluminium, without the risk of contact corrosion. The double cleat design allows for easy and quick interconnection of the profiles, e.g. by feed-through wiring.

With screw M8 and self-locking nut

Part No.	365 250
Clamping range of saddle	0.7-8 mm
Material of clamping bracket	Al
Clamping range Rd	8-10 mm
Connection (solid / stranded)	4-50 mm²
Material of double cleat	StSt
Standard	EN 62561-1
PU	50 pc(s)



Connection Lugs

For connecting metal claddings by blind rivets or screws.



With square hole

Dimension 11 x 11 mm (e.g. for KS connector M10), lengthwise or crosswise connection.

Part No.	377 005	377 017	377 009
Material of bracket	Al	Cu	StSt
Fixing	[4x] Ø5.2 / [2x] Ø6.5 mm	[4x] Ø5.2 / [2x] Ø6.5 mm	[4x] Ø5.2 / [2x] Ø6.5 mm
Standard	EN 62561-1	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)	50 pc(s)

With clamping frame

For conductors Rd 6-10 mm, lengthwise or crosswise connection.



Part No.	377 100
Material of bracket	Al
Fixing	[4x] Ø5.2 / [2x] Ø6.5 mm
Material of clamping frame	St/tZn
Standard	EN 62561-1
PU	50 pc(s)

With double cleat

For conductors Rd 8-10 mm, lengthwise or crosswise connection.



Part No.	377 200
Material of bracket	Al
Fixing	[4x] Ø5.2 / [2x] Ø6.5 mm
Material of double cleat	Al
Standard	EN 62561-1
PU	50 pc(s)

Conductor Holders DEHNgrip®

Screwless StSt holder system with loose conductor leading.

Height 20 mm

Part No.	207 019	207 009	207 017	207 007
Thread of conductor holder	M6	—	M6	—
Bore of conductor holder	—	Ø7.8 mm	—	Ø7.8 mm
Material of conductor holder	StSt	StSt	Cu	Cu
Conductor holder support Rd	8 mm	8 mm	8 mm	8 mm
Standard	EN 62561-4	EN 62561-4	EN 62561-4	EN 62561-4
PU	50 pc(s)	50 pc(s)	50 pc(s)	50 pc(s)



Height 32 mm

Part No.	207 039	207 029	207 037	207 027
Thread of conductor holder	M6	—	M6	—
Bore of conductor holder	—	Ø7.8 mm	—	Ø7.8 mm
Material of conductor holder	StSt	StSt	Cu	Cu
Conductor holder support Rd	8 mm	8 mm	8 mm	8 mm
Standard	EN 62561-4	EN 62561-4	EN 62561-4	EN 62561-4
PU	50 pc(s)	50 pc(s)	50 pc(s)	50 pc(s)



Height 20 mm pre-assembled with screw, plastic base (grey) and dowel

Part No.	207 109
Bore of conductor holder	Ø7.8 mm
Material of conductor holder	StSt
Conductor holder support Rd	8 mm
Screw	5 x 50 mm
Plastic dowel	Ø8 x 40 mm
Standard	EN 62561-4
PU	50 pc(s)



Conductor Holders DEHNSnap®

Plastic holder system with loose conductor leading.

Height 16 mm with female thread

Part No.	204 001	204 007	204 002	204 017
Thread of conductor holder	M6	M6	M8	M8
Material of conductor holder	plastic	plastic	plastic	plastic
Colour of conductor holder	grey ●	brown ●	grey ●	brown ●
Conductor holder support Rd	8 mm	8 mm	8 mm	8 mm
PU	100 pc(s)	50 pc(s)	50 pc(s)	100 pc(s)



Height 36 mm with female thread

Part No.	204 003	204 027	204 004	204 037
Thread of conductor holder	M6	M6	M8	M8
Material of conductor holder	plastic	plastic	plastic	plastic
Colour of conductor holder	grey ●	brown ●	grey ●	brown ●
Conductor holder support Rd	8 mm	8 mm	8 mm	8 mm
PU	100 pc(s)	100 pc(s)	50 pc(s)	50 pc(s)



Down Conductor – Conductor Holders

Height 16 mm with screw



Part No.	204 006
Thread of conductor holder	M8
Material of conductor holder	plastic
Colour of conductor holder	grey ●
Conductor holder support Rd	8 mm
Screw	⌈ 5 x 50 mm
PU	50 pc(s)

Height 16 mm pre-assembled with screw, cover plate and dowel



Part No.	204 120
Thread of conductor holder	M8
Material of conductor holder	plastic
Colour of conductor holder	grey ●
Conductor holder support Rd	8 mm
Screw	⌈ 5 x 50 mm
Plastic dowel	Ø8 x 40 mm
PU	50 pc(s)

Conductor Holders DEHNfix®

Two-in-one system (fixing of holder and conductor) with conductor holder DEHNQUICK, fixed conductor leading, UV stabilised.



Height 30 mm

Part No.	250 000	250 001	250 007
Material of cleat	St/tZn	StSt	Cu
Material of base part	plastic	plastic	plastic
Conductor holder support Rd	6-10 mm	6-10 mm	6-10 mm
Colour of conductor holder	grey ●	grey ●	brown ●
Striking dowel	75 / 30 mm	75 / 30 mm	75 / 30 mm
Bore Ø for striking dowel	8 mm	8 mm	8 mm
Bore depth	45 mm	45 mm	45 mm
PU	50 pc(s)	50 pc(s)	50 pc(s)

Note: Only suitable for massive stones or concrete.

Conductor Holders DEHNhold

Conductor holder with slotted cleat for fixing of round conductors, fixed conductor leading.
For use with different materials e.g. Al, StSt, St/tZn and Cu.

With female thread



Part No.	274 110	274 117
Material of conductor holder	StSt	StSt / gal Cu
Conductor holder support Rd	8-10 mm	8-10 mm
Conductor holder support Fl	20 mm	20 mm
Height of conductor holder	20 mm	20 mm
Thread of conductor holder	M8	M8
Standard	EN 62561-4	EN 62561-4
PU	50 pc(s)	50 pc(s)

With female thread, pre-assembled with plastic base



Part No.	274 150
Material of conductor holder	StSt
Conductor holder support Rd	8-10 mm
Conductor holder support Fl	20 mm
Height of conductor holder	20 mm
Thread of conductor holder	M8
Standard	EN 62561-4
PU	50 pc(s)

Down Conductor – Conductor Holders

With female thread, pre-assembled with screw, plastic base and dowel

Part No.	274 160	274 167
Material of conductor holder	StSt	StSt / gal Cu
Conductor holder support Rd	8-10 mm	8-10 mm
Conductor holder support Fl	20 mm	20 mm
Height of conductor holder	20 mm	20 mm
Thread of conductor holder	M8	M8
Plastic base	grey ●	brown ●
Screw	⌘ 5 x 50 mm	⌘ 5 x 50 mm
Standard	EN 62561-4	EN 62561-4
PU	50 pc(s)	50 pc(s)



With female thread, e.g. for round wire with plastic sheath

Part No.	274 113
Material of conductor holder	StSt
Conductor holder support Rd	13 mm
Height of conductor holder	20 mm
Thread of conductor holder	M8
PU	50 pc(s)



Conductor Holder with Cleat – Flat Design

Two-screw cleat with screws M6, for round and flat conductors.
With plastic (grey) cover disc.

Pre-assembled with wood screw, plastic (grey) cover disc and dowel

Part No.	286 819
Conductor holder support Rd	7-10 mm
Conductor holder support Fl	30 mm
Height of conductor holder	10 mm
Material of conductor holder	StSt
Screw	⌘ 5 x 50 mm
Plastic dowel	Ø8 x 40 mm
Standard	EN 62561-4
PU	50 pc(s)



Conductor Holders with Cleat and Flange

Complete unit with flange for the installation of conductors, fixed conductor leading.

With female thread M8

Part No.	275 110
Conductor holder support Rd	7-10 mm
Thread of conductor holder	M8
Height of conductor holder	20 mm
Material of cleat	St/tZn
Material of base part	ZDC
Standard	EN 62561-4
PU	50 pc(s)



With female thread, pre-assembled with screw and dowel

Part No.	275 160
Conductor holder support Rd	7-10 mm
Thread of conductor holder	M8
Height of conductor holder	20 mm
Material of cleat	St/tZn
Material of base part	ZDC
Screw	⌘ 5 x 50 mm
Plastic dowel	Ø8 x 40 mm
Standard	EN 62561-4
PU	50 pc(s)



With female thread, e.g. for round wire with plastic sheath



Part No.	275 113
Conductor holder support Rd	11-13 mm
Thread of conductor holder	M8
Height of conductor holder	20 mm
Material of cleat	St/tZn
Material of base part	ZDC
PU	50 pc(s)

Cover Discs and Plastic Bases

Intermediate element for screwable / snap-on conductor holders and rod holders.

Plastic bases

For snapping onto the conductor holders DEHNgrip and DEHNhold.



Part No.	276 016	276 017
Height	10 mm	10 mm
Diameter Ø	35 mm	35 mm
Material	plastic	plastic
Colour	grey ●	brown ●
Type	UV stabilised	UV stabilised
PU	100 pc(s)	100 pc(s)

Cover discs, plastic



Part No.	276 006	276 007
Height	5 mm	5 mm
Diameter Ø	37 mm	37 mm
Material	plastic	plastic
Colour	grey ●	brown ●
Type	UV stabilised	UV stabilised
PU	100 pc(s)	100 pc(s)

Cover disc, StSt



Part No.	276 009
Height	5 mm
Diameter Ø	37 mm
Material	StSt
PU	100 pc(s)

Conductor Holders with Cleat and Pin

Two-screw cleat with screws M6, for round and flat conductors.



With square pin

Part No.	260 708	260 108	260 158	260 187
Conductor holder support Rd	7-10 mm	7-10 mm	7-10 mm	7-10 mm
Conductor holder support Fl	20 mm	20 mm	20 mm	20 mm
Material of cleat	St/tZn	St/tZn	St/tZn	Cu
Material of base part	St/tZn	St/tZn	St/tZn	Cu
Fixing	square pin 70 mm	square pin 100 mm	square pin 150 mm	square pin 100 mm
PU	50 pc(s)	50 pc(s)	50 pc(s)	50 pc(s)

With loose round pin



Part No.	262 070	262 100
Conductor holder support Rd	7-10 mm	7-10 mm
Conductor holder support Fl	30 mm	30 mm
Material of cleat	St/tZn	St/tZn
Material of base part	St/tZn	St/tZn
Fixing	round pin 70 mm	round pin 100 mm
PU	50 pc(s)	50 pc(s)

Conductor Holders for External Thermal Insulation Composite Systems

Two-screw cleat with screws M6, fixed conductor leading.

Part No.	273 740	273 741	273 742
Thickness of insulating material	approx. 60 mm	approx. 110 mm	approx. 130 mm
Bore depth	approx. 150 mm	approx. 190 mm	approx. 250 mm
Conductor holder support Rd	7-10 mm	7-10 mm	7-10 mm
Material of base part	ZDC	ZDC	ZDC
Material of cleat	St/tZn	St/tZn	St/tZn
Height of conductor holder	20 mm	20 mm	20 mm
Screw of dowel	TX40 7 x 140 mm	TX40 7 x 180 mm	TX40 7 x 240 mm
Standard	EN 62561-4	EN 62561-4	EN 62561-4
PU	50 pc(s)	50 pc(s)	50 pc(s)



Conductor Holder with Claw

Conductor holder for wall mounting with clamping screw M6.
Fixed conductor leading.

Part No.	273 019
Bore Ø	6.5 mm
Material of conductor holder	StSt
Conductor holder support Rd	6-10 mm
Height of conductor holder	22 mm
Standard	EN 62561-4
PU	50 pc(s)



Conductor Holder Cleats

E.g. for flush mounting.

DEHNQUICK®

Single-screw-cleat with flexible clamping range and fixed conductor leading.

Part No.	202 000	202 001	202 169
Material of conductor holder	St/tZn	StSt	StSt
Conductor holder support Rd	6-10 mm	6-10 mm	6-10 mm
Bore Ø	8.5 mm	8.5 mm	6.5 mm
PU	50 pc(s)	50 pc(s)	100 pc(s)



Clamping frame

Single-screw cleat with flexible clamping range and fixed conductor leading.

Part No.	390 110	390 119
Material of conductor holder	St/tZn	StSt
Conductor holder support Rd	6-10 mm	6-10 mm
Bore Ø	9 mm	9 mm
PU	100 pc(s)	100 pc(s)



Conductor Holder for Flush Mounting

With clamping plate for nailing.



Part No.	260 118
Conductor holder support Rd	6-10 mm
Material of conductor holder	St/tZn
Conductor leading	fixed / loose
Fixing	square pin 70 mm
PU	50 pc(s)

Conductor Holders for Downpipes

For installing down conductors at downpipes with fixed conductor leading.
All Types are also suitable for plastic downpipes.



Type PPS

With worm drive and bead.

Part No.	200 079	200 077	200 089	200 087
Clamping range Ø pipe	80-100 mm	80-100 mm	100-120 mm	100-120 mm
Conductor holder support Rd	8 mm	8 mm	8 mm	8 mm
Material of conductor holder	StSt	StSt / gal Cu	StSt	StSt / gal Cu
PU	50 pc(s)	50 pc(s)	50 pc(s)	50 pc(s)



Type PS

Screwless, with embossments for tongs.

Part No.	200 069	200 067	200 059	200 057
Clamping range Ø pipe	80-120 mm, in steps of 5 mm	80-120 mm, in steps of 5 mm	100 mm	100 mm
Conductor holder support Rd	8 mm	8 mm	8 mm	8 mm
Material of conductor holder	StSt	Cu	StSt	Cu
PU	25 pc(s)	25 pc(s)	25 pc(s)	25 pc(s)



Type PV

Adjustable, with clamping screw M8.

Part No.	200 029	200 039	200 027
Clamping range Ø pipe	50-120 mm	50-150 mm	50 -120 mm
Conductor holder support Rd	6-8 mm	6-8 mm	6-8 mm
Material of conductor holder	StSt	StSt	Cu/bronze
PU	10 pc(s)	10 pc(s)	10 pc(s)

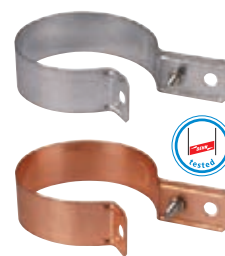
Downpipe Clamps

Pipe clamps for lightning equipotential bonding connection of downpipes according to IEC/EN 62305-3.

Connection possibilities for Rd e.g. with KS connector Part No. 301 000 or with clamping frame Part No. 390 150 (according to material).

For fixed pipe diameters

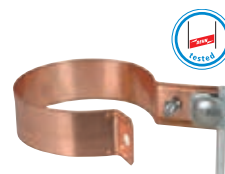
Part No.	420 100	420 120	420 107	420 127
Material	St/tZn	St/tZn	Cu	Cu
Clamping range pipe Ø	100 mm	120 mm	100 mm	120 mm
Bore Ø	11 mm	11 mm	11 mm	11 mm
Standard	EN 62561-1	EN 62561-1	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)	50 pc(s)	50 pc(s)



Type bimetallic

For connecting conductors St with downpipes Cu, with clamping frame St/tZn and intermediate plate (Cupal).

Part No.	420 207
Material	Cu / St/tZn
Clamping range pipe Ø	100 mm
Clamping range Rd	6-10 mm
Standard	EN 62561-1
PU	50 pc(s)



Type RV adjustable

With additional anti-rotation locking of the fastening screw and markings, preset bending points as well as punched cutting aids.

General technical data:	
Bore Ø	10.5 mm
Standard	EN 62561-1

Part No.	423 010	423 011	423 017	423 019
Material	St/tZn	Al	Cu	StSt
Clamping range pipe Ø	60-100 mm	60-100 mm	60-100 mm	60-100 mm
Length	337 mm	337 mm	337 mm	337 mm
PU	50 pc(s)	50 pc(s)	50 pc(s)	50 pc(s)

Part No.	423 020	423 021	423 027	423 029
Material	St/tZn	Al	Cu	StSt
Clamping range pipe Ø	60-150 mm	60-150 mm	60-150 mm	60-150 mm
Length	494 mm	494 mm	494 mm	494 mm
PU	50 pc(s)	50 pc(s)	50 pc(s)	50 pc(s)



Plastic Conductor Holders for Downpipes

For insulated fixing of earth entries at metal downpipes.
Holder with clamping part for fixing the tensioning strap (dimension 14 x 0.3 mm).

For round conductors

Fixed conductor leading, made of weather-resistant plastic, UV stabilised and halogen-free.



Part No.	275 711
Material of conductor holder	PA
Material of clamping part	StSt
Conductor holder support Rd	6-11 mm
PU	50 pc(s)

For flat strips or round conductors

Fixed conductor leading, made of weather-resistant plastic, UV stabilised and halogen-free.



Part No.	275 730
Material of conductor holder	PA
Material of clamping part	StSt
Conductor holder support Rd	6-11 mm
Conductor holder support Fl	30 mm
PU	50 pc(s)

For earth entry rods

Fixed conductor leading, made of weather-resistant plastic, UV stabilised and halogen-free.



Part No.	275 716
Material of conductor holder	PA
Material of clamping part	StSt
Conductor holder support Rd	16 mm
PU	50 pc(s)

Separate grip head

For combination with endless tensioning strap (Part No. 540 931).



Part No.	540 930
Material of grip head / strap	StSt
Screw	⚙ (SW13) M8 x 16 mm
PU	25 pc(s)

Endless tensioning strap

For cutting to length with sheet shears.



Part No.	540 931
Material of grip head / strap	StSt
Dimension of strap (w x d)	14 x 0.3 mm
Length	50 m
PU	1 pc(s)

Staples

For fixing conductors e.g. at wooden masts etc.



Part No.	538 010
Material of conductor holder	St/tZn
Conductor holder support Rd	6-10 mm
Conductor leading	fixed / loose
PU	500 pc(s)

Flat Strip Holders DEHNhold

For fixing flat conductors with slotted cleat, fixed conductor leading.
For use with different materials e.g. Al, StSt, St/tZn and Cu.

With female thread

Part No.	274 030
Material of conductor holder	StSt
Conductor holder support Fl	30 x 3.5 mm
Conductor holder support Rd	6-10 mm
Height of conductor holder	20 mm
Thread of conductor holder	M8
Standard	EN 62561-4
PU	50 pc(s)



Premounted with screw, plastic base and dowel

Part No.	274 230
Material of conductor holder	StSt
Conductor holder support Fl	30 x 3.5 mm
Conductor holder support Rd	6-10 mm
Height of conductor holder	20 mm
Thread of conductor holder	M8
Screw	⌀5 x 50 mm
Plastic dowel	Ø8 x 40 mm
Standard	EN 62561-4
PU	50 pc(s)



Flat Strip Holders with Cleat – Flat Design

Two-screw cleat with screws M6.

With slot (6.5 x 16 mm)

Part No.	284 030	284 040
Height of conductor holder	10 mm	10 mm
Conductor holder support Fl	30 x 3.5 mm	40 x 4-5 mm
Material of conductor holder	St/tZn	St/tZn
Material of base part	St/tZn	St/tZn
Width of component	58 mm	70 mm
Standard	EN 62561-4	EN 62561-4
PU	100 pc(s)	100 pc(s)



With slot (6.5 x 16 mm) and pre-assembled wood screw

Part No.	286 030	286 139
Height of conductor holder	10 mm	10 mm
Conductor holder support Fl	30 x 3.5 mm	30 x 3.5 mm
Material of conductor holder	St/tZn	StSt
Material of base part	St/tZn	StSt
Screw	⌀5 x 50 mm	⌀5 x 50 mm
Width of component	58 mm	58 mm
Standard	EN 62561-4	EN 62561-4
PU	50 pc(s)	50 pc(s)



Flat Strip Holders with Cleat and Flange

Complete unit with flange for flat strip installation.

With female thread



Part No.	275 030
Conductor holder support Fl	30 x 3.5 mm
Thread of conductor holder	M8
Height of conductor holder	20 mm
Material of cleat	St/tZn
Material of base part	ZDC
Standard	EN 62561-4
PU	50 pc(s)

With female thread, pre-assembled with screw and dowel

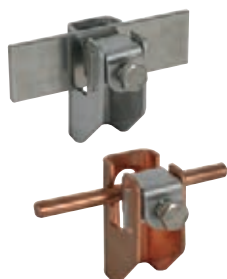


Part No.	275 230
Conductor holder support Fl	30 x 3.5 mm
Thread of conductor holder	M8
Height of conductor holder	20 mm
Material of cleat	St/tZn
Material of base part	ZDC
Screw	⌀5 x 50 mm
Plastic dowel	Ø8 x 40 mm
Standard	EN 62561-4
PU	50 pc(s)

Flat Strip Holders with Thrust Piece

For wall mounting.

Thrust piece with screw M8 for the installation of flat strip up to 11 mm and round conductor 6-10 mm.



Wall distance 11 mm

Part No.	277 230	277 237	277 239
Material of conductor holder	St/tZn	Cu	StSt
Fixing	Ø13 and 7 x 20 mm	Ø13 and 7 x 20 mm	Ø13 and 7 x 20 mm
Slot width	12 mm	12 mm	12 mm
Material of screw	StSt	StSt	StSt
Standard	EN 62561-4	EN 62561-4	EN 62561-4
PU	25 pc(s)	25 pc(s)	25 pc(s)

Wall distance 15 mm



Part No.	277 240
Material of conductor holder	St/tZn
Fixing	7 x 15 mm
Slot width	12 mm
Material of screw	StSt
Standard	EN 62561-4
PU	25 pc(s)

Staples for Flat Strips

For fixing strips e.g. at wooden masts etc.

Part No.	538 030
Material of conductor holder	St/tZn
Conductor holder support Fl	30 mm
Conductor leading	fixed / loose
PU	300 pc(s)



Dowels for Rigid Foam Plates

For fixing conductor holders, flat strip and rod holders at external thermal insulation composite systems.
With star drive (TX40).
Mounting with wood screws Ø4.5 mm.



This dowel is only suitable for conductor holder fixing, if there are no additional tractive forces on the down conductor.

Short design

Part No.	200 600
Material	PA
Thickness of insulating material	60 mm
Length of anchoring depth	50 mm
PU	50 pc(s)



Long design

Part No.	200 601
Material	PA
Thickness of insulating material	100 mm
Length of anchoring depth	85 mm
PU	50 pc(s)



Wood Screws with Threaded Head

Hanger bolt for fixing of conductor, flat strip and rod holders with female thread.

Part No.	528 850	528 870
Material	St/gal Zn	St/gal Zn
Thread	M8	M8
Total length	53 mm	73 mm
Thread length	32 mm	42 mm
PU	100 pc(s)	100 pc(s)





DEHN protects.

Earth Entry Rods - Kit

Complete with disconnecting sleeve and connection clamps (KS screws).

Type St/tZn

With disconnecting sleeve (Part No. 450 000) and KS screws (Part No. 300 000).

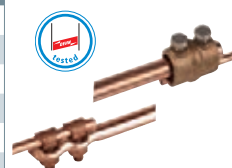
Part No.	480 150
Material	St/tZn
Standard	EN 62561-(1+2)
Length	1500 mm
Connection KS screw Rd	7-10 mm
Connection sleeve Rd / Rd	7-10 / 16 mm
PU	1 pc(s)



Type Cu

With disconnecting sleeve (Part No. 450 007) and KS screws (Part No. 300 007).

Part No.	480 157
Material	Cu
Standard	EN 62561-(1+2)
Length	1500 mm
Connection KS screw Rd	6-10 mm
Connection sleeve Rd / Rd	7-10 / 16 mm
PU	1 pc(s)



Earth Entry Rods

For connection of down conductors to the earth-termination system.

Chamfered

General technical data:			
Standard	EN 62561-2		
Diameter Ø	16 mm		
Part No.	483 150	483 200	104 903
Material	St/tZn	St/tZn	StSt (V4A)
Material No.	—	—	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	—	—	316Ti / 316L / 316
Length (l1)	1500 mm	2000 mm	1000 mm
PU	10 pc(s)	10 pc(s)	10 pc(s)
Part No.	104 905	104 906	
Material	StSt (V4A)	StSt (V4A)	
Material No.	1.4571 / 1.4404 / 1.4401	1.4571 / 1.4404 / 1.4401	
ASTM / AISI:	316Ti / 316L / 316	316Ti / 316L / 316	
Length (l1)	1500 mm	2000 mm	
PU	10 pc(s)	10 pc(s)	



With forged flat lug

Bore Ø11 mm, bore distance 22 mm.

Part No.	101 150
Material	St/tZn
Standard	EN 62561-2
Diameter Ø	16 mm
Length (l1)	1500 mm
Bore distance	22 mm
PU	10 pc(s)



Tapered

Notched conductor Ø10 mm, partly insulated (length approx. 700 mm).

Part No.	480 018	480 019	480 020	480 021
Material	St/tZn	St/tZn	St/tZn	St/tZn
Standard	EN 62561-2	EN 62561-2	EN 62561-2	EN 62561-2
Diameter Ø	16 / 10 mm	16 / 10 mm	16 / 10 mm	16 / 10 mm
Length (l1)	1500 mm	1750 mm	2000 mm	2500 mm
Partial length Ø16 mm (l2)	1000 mm	750 mm	1000 mm	1500 mm
Partial length Ø10 mm (l3)	500 mm	1000 mm	1000 mm	1000 mm
PU	10 pc(s)	10 pc(s)	10 pc(s)	10 pc(s)



Connection Lugs Straightened / Angled

For the connection of down conductors with the earth-termination system; made of corrosion-resistant stainless steel StSt (V4A).

Round wires



Part No.	860 110	860 115	860 130
Material	StSt (V4A)	StSt (V4A)	StSt (V4A)
Material No.	1.4571 / 1.4404	1.4571 / 1.4404	1.4571 / 1.4404
ASTM / AISI:	316Ti / 316L	316Ti / 316L	316Ti / 316L
Length (l1)	1000 mm	1500 mm	3000 mm
Dimension	Ø10 mm	Ø10 mm	Ø10 mm
Cross-section	78 mm ²	78 mm ²	78 mm ²
Standard	EN 62561-2	EN 62561-2	EN 62561-2
PU	5 pc(s)	5 pc(s)	5 pc(s)

Flat strips



Part No.	860 215	860 230
Material	StSt (V4A)	StSt (V4A)
Material No.	1.4571 / 1.4404	1.4571 / 1.4404
ASTM / AISI:	316Ti / 316L	316Ti / 316L
Length (l1)	1500 mm	3000 mm
Dimension	30 x 3.5 mm	30 x 3.5 mm
Cross-section	105 mm ²	105 mm ²
Standard	EN 62561-2	EN 62561-2
PU	5 pc(s)	5 pc(s)

Flat strips with slotted holes

Slot-to-slot gap 500 mm.



Part No.	860 425 ^{NEW}	860 430 ^{NEW}
Material	StSt	StSt (V4A)
Material No.	1.4301	1.4571 / 1.4404
ASTM / AISI:	—	316Ti / 316L
Length (l1)	3000 mm	3000 mm
Dimension	30 x 3.5 mm	30 x 3.5 mm
Fixing	[6x] 6.5 x 12 mm	[6x] 6.5 x 12 mm
Bore distance	500 mm	500 mm
Cross-section	105 mm ²	105 mm ²
Standard	EN 62561-2	EN 62561-2
PU	5 pc(s)	5 pc(s)

Flat strips angled

For direct wall mounting (without distance) with bores for countersunk head screws.



Part No.	860 315	860 330
Material	StSt (V4A)	StSt (V4A)
Material No.	1.4571 / 1.4404	1.4571 / 1.4404
ASTM / AISI:	316Ti / 316L	316Ti / 316L
Length (l1)	1500 mm	3000 mm
Dimension	30 x 3.5 mm	30 x 3.5 mm
Connection	isolating clamp or clamping screw connector	isolating clamp or clamping screw connector
Fixing	[3x] Ø6.5 mm	[6x] Ø6.5 mm
Bore distance	500 mm	500 mm
Cross-section	105 mm ²	105 mm ²
Standard	EN 62561-2	EN 62561-2
PU	5 pc(s)	5 pc(s)

Other dimensions available upon request.

Protective Cap for Terminal Lugs

For attaching to round wires or strips as striking marker (as required according to DIN 18014) and accident prevention during the construction phase.

Part No.	478 099
Material	PVC
Diameter Ø	70 mm
Attach to FI	30 x 3.5 mm
Attach to Rd	10 mm
Colour	green ● / yellow ●
PU	20 pc(s)

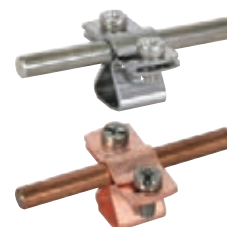


Conductor Holders DEHNhold

Conductor holder with slotted cleat for fixing of round conductors, fixed conductor leading. For use with different materials e.g. Al, StSt, St/tZn and Cu.

With female thread

Part No.	274 110	274 117
Material of conductor holder	StSt	StSt / gal Cu
Conductor holder support Rd	8-10 mm	8-10 mm
Conductor holder support FI	20 mm	20 mm
Height of conductor holder	20 mm	20 mm
Thread of conductor holder	M8	M8
Standard	EN 62561-4	EN 62561-4
PU	50 pc(s)	50 pc(s)



With female thread, pre-assembled with plastic base

Part No.	274 150
Material of conductor holder	StSt
Conductor holder support Rd	8-10 mm
Conductor holder support FI	20 mm
Height of conductor holder	20 mm
Thread of conductor holder	M8
Standard	EN 62561-4
PU	50 pc(s)



With female thread, pre-assembled with screw, plastic base and dowel

Part No.	274 160	274 167
Material of conductor holder	StSt	StSt / gal Cu
Conductor holder support Rd	8-10 mm	8-10 mm
Conductor holder support FI	20 mm	20 mm
Height of conductor holder	20 mm	20 mm
Thread of conductor holder	M8	M8
Plastic base	grey ●	brown ●
Screw	⚙ 5 x 50 mm	⚙ 5 x 50 mm
Standard	EN 62561-4	EN 62561-4
PU	50 pc(s)	50 pc(s)



With female thread, e.g. for round wire with plastic sheath

Part No.	274 113
Material of conductor holder	StSt
Conductor holder support Rd	13 mm
Height of conductor holder	20 mm
Thread of conductor holder	M8
PU	50 pc(s)



Conductor Holder with Cleat – Flat Design

Two-screw cleat with screws M6, for round and flat conductors.
With plastic (grey) cover disc.

Pre-assembled with wood screw, plastic (grey) cover disc and dowel



Part No.	286 819
Conductor holder support Rd	7-10 mm
Conductor holder support Fl	30 mm
Height of conductor holder	10 mm
Material of conductor holder	StSt
Screw	5 x 50 mm
Plastic dowel	Ø8 x 40 mm
Standard	EN 62561-4
PU	50 pc(s)

Conductor Holders with Cleat and Flange

Complete unit with flange for the installation of conductors, fixed conductor leading.

With female thread M8



Part No.	275 110
Conductor holder support Rd	7-10 mm
Thread of conductor holder	M8
Height of conductor holder	20 mm
Material of cleat	St/tZn
Material of base part	ZDC
Standard	EN 62561-4
PU	50 pc(s)

With female thread, pre-assembled with screw and dowel



Part No.	275 160
Conductor holder support Rd	7-10 mm
Thread of conductor holder	M8
Height of conductor holder	20 mm
Material of cleat	St/tZn
Material of base part	ZDC
Screw	5 x 50 mm
Plastic dowel	Ø8 x 40 mm
Standard	EN 62561-4
PU	50 pc(s)

With female thread, e.g. for round wire with plastic sheath

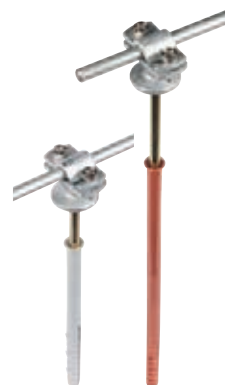


Part No.	275 113
Conductor holder support Rd	11-13 mm
Thread of conductor holder	M8
Height of conductor holder	20 mm
Material of cleat	St/tZn
Material of base part	ZDC
PU	50 pc(s)

Conductor Holders for External Thermal Insulation Composite Systems

Two-screw cleat with screws M6, fixed conductor leading.

Part No.	273 740	273 741	273 742
Thickness of insulating material	approx. 60 mm	approx. 110 mm	approx. 130 mm
Bore depth	approx. 150 mm	approx. 190 mm	approx. 250 mm
Conductor holder support Rd	7-10 mm	7-10 mm	7-10 mm
Material of base part	ZDC	ZDC	ZDC
Material of cleat	St/tZn	St/tZn	St/tZn
Height of conductor holder	20 mm	20 mm	20 mm
Screw of dowel	⌘ (TX40) 7 x 140 mm	⌘ (TX40) 7 x 180 mm	⌘ (TX40) 7 x 240 mm
Standard	EN 62561-4	EN 62561-4	EN 62561-4
PU	50 pc(s)	50 pc(s)	50 pc(s)


Rod Holders DEHNhold

For fixing of air-termination rods and earth entry rods, with slotted cleat, fixed conductor leading.
For use with different materials e.g. Al, StSt, St/tZn and Cu.

With female thread

Part No.	274 116
Material of conductor holder	StSt
Conductor holder support Rd	16 mm
Height of conductor holder	20 mm
Thread of conductor holder	M8
PU	50 pc(s)


Pre-assembled with screw, plastic base and dowel

With female thread.

Part No.	274 260
Material of conductor holder	StSt
Conductor holder support Rd	16 mm
Height of conductor holder	20 mm
Thread of conductor holder	M8
Screw	⌘ 5 x 50 mm
Plastic dowel	Ø8 x 40 mm
PU	50 pc(s)



Rod Holders with Cleat and Flange

Complete unit with flange for the installation of air-termination rods and earth entry rods, fixed conductor leading.

With female thread



Part No.	275 116
Conductor holder support Rd	16 mm
Thread of conductor holder	M8
Height of conductor holder	20 mm
Material of cleat	St/tZn
Material of base part	ZDC
PU	50 pc(s)

Pre-assembled with screw and dowel



Part No.	275 260
Conductor holder support Rd	16 mm
Thread of conductor holder	M8
Height of conductor holder	20 mm
Material of cleat	St/tZn
Material of base part	ZDC
Screw	5 x 50 mm
Plastic dowel	Ø8 x 40 mm
PU	50 pc(s)

Rod Holders with Cleat and Pin

Two-screw cleat with screws M6 for air-termination rods and earth entry rods, fixed conductor leading.



With square pin

Part No.	260 106
Material of cleat	St/tZn
Material of base part	St/tZn
Conductor holder support Rd	16 mm
Fixing (l1)	square pin 100 mm
PU	50 pc(s)

Rod Holders for External Thermal Insulation Composite Systems

Two-screw cleat with screws M6, with flange (ZDC) and plastic dowel Ø10 mm.



Part No.	273 731
Thickness of insulating material	approx. 110 mm
Depth of bore	approx. 190 mm
Material of cleat	St/tZn
Material of base part	ZDC
Height of conductor holder	20 mm
Conductor holder support Rd	16 mm
Screw / dowel	(TX40) 7 x 180 mm
PU	50 pc(s)

Rod Holders DEHNfix®

Two-in-one holder system (fixing of holder and conductor), fixed conductor leading.
Only suitable for massive stones or concrete.

Part No.	252 000
Material of cleat	St/tZn
Material of base part	plastic
Colour of conductor holder	grey ●
Installation height of base part	42 mm
Conductor holder support Rd	16 mm
Impact dowel	100 / 60 mm
Bore Ø for impact dowel	10 mm
Bore depth	60 mm
PU	50 pc(s)



Rod Holder with Claw

For wall mounting with fixing screw M6, fixed conductor leading.

Part No.	275 019
Bore Ø	6.5 mm
Material of conductor holder	StSt
Height of conductor holder	28 mm
Conductor holder support Rd	13-16 mm
PU	50 pc(s)



Flat Strip Holders DEHNhold

For fixing flat conductors with slotted cleat, fixed conductor leading.
For use with different materials e.g. Al, StSt, St/tZn and Cu.

With female thread

Part No.	274 030
Material of conductor holder	StSt
Conductor holder support Fl	30 x 3.5 mm
Conductor holder support Rd	6-10 mm
Height of conductor holder	20 mm
Thread of conductor holder	M8
Standard	EN 62561-4
PU	50 pc(s)



Premounted with screw, plastic base and dowel

Part No.	274 230
Material of conductor holder	StSt
Conductor holder support Fl	30 x 3.5 mm
Conductor holder support Rd	6-10 mm
Height of conductor holder	20 mm
Thread of conductor holder	M8
Screw	⌀5 x 50 mm
Plastic dowel	Ø8 x 40 mm
Standard	EN 62561-4
PU	50 pc(s)



Flat Strip Holders with Cleat – Flat Design

Two-screw cleat with screws M6.

With slot (6.5 x 16 mm)



Part No.	284 030	284 040
Height of conductor holder	10 mm	10 mm
Conductor holder support Fl	30 x 3.5 mm	40 x 4-5 mm
Material of conductor holder	St/tZn	St/tZn
Material of base part	St/tZn	St/tZn
Width of component (l1)	58 mm	70 mm
Standard	EN 62561-4	EN 62561-4
PU	100 pc(s)	100 pc(s)

With slot (6.5 x 16 mm) and pre-assembled wood screw



Part No.	286 030	286 139
Height of conductor holder	10 mm	10 mm
Conductor holder support Fl	30 x 3.5 mm	30 x 3.5 mm
Material of conductor holder	St/tZn	StSt
Material of base part	St/tZn	StSt
Screw	⌀5 x 50 mm	⌀5 x 50 mm
Width of component (l1)	58 mm	58 mm
Standard	EN 62561-4	EN 62561-4
PU	50 pc(s)	50 pc(s)

Flat Strip Holders with Cleat and Flange

Complete unit with flange for flat strip installation.

With female thread



Part No.	275 030
Conductor holder support Fl	30 x 3.5 mm
Thread of conductor holder	M8
Height of conductor holder	20 mm
Material of cleat	St/tZn
Material of base part	ZDC
Standard	EN 62561-4
PU	50 pc(s)

With female thread, pre-assembled with screw and dowel



Part No.	275 230
Conductor holder support Fl	30 x 3.5 mm
Thread of conductor holder	M8
Height of conductor holder	20 mm
Material of cleat	St/tZn
Material of base part	ZDC
Screw	⌀5 x 50 mm
Plastic dowel	Ø8 x 40 mm
Standard	EN 62561-4
PU	50 pc(s)

Flat Strip Holders with Thrust Piece

For wall mounting.

Thrust piece with screw M8 for the installation of flat strip up to 11 mm and round conductor 6-10 mm.

Wall distance 11 mm

Part No.	277 230	277 237	277 239
Material of conductor holder	St/tZn	Cu	StSt
Fixing	Ø13 and 7 x 20 mm	Ø13 and 7 x 20 mm	Ø13 and 7 x 20 mm
Slot width	12 mm	12 mm	12 mm
Material of screw	StSt	StSt	StSt
Standard	EN 62561-4	EN 62561-4	EN 62561-4
PU	25 pc(s)	25 pc(s)	25 pc(s)



Wall distance 15 mm

Part No.	277 240
Material of conductor holder	St/tZn
Fixing	7 x 15 mm
Slot width	12 mm
Material of screw	StSt
Standard	EN 62561-4
PU	25 pc(s)



Staples for Flat Strips

For fixing strips e.g. at wooden masts etc.

Part No.	538 030
Material of conductor holder	St/tZn
Conductor holder support Fl	30 mm
Conductor leading	fixed / loose
PU	300 pc(s)



Dowels for Rigid Foam Plates

For fixing conductor holders, flat strip and rod holders at external thermal insulation composite systems.

With star drive (TX40).

Mounting with wood screws Ø4.5 mm.

This dowel is only suitable for conductor holder fixing, if there are no additional tractive forces on the down conductor.



Short design

Part No.	200 600
Material	PA
Thickness of insulating material	60 mm
Length of anchoring depth	50 mm
PU	50 pc(s)



Long design

Part No.	200 601
Material	PA
Thickness of insulating material	100 mm
Length of anchoring depth	85 mm
PU	50 pc(s)



Wood Screws with Threaded Head

Hanger bolt for fixing of conductor, flat strip and rod holders with female thread.



Part No.	528 850	528 870
Material	St/gal Zn	St/gal Zn
Thread	M8	M8
Total length (l1)	53 mm	73 mm
Thread length (l2)	32 mm	42 mm
PU	100 pc(s)	100 pc(s)

Rod Clamps

For connecting air-termination rods with conductors, for lengthwise connection of all conductor materials. Crosswise connection (crosswise arrangement) only St/tZn and StSt.



Part No.	380 020	380 029
Material of clamp	St/tZn	StSt
Clamping range Rd / Rd	8-10 / 16 mm	8-10 / 16 mm
Standard	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)

Disconnecting Sleeves

For connecting down conductors with the earth entries.



Open design for earth entry rods

Part No.	450 000	450 007
Material	ZDC	RCB
Clamping range Rd / Rd	7-10 / 16 mm	7-10 / 16 mm
Standard	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)

Open design for earth entry rods

Part No.	450 001
Material	Al
Clamping range Rd / Rd	8-10 / 16 mm
Standard	EN 62561-1
PU	50 pc(s)

Closed design for earth entry rods

Part No.	450 011
Material	ZDC
Clamping range Rd / Rd	7-10 / 16 mm
Standard	EN 62561-1
PU	50 pc(s)

Open design for wires

Part No.	450 101
Material	Al
Clamping range Rd / Rd	8-10 / 8 mm
Standard	EN 62561-1
PU	50 pc(s)



UNI Disconnecting Clamps

For connecting down conductors with earth entries or for connecting conductors of different materials.

With intermediate plate for two round conductors

Part No.	459 129	459 127
Material	StSt	Cu
Clamping range Rd / Rd	8-10 / 8-10 mm	8-10 / 8-10 mm
Distance of screws	40 mm	40 mm
Standard	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)



Bimetallic, for two round conductores St/tZn or StSt (V4A)

Part No.	460 517
Material	Cu / St/tZn
Clamping range Rd / Rd	8-10 / 8-10 mm
Distance of screws	40 mm
Standard	EN 62561-1
PU	50 pc(s)



With intermediate plate for round and flat conductor

Part No.	459 139
Material	StSt
Clamping range Rd / Fl	8-10 / 30 mm
Distance of screws	40 mm
Standard	EN 62561-1
PU	50 pc(s)



Bimetallic, for round conductor Cu and flat conductor St/tZn or StSt (V4A)

Part No.	460 557
Material	Cu / St/tZn
Clamping range Rd / Fl	8-10 / 30 mm
Distance of screws	40 mm
Standard	EN 62561-1
PU	50 pc(s)



With intermediate plate for earth entry rods

Part No.	459 119
Material	StSt
Clamping range Rd / Rd	8-10 / 16 mm
Distance of screws	40 mm
Standard	EN 62561-1
PU	50 pc(s)



Bimetallic, for round conductor Cu and earth entry rod St/tZn or StSt (V4A)

Part No.	460 507
Material	Cu / St/tZn
Clamping range Rd / Rd	8-10 / 16 mm
Distance of screws	40 mm
Standard	EN 62561-1
PU	50 pc(s)



With intermediate plate for two round conductors, small design

Part No.	459 003
Material	St/tZn
Clamping range Rd / Rd	7-10 / 7-10 mm
Distance of screws	30 mm
Standard	EN 62561-1
PU	50 pc(s)





With intermediate plate for earth entry rods, small design

Part No.	459 000
Material	St/tZn
Clamping range Rd / Rd	7-10 / 16 mm
Distance of screws	30 mm
Standard	EN 62561-1
PU	50 pc(s)



With intermediate plate for earth entry rods and flat conductors

Part No.	459 159
Material	StSt
Clamping range Rd / Fl	16 / 30 mm
Distance of screws	40 mm
Standard	EN 62561-1
PU	50 pc(s)



Without intermediate plate for two round conductors

Part No.	459 029	459 020
Material	StSt	St/tZn
Clamping range Rd / Rd	8-10 / 8-10 mm	8-10 / 8-10 mm
Distance of screws	40 mm	40 mm
Standard	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)



Without intermediate plate for round and flat conductor

Part No.	459 039	459 030
Material	StSt	St/tZn
Clamping range Rd / Fl	8-10 / 30 mm	8-10 / 30 mm
Distance of screws	40 mm	40 mm
Standard	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)



Without intermediate plate for earth entry rods

Part No.	459 019	459 010
Material	StSt	St/tZn
Clamping range Rd / Rd	8-10 / 16 mm	8-10 / 16 mm
Distance of screws	40 mm	40 mm
Standard	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)

ES Disconnecting Clamp

Single-screw disconnecting clamp (EinSchrauben-Trennklemme) for connecting down conductors with earth entries.



Part No.	463 010
Material	ZDC
Clamping range Rd / Rd	8 / 10 mm
Standard	EN 62561-1
PU	50 pc(s)

Disconnecting Clamp – Austrian Standard

With connecting screw, for round conductors.

Part No.	460 213
Material	ZDC
Clamping range Rd / Rd	7-10 / 7-10 mm
Standard	EN 62561-1
PU	50 pc(s)

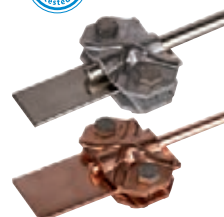


Connecting / Disconnecting Clamps

Two-part or three-part connection system with thread in the base part.

Two-part, for round and flat conductors

Part No.	454 100	454 107
Material	St/tZn	Cu
Clamping range Rd / FI	7-10 / 30-40 mm	7-10 / 30-40 mm
Standard	EN 62561-1	EN 62561-1
PU	25 pc(s)	25 pc(s)



Three-part, (with intermediate plate) for round and flat conductors

Part No.	454 000
Material	St/tZn
Clamping range Rd / FI	5-10 / 30-40 mm
Standard	EN 62561-1
PU	25 pc(s)



Two-part, for two flat conductors

Part No.	455 000
Material	MCI/tZn
Clamping range FI / FI	30 / 30 mm
Standard	EN 62561-1
PU	25 pc(s)



Bimetallic Disconnecting Clamp with Shield

Bimetallic type for interconnecting conductors made of different materials.

Part No.	460 147
Material	Cu / St/tZn
Clamping range Rd / FI	6-10 / 30-40 mm
Shield	plastic grey ●
Standard	EN 62561-1
PU	10 pc(s)



FIX Test Joint

With insulating piece and disconnection lug.



Part No.	453 100
Material	St/tZn
Clamping range Rd / FI	8-10 / 30-40 mm
Insulating piece	plastic grey ●
Standard	EN 62561-1
PU	10 pc(s)

Type for conductor Rd / Rd 8-10 mm upon request.

UF Test Joint Boxes

For underfloor installation, to disconnect the down conductor from the earth-termination system for measuring purposes.

Type GCI – with integrated, easily accessible test joint

Detachable with a key, including terminal for the down conductor and the earth conductor, open at the bottom (without bottom).



Part No.	549 001
Material	GCI
Colour	black (varnished) ●
Dimension	300 x 220 x 120 mm
Clamping range Rd / FI	7-10 / 30-40 mm
Standard	EN 62561-5
Max. permissible load	40 kg/cm ²
PU	1 pc(s)

Type GCI – without test joint

Without bottom.



Part No.	549 000
Material	GCI
Colour	black (varnished) ●
Dimension	300 x 220 x 120 mm
Standard	EN 62561-5
Max. permissible load	40 kg/cm ²
PU	1 pc(s)

Type Plastic – with integrated, easily accessible test joint

Detachable with a key, with integrated terminal for connecting down conductor and earth conductor, open at the bottom (without bottom).



Part No.	549 050
Material	plastic
Colour	grey ●
Dimension	197 x 197 x 204 mm
Clamping range Rd / FI	7-10 / 30-40 mm
Standard	EN 62561-5
Max. permissible load	15 kg/cm ²
PU	1 pc(s)

Type Plastic – without test joint

Open at the bottom (without bottom).



Part No.	549 051
Material	plastic
Colour	grey ●
Dimension	197 x 197 x 204 mm
Standard	EN 62561-5
Max. permissible load	15 kg/cm ²
PU	1 pc(s)

Type StSt – with integrated, easily accessible test joint

Detachable with a key, with integrated terminal for connecting down conductor and earth conductor, open at the bottom (without bottom).

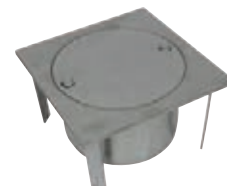
Part No.	549 090
Material	StSt
Dimension	200 x 200 x 105 mm
Clamping range Rd / FI	7-10 / 30-40 mm
Standard	EN 626561-5
Max. permissible load	40 kg/cm ²
PU	1 pc(s)



Type StSt – without test joint

Open at the bottom (without bottom).

Part No.	549 091
Material	StSt
Dimension	200 x 200 x 105 mm
Standard	EN 626561-5
Max. permissible load	40 kg/cm ²
PU	1 pc(s)



UP Test Joint Boxes

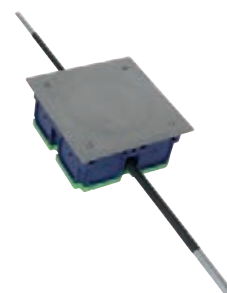
For flush mounting and in concrete, with integrated test junction and concrete marking.



With rigid connection lugs

Rd 8 and Rd 10 mm, approx. 200 mm long (insulated).

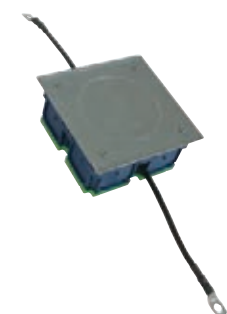
Part No.	476 010
Material of box	plastic
Dimension of box	140 x 140 x 68 mm
Material of cover	StSt
Dimension of cover	160 x 160 mm
Standard	EN 62561-1
PU	1 pc(s)



With flexible connection cables

Cu (16 mm²) cables and Cu/gal Sn cable lugs (bore 10.5 mm).

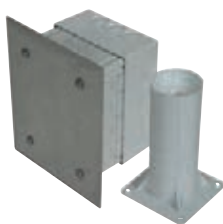
Part No.	476 016
Material of box	plastic
Dimension of box	140 x 140 x 68 mm
Material of cover	StSt
Dimension of cover	160 x 160 mm
Standard	EN 62561
PU	1 pc(s)





Test Joint Box for External Thermal Insulation Composite Systems

Especially designed for installation in external thermal insulation composite systems (full thermal insulation). Properly installed, and due to the constructive design of the test junction box box (with adhesive surface for attaching a swellable waterstop tape) with specially edged StSt cover with seal, it is waterproof and protected from driving rain.

NEW


Test joint box with spacer

For external thermal insulation material thicknesses between 140 mm and 320 mm.

Part No.	476 055
Material of box	PC / ABS
Dimension of box	185 x 145 mm
Material of cover	StSt
Material of spacer	PP
Dimension of spacer	120 x 120 x 200 mm
Installation depth	90-320 mm
PU	1 pc(s)

NEW


Test joint box

For external thermal insulation material thicknesses between 90 mm and 140 mm.

Part No.	476 050
Material of box	PC / ABS
Dimension of box	185 x 145 mm
Material of cover	StSt
Installation depth	90-140 mm
PU	1 pc(s)

NEW


Spacer

For combination with the test junction box.

Part No.	476 053
Material of spacer	PP
Dimension of spacer	120 x 120 x 200 mm
PU	1 pc(s)

Inspection Doors

For flush-mounted test junctions.



Type StSt with square spanner

For screw-mounting (bores Ø8-10 mm) with detachable door.

Part No.	476 020
Material	StSt
Mounting dimensions	200 x 140 mm
Dimension	290 x 230 mm
PU	1 pc(s)



Type St/tZn with snap lock

Light design for immuring / plastering, with claws (length 60 mm, distance 100 mm).

Part No.	476 100
Material	St/tZn
Mounting dimensions	205 x 155 mm
Dimension	230 x 180 mm
PU	10 pc(s)



Type St/tZn with square spanner

For immuring / plastering, with claws (length 60 mm, distance 100 mm).

Part No.	476 001
Material	St/tZn
Mounting dimensions	205 x 155 mm
Dimension	230 x 180 mm
PU	10 pc(s)

Number Plates

For marking the test junctions.

With embossed number for round / flat conductors

The embossed number is defined by the Part No.

Example: Number 5 Part No. 481 005

Part No.	481 0xx
Material	Al
Clamping range Rd / Fl	7-10 / 30 mm
PU	1 pc(s)



With embossed number for earth entry rods

The embossed number is defined by the Part No.

Example: Number 5 Part No. 482 005

Part No.	482 0xx
Material	Al
Clamping range Rd	16 mm
PU	1 pc(s)



Without number for round / flat conductors

For on-site labelling with punch-type numbers 0-9, size 10 mm.

Part No.	480 003
Material	Al
Clamping range Rd / Fl	7-10 / 30 mm
PU	50 pc(s)



Without number for earth entry rods

For on-site labelling with punch-type numbers 0-9, size 10 mm.

Part No.	480 004
Material	Al
Clamping range Rd	16 mm
PU	50 pc(s)



Supports for VDB Test Badge

For fixing the test badge at the down conductor or earth entry.

For round / flat conductors

Part No.	480 113
Material	StSt
Clamping range Rd / Fl	7-10 / 30 mm
Dimension	84 x 58 x 1 mm
PU	50 pc(s)



Two-screw Cleat

With thread M6, for combination with the „Attention! Equipotential bonding“ sign Part No. 480 599 or number plates.

Part No.	480 291
Material	Al
Clamping range Rd	7-10 mm
PU	100 pc(s)



Warning Sign

In case of step and touch voltage hazard for living beings.
In accordance with the requirements of IEC/EN 62305-3.



Step and Touch Voltage

Front in German:

„Bei Gewitter ist der Aufenthalt im Umkreis von 3 m um die Ableitung verboten!“

Back in English:

„During thunderstorm a distance of 3 m around the down conductor has to be kept!“

Part No.	480 699
Material	Al
Dimension (l x w x d)	297 x 210 x 0.7 mm
Fixing	[4x] Ø6.5 mm
PU	1 pc(s)

MV Clamps

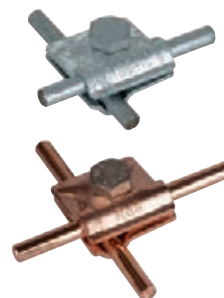
Multipurpose connecting clamp for universal use as cross clamp, T clamp and parallel clamp; two-part design.

With hexagon screw

Thread in the base part.

General technical data:				
Standard	EN 62561-1			
Part No.	390 050	390 051	390 059	390 057
Material of clamp	St/tZn	Al	StSt	Cu
Clamping range Rd	8-10 mm	8-10 mm	8-10 mm	8 mm
Material of screw / nut	St/tZn	StSt	StSt	StSt
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	5.5 kA	—	—	—
PU	50 pc(s)	50 pc(s)	50 pc(s)	50 pc(s)
Part No.	391 050	391 059	390 079	
Material of clamp	St/tZn	StSt	StSt (V4A)	
Material No.	—	—	1.4571 / 1.4404 / 1.4401	
ASTM / AISI:	—	—	316Ti / 316L / 316	
Clamping range Rd	10 mm	10 mm	8-10 mm	
Material of screw / nut	St/tZn	StSt	StSt (V4A)	
Material No.	—	—	1.4571 / 1.4404 / 1.4401	
ASTM / AISI:	—	—	316Ti / 316L / 316	
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	—	—	4.7 kA	
PU	50 pc(s)	50 pc(s)	50 pc(s)	

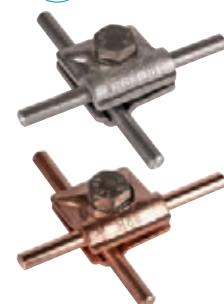
Note: Part No. 390 079 made of StSt(V4A) also suits for underground application.



With hexagon screw and spring washer

Thread in the base part.

General technical data:			
Standard	EN 62561-1		
Part No.	390 550	390 551	390 559
Material of clamp	St/tZn	Al	StSt
Clamping range Rd	8-10 mm	8-10 mm	8-10 mm
Material of screw / nut	St/tZn	StSt	StSt
PU	50 pc(s)	50 pc(s)	50 pc(s)
Part No.	390 557	391 550	391 559
Material of clamp	Cu	St/tZn	StSt
Clamping range Rd	8 mm	10 mm	10 mm
Material of screw / nut	StSt	St/tZn	StSt
PU	50 pc(s)	50 pc(s)	50 pc(s)



With truss head screw

and anti-rotation locking (square hole in the upper part).

General technical data:			
Standard	EN 62561-1		
Part No.	390 060	390 061	390 067
Material of clamp	St/tZn	Al	Cu
Clamping range Rd	8-10 mm	8-10 mm	8 mm
Material of screw / nut	St/tZn	St/tZn	StSt
PU	50 pc(s)	50 pc(s)	50 pc(s)
Part No.	391 060	391 069	390 063
Material of clamp	St/tZn	StSt	St/tZn
Clamping range Rd	10 mm	10 mm	8-10 mm
Material of screw / nut	St/tZn	StSt	StSt
PU	50 pc(s)	50 pc(s)	50 pc(s)





With hexagon screw and spring washer for air-termination rods

Thread in the base part

Part No.	392 050	392 059
Material of clamp	St/tZn	StSt
Clamping range Rd	8-10 / 16 mm	8-10 / 16 mm
Material of screw / nut	St/tZn	StSt
Standard	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)

With truss head screw for air-termination rods

and anti-rotation locking (square hole in the upper part).



Part No.	392 060	392 069
Material of clamp	St/tZn	StSt
Clamping range Rd	8-10 / 16 mm	8-10 / 16 mm
Material of screw / nut	St/tZn	StSt
Standard	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)

Bimetallic MV clamp

For connecting conductors of different materials, with intermediate plate (Cupal) and thread in the base part.



Part No.	390 657
Material of clamp	Cu / Al
Clamping range Rd Cu	8 mm
Clamping range Rd Al	8-10 mm
Material of screw / nut	StSt
PU	50 pc(s)

MMV Clamps

Mini multipurpose connecting clamp for universal use as cross clamp, T clamp and parallel clamp, with anti-rotation locking.



MMV Clamp

Part No.	390 250	390 257	390 259
Material of clamp	St/tZn	Cu	StSt
Clamping range Rd	6-8 mm	6-8 mm	6-8 mm
Standard	EN 62561-1	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)	50 pc(s)

Bimetallic MMV Clamp

For connecting conductors of different materials, with intermediate plate (Cupal).



Part No.	390 267
Material of clamp	Cu / St/tZn
Clamping range Rd Cu	6-8 mm
Clamping range Rd St/tZn	6-8 mm
Standard	EN 62561-1
PU	50 pc(s)

MAXI MV Clamps

MAXI multipurpose connecting clamp for universal use as cross clamp, T clamp and parallel clamp, for connecting earth rods or reinforcements; three-part, with thread in the base part.



Part No.	308 041	308 040
Material of clamp	St/tZn	St/bare
Clamping range Rd	8-16 / 15-25 mm	8-16 / 15-25 mm
Material thickness	3.0 / 2.0 mm	3.0 / 2.0 mm
Standard	EN 62561-1	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	6.2 kA	10.2 kA
Approval	—	UL467B
Stock No.	5999-12-362-1557	—
PU	20 pc(s)	20 pc(s)

Clamping Frame Variants

For example as connection with end piece for constructions or downpipe clamps.
Clamping frame with square hole 11 mm and truss head screw.

Part No.	390 150	390 157	390 159
Material of clamp	St/tZn	Cu	StSt
Clamping range Rd	6-10 mm	6-10 mm	6-10 mm
Screw	⬆ M10 x 35 mm	⬆ M10 x 35 mm	⬆ M10 x 35 mm
Material of screw / nut	St/tZn	StSt	StSt
Standard	EN 62561-1	EN 62561-1	EN 62561-1
PU	100 pc(s)	100 pc(s)	100 pc(s)



KS Connectors

Clamping screw connector for lightning current carrying capable connection of round conductors e.g. to flat profiles, downpipe clamps or other parts of the lightning protection system.

One-piece, St/tZn

With screw and nut M10.

Part No.	301 000	301 010
Material of clamping screw	St/tZn	St/tZn
Material of clamp	ZDC	ZDC
Clamping range Rd	7-10 mm	7-10 mm
Type	—	+ spring washer
Standard	EN 62561-1	EN 62561-1
PU	100 pc(s)	100 pc(s)



One-piece, Cu

With screw and nut M10.

Part No.	301 007	301 017
Material of clamping screw	Cu	Cu
Material of clamp	RCB	RCB
Clamping range Rd	6-10 mm	6-10 mm
Connection (single-wire / multi-wire)	25-70 mm ²	25-70 mm ²
Type	—	+ spring washer
Standard	EN 62561-1	EN 62561-1
PU	100 pc(s)	100 pc(s)



One-piece, StSt

With screw and nut M10.

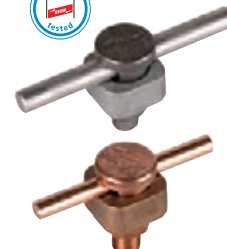
Part No.	301 009	301 019
Material of clamping screw	StSt	StSt
Material of clamp	StSt	StSt
Clamping range Rd	6-10 mm	6-10 mm
Connection (single-wire / multi-wire)	25-70 mm ²	25-70 mm ²
Type	—	+ spring washer
Standard	EN 62561-1	EN 62561-1
PU	100 pc(s)	100 pc(s)



Heavy design

With screw and nut M12.

Part No.	300 002	300 017
Material of clamping screw	St/tZn	Cu
Material of clamp	MCI	RCB
Clamping range Rd	8-12.5 mm	8-12.5 mm
Connection (single-wire / multi-wire)	50-95 mm ²	50-95 mm ²
Standard	EN 62561-1	EN 62561-1
PU	25 pc(s)	25 pc(s)





Two-piece, distance 30 mm

With screw and nut M10.

Part No.	302 010
Material of clamping screw	St/tZn
Material of clamp	ZDC
Clamping range Rd	7-10 mm
Standard	EN 62561-1
PU	50 pc(s)



Two-piece, distance 40 mm

With screw and nut M10.

Part No.	301 229
Material of clamping screw	StSt
Material of clamp	StSt
Clamping range Rd	6-10 mm
Type	+ spring washer
Standard	EN 62561-1
PU	1 pc(s)

Connectors

For connecting round conductors in T and longitudinal arrangements.

EST Connector

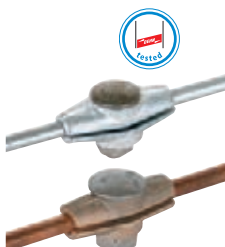
One-screw T connector



Part No.	310 008
Material of clamp	ZDC
Clamping range Rd	8 mm
Standard	EN 62561-1
PU	50 pc(s)

ES Connectors

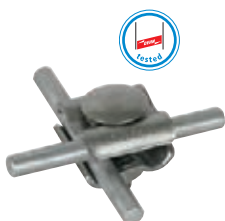
One-screw connectors for longitudinal arrangements.



Part No.	309 008	309 087
Material of clamp	ZDC	RCB
Clamping range Rd	8 mm	8 mm
Standard	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)

Universal Connector

For connecting round conductors in cross, T, and parallel arrangements and for double conductor connection.



Part No.	315 119
Material of clamp	StSt
Clamping range Rd	8-10 mm
Standard	EN 62561-1
PU	50 pc(s)

Parallel Connectors

For connecting two conductors in parallel arrangement.

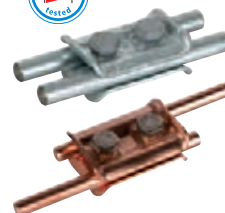
For equal diameters with one screw

Part No.	306 020	306 029
Material of clamp	St/tZn	StSt (V4A)
Material No.	—	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	—	316Ti / 316L / 316
Clamping range Rd/Rd	7-10 mm	7-10 mm
Standard	EN 62561-1	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	4.0 kA	2.9 kA
PU	50 pc(s)	50 pc(s)



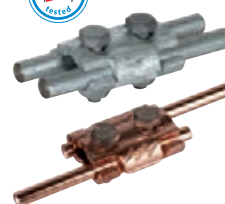
For equal diameters with two screws

Part No.	307 000	307 007
Material of clamp	St/tZn	Cu
Clamping range Rd/Rd	7-10 mm	7-10 mm
Standard	EN 62561-1	EN 62561-1
Military Name	VG 96953 T06 D0002	—
Stock No.	5999-12-158-2303	—
PU	50 pc(s)	50 pc(s)



For different diameters 4-10 mm

Part No.	305 000	305 007
Material of clamp	St/tZn	Cu
Clamping range Rd/Rd	4-10 mm	4-10 mm
Standard	EN 62561-1	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	—	13.6 kA
PU	50 pc(s)	50 pc(s)



For different cable diameters, small

With thread in the base part and lock nut M8.
Specified short-circuit current applies to 70 mm² Cu cable.

Part No.	306 100
Material of clamp	Cu
Clamping range Rd/Rd	5-12.5 mm
Clamping range (stranded or cable)	16-95 mm²
Standard	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	13.6 kA
PU	25 pc(s)



For different cable diameters, large

With thread in the base part and lock nut M10.
Specified short-circuit current applies to 70 mm² Cu cable.

Part No.	306 101
Material of clamp	Cu
Clamping range Rd/Rd	5-16 mm
Clamping range (stranded or cable)	16-150 mm²
Standard	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	13.6 kA
PU	25 pc(s)





Connecting Components 200 kA (10/350 µs)

For use in protection class I and II of the lightning protection system (class of LPS I, II).
Clamps are tested with a 200 kA (10/350 µs) lightning impulse current, based on EN 62561-1.

NEW



UNI disconnecting clamp for two round conductors

Part No.	459 200 <small>NEW</small>
Material	StSt
Clamping range Rd / Rd	10 / 10 mm
Clamping range Rd / FI	10 / 30 mm
PU	1 pc(s)

NEW



UNI disconnecting clamp for earth entry rods

Part No.	459 219 <small>NEW</small>
Material	StSt
Clamping range Rd / Rd	8-10 / 16 mm
PU	1 pc(s)

NEW



Clamping piece

Part No.	380 209 <small>NEW</small>
Material	StSt
Clamping range FI	30 x 4 mm
PU	1 pc(s)

NEW



KS connector

Part No.	301 209 <small>NEW</small>
Material	StSt
Clamping range Rd	10 mm
PU	1 pc(s)

NEW



MV clamp for round conductors

Part No.	390 209 <small>NEW</small>
Material	StSt
Clamping range Rd / Rd	8-10 mm
PU	1 pc(s)

NEW



MV clamp for air-termination rods

Part No.	392 209 <small>NEW</small>
Material	StSt
Clamping range Rd / Rd	8-10 / 16 mm
PU	1 pc(s)

Connecting Sleeves

For longitudinal connection of two round conductors with four screws.

ZDC 8

Part No.	385 203
Material of clamp	ZDC
Clamping range Rd	8 mm
Screw	M6 x 10 mm
Standard	EN 62561-1
PU	50 pc(s)

ZDC 7-10

Part No.	385 202
Material of clamp	ZDC
Clamping range Rd	7-10 mm
Screw	M6 x 12 mm
Standard	EN 62561-1
PU	50 pc(s)



Clamps, Connectors, Spark Gaps

Al 8

Part No.	385 213
Material of clamp	Al
Clamping range Rd	8 mm
Screw	☛ M6 x 8 mm
Standard	EN 62561-1
PU	50 pc(s)



Cu 8

Part No.	385 207
Material of clamp	Cu
Clamping range Rd	8 mm
Screw	☛ M6 x 8 mm
Standard	EN 62561-1
PU	50 pc(s)



Connecting Sleeve for Air-termination Rods

With embossings (stop boss) for connecting longer air-termination rods (transport length).
The air-termination rod needs an additional fixing above the sleeve.

Part No.	385 216
Material	Al
Clamping range Rd / Rd	16 / 16 mm
Screw	☛ M8 x 12 mm
Material of screw	StSt
Diameter Ø outside	28 mm
Standard	EN 62561-1
PU	10 pc(s)

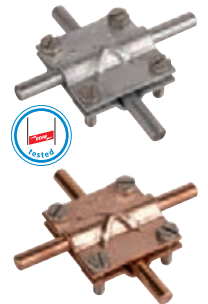


Cross Units for Aboveground Connections

For cross and T connection of conductors.

Without intermediate plate

Part No.	314 300	314 307
Material of clamp	St/tZn	Cu
Clamping range Rd / Rd	8-10 / 8-10 mm	8-10 / 8-10 mm
Clamping range Rd / FI	8-10 / 30 mm	8-10 / 30 mm
Clamping range FI / FI	30 / 30 mm	30 / 30 mm
Dimension	50 x 50 x 2.5 mm	50 x 50 x 2.5 mm
Standard	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)



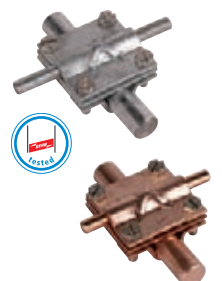
With intermediate plate

Part No.	314 310
Material of clamp	St/tZn
Clamping range Rd / Rd	8-10 / 8-10 mm
Clamping range Rd / FI	8-10 / 30 mm
Clamping range FI / FI	30 / 30 mm
Dimension	50 x 50 x 2.5 mm
Standard	EN 62561-1
PU	50 pc(s)



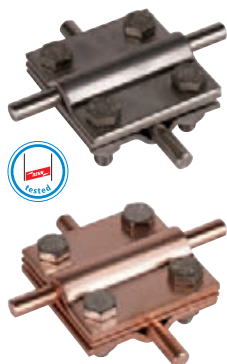
With intermediate plate, e.g. for air-termination rods

Part No.	316 163	316 167
Material of clamp	St/tZn	Cu
Clamping range Rd / Rd	16 / 8-10 mm	16 / 8-10 mm
Clamping range Rd / FI	16 / 30 mm	16 / 30 mm
Dimension	50 x 50 x 2.5 mm	50 x 50 x 2.5 mm
Standard	EN 62561-1	EN 62561-1
PU	25 pc(s)	25 pc(s)



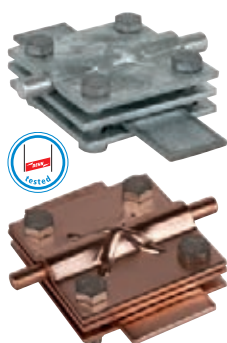
Cross Units for Aboveground and Underground Connections

For cross and T connection.



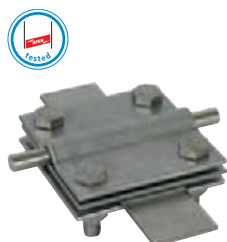
With intermediate plate, for round and flat conductors

Part No.	319 201	319 207	319 209
Material of clamp	St/tZn	Cu	StSt (V4A)
Clamping range Rd / Rd	8-10 / 8-10 mm	8-10 / 8-10 mm	8-10 / 8-10 mm
Clamping range Rd / Fl	8-10 / 30 mm	8-10 / 30 mm	8-10 / 30 mm
Clamping range Fl / Fl	30 / 30 mm	30 / 30 mm	30 / 30 mm
Clamping range (stranded / cable)	—	50-70 mm ²	50-70 mm ²
Dimension	60 x 60 x 3 mm	60 x 60 x 3 mm	60 x 60 x 3 mm
Standard	EN 62561-1	EN 62561-1	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	14 kA	29 kA	7 kA
PU	25 pc(s)	25 pc(s)	25 pc(s)



With intermediate plate, for round and flat conductors up to 40 mm

Part No.	321 045	321 047
Material of clamp	St/tZn	Cu
Clamping range Rd / Fl	8-10 / 30-40 mm	8-10 / 30-40 mm
Clamping range Fl / Fl	30-40 / 30-40 mm	30-40 / 30-40 mm
Clamping range (stranded / cable)	—	50-70 mm ²
Dimension	70 x 70 x 3 mm	70 x 70 x 3 mm
Standard	EN 62561-1	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	12.6 kA	35.1 kA
PU	25 pc(s)	25 pc(s)



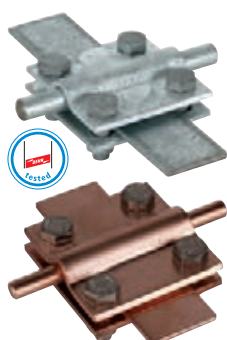
With intermediate plate, for two round and flat conductors up to 40 mm

Part No.	319 229
Material of clamp	StSt (V4A)
Clamping range Rd / Rd	7-10 / 7-10 mm
Clamping range Rd / Fl	7-10 / 30-40 mm
Clamping range Fl / Fl	30-40 / 30-40 mm
Clamping range (stranded / cable)	35-70 mm ²
Dimension	70 x 70 x 3 mm
Standard	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	5.0 kA
PU	25 pc(s)



With intermediate plate, for earth entries / air-termination rods

Part No.	319 202	319 219
Material of clamp	St/tZn	StSt (V4A)
Clamping range Rd / Rd	16 / 8-10 mm	16 / 8-10 mm
Clamping range Rd / Fl	16 / 30 mm	16 / 30 mm
Clamping range (stranded / cable)	—	50-70 / 120 mm ²
Dimension	60 x 60 x 3 mm	60 x 60 x 3 mm
Standard	EN 62561-1	EN 62561-1
PU	25 pc(s)	25 pc(s)



Without intermediate plate, for round and flat conductors

Part No.	318 201	318 207	318 209
Material of clamp	St/tZn	Cu	StSt (V4A)
Clamping range Rd / Fl	8-10 / 30 mm	8-10 / 30 mm	8-10 / 30 mm
Clamping range Fl / Fl	30 / 30 mm	30 / 30 mm	30 / 30 mm
Clamping range (stranded / cable)	—	50-70 mm ²	50-70 mm ²
Dimension	60 x 60 x 3 mm	60 x 60 x 3 mm	60 x 60 x 3 mm
Standard	EN 62561-1	EN 62561-1	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	14 kA	29 kA	7.4 kA
PU	25 pc(s)	25 pc(s)	25 pc(s)

Without intermediate plate, for two round and flat conductors

Part No.	318 251	318 219
Material of clamp	St/tZn	StSt (V4A)
Clamping range Rd / Rd	8-10 / 8-10 mm	8-10 / 8-10 mm
Clamping range Rd / Fl	8-10 / 30 mm	8-10 / 30 mm
Clamping range Fl / Fl	30 / 30 mm	30 / 30 mm
Clamping range (stranded / cable)	—	50-70 mm ²
Dimension	60 x 60 x 3 mm	60 x 60 x 3 mm
Standard	EN 62561-1	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	14 kA	7.4 kA
PU	25 pc(s)	25 pc(s)



Without intermediate plate, for two flat conductors

Part No.	318 033	318 233
Material of clamp	St/tZn	StSt (V4A)
Clamping range Fl / Fl	30 / 30 mm	30 / 30 mm
Dimension	60 x 60 x 3 mm	60 x 60 x 3 mm
Standard	EN 62561-1	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	8.4 kA	7.0 kA
PU	25 pc(s)	25 pc(s)



Without intermediate plate, for two flat conductors up to 40 mm

Part No.	320 044
Material of clamp	St/tZn
Clamping range Fl / Fl	30-40 / 30-40 mm
Dimension	70 x 70 x 3 mm
Standard	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	12.6 kA
PU	25 pc(s)



Without intermediate plate, for earth entries / air-termination rods

Part No.	318 252
Material of clamp	St/tZn
Clamping range Rd / Rd	8-10 / 16 mm
Clamping range Rd / Fl	16 / 30 mm
Dimension	60 x 60 x 3 mm
Standard	EN 62561-1
PU	25 pc(s)



Cross Units with Truss Head Screws for Aboveground and Underground Connections

For conductors in cross and T arrangement. Anti-rotation type for mounting with a tool.

With intermediate plate for round and flat conductors

Part No.	318 203 <small>NEW</small>	318 229 <small>NEW</small>
Material of clamp	St/tZn	StSt (V4A)
Clamping range Rd / Rd	8-10 / 8-10 mm	8-10 / 8-10 mm
Clamping range Rd / Fl	8-10 / 30 mm	8-10 / 30 mm
Clamping range Fl / Fl	30 / 30 mm	30 / 30 mm
Clamping range (stranded / cable)	—	50-70 mm ²
Dimension	60 x 60 x 3 mm	60 x 60 x 3 mm
Standard	EN 62561-1	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	14 kA	7 kA
PU	25 pc(s)	25 pc(s)



NEW



NEW**Without intermediate plate for round and flat conductors**

Part No.	318 205 ^{NEW}	318 239 ^{NEW}
Material of clamp	St/tZn	StSt (V4A)
Clamping range Rd / Fl	8-10 / 30 mm	8-10 / 30 mm
Clamping range Fl / Fl	30 / 30 mm	30 / 30 mm
Clamping range (stranded / cable)	—	50-70 mm ²
Dimension	60 x 60 x 3 mm	60 x 60 x 3 mm
Standard	EN 6561-1	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	14 kA	7,4 kA
PU	25 pc(s)	25 pc(s)

SV Clamps for Aboveground and Underground Connections

Diagonal connecting clamps for cross and T connections, screws with anti-rotation lock.

For flat and round conductors

Part No.	308 220	308 229	308 320	308 329
Material of clamp	St/tZn	StSt (V4A)	St/tZn	StSt (V4A)
Clamping range Rd / Rd	7-10 / 7-10 mm	7-10 / 7-10 mm	7-10 / 7-10 mm	7-10 / 7-10 mm
Clamping range Rd / Fl	7-10 / 30 mm	7-10 / 30 mm	7-10 / 30-40 mm	7-10 / 30-40 mm
Clamping range Fl / Fl	30 / 30 mm	30 / 30 mm	30-40 / 30-40 mm	30-40 / 30-40 mm
Dimension (l1 x t1)	94 x 4 mm	94 x 3 mm	108 x 4 mm	108 x 3 mm
Standard	EN 62561-1	EN 62561-1	EN 62561-1	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	7.3 kA	3.2 kA	14.0 kA	14.0 kA
PU	25 pc(s)	25 pc(s)	25 pc(s)	25 pc(s)

For one flat and one round conductor

Part No.	308 249
Material of clamp	StSt (V4A)
Clamping range Rd / Fl	7-10 / 30 mm
Dimension (l1 x t1)	94 x 3 mm
Standard	EN 62561-1
PU	25 pc(s)

For flat conductors

Part No.	308 230	308 239
Material of clamp	St/tZn	StSt (V4A)
Clamping range Fl / Fl	30 / 30 mm	30 / 30 mm
Dimension (l1 x t1)	94 x 4 mm	94 x 3 mm
Standard	EN 62561-1	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	8.2 kA	3.9 kA
PU	25 pc(s)	25 pc(s)

For flat conductors, round conductors and earth entry rods

Part No.	308 330
Material of clamp	St/tZn
Clamping range Rd / Rd	7-10 / 16 mm
Clamping range Rd / Fl	16 / 30-40 mm
Dimension (l1 x t1)	108 x 4 mm
Standard	EN 62561-1
PU	25 pc(s)

SVP Clamps for Aboveground and Underground Connections

Diagonal connection parallel clamps for cross and parallel connections, with slotted upper part (no need to remove the screws).

Without intermediate plate

Part No.	308 060
Material of clamp	St/tZn
Clamping range Rd / Rd	8-10 / 8-10 mm
Clamping range Rd / FI	8-10 / 30 mm
Clamping range FI / FI	30 / 30 mm
Standard	EN 62561-1
PU	50 pc(s)



With intermediate plate (slotted)

Part No.	308 070
Material of clamp	St/tZn
Clamping range Rd / Rd	8-10 / 8-10 mm
Clamping range Rd / FI	8-10 / 30 mm
Clamping range FI / FI	30 / 30 mm
Standard	EN 62561-1
PU	50 pc(s)

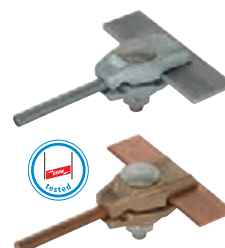


Connection Clamps

For connection to steel constructions and steel sheets.

Longitudinal or cross connection

Part No.	371 009	371 007
Clamping range	0.4-12 mm	0.4-12 mm
Material of clamp	MCI/tZn	RCB
Clamping range Rd	7-10 mm	7-10 mm
Standard	EN 62561-1	EN 62561-1
PU	20 pc(s)	20 pc(s)



Longitudinal connection

Part No.	371 008
Clamping range	0.4-12 mm
Material of clamp	MCI/tZn
Clamping range Rd	4-10 mm
Standard	EN 62561-1
PU	50 pc(s)



Longitudinal or cross connection with KS screw

Part No.	370 014
Clamping range	1-12 mm
Material of clamp	MCI/tZn
Clamping range Rd	7-10 mm
Standard	EN 62561-1
PU	25 pc(s)



Longitudinal or cross connection with KS screw

Part No.	370 018
Clamping range	8-18 mm
Material of clamp	MCI/tZn
Clamping range Rd	7-10 mm
Standard	EN 62561-1
PU	25 pc(s)



Connection Clamps for Steel Girders

Heavy design, for connection to steel constructions.



Vertical design, with clamping frame

Lengthwise or crosswise connection with clamping frame.

Part No.	372 110	372 119	372 140	372 149
Clamping range	3-18 mm	3-18 mm	18-35 mm	18-35 mm
Material of clamp	St/tZn	StSt	St/tZn	StSt
Clamping range Rd	6-10 mm	6-10 mm	6-10 mm	6-10 mm
Standard	EN 62561-1	EN 62561-1	EN 62561-1	EN 62561-1
PU	25 pc(s)	25 pc(s)	25 pc(s)	25 pc(s)



Horizontal design, with clamping frame

Lengthwise or crosswise connection with clamping frame.

Part No.	372 210	372 219	372 240	372 249
Clamping range	3-18 mm	3-18 mm	18-35 mm	18-35 mm
Material of clamp	St/tZn	StSt	St/tZn	StSt
Clamping range Rd	6-10 mm	6-10 mm	6-10 mm	6-10 mm
Standard	EN 62561-1	EN 62561-1	EN 62561-1	EN 62561-1
PU	25 pc(s)	25 pc(s)	25 pc(s)	25 pc(s)



Vertical design, with KS connector

Lengthwise or crosswise connection with KS connector.

Part No.	372 120	372 129	372 150	372 159
Clamping range	3-18 mm	3-18 mm	18-35 mm	18-35 mm
Material of clamp	St/tZn	StSt	St/tZn	StSt
Clamping range Rd	7-10 mm	6-10 mm	7-10 mm	6-10 mm
Standard	EN 62561-1	EN 62561-1	EN 62561-1	EN 62561-1
PU	25 pc(s)	25 pc(s)	25 pc(s)	25 pc(s)



Horizontal design, with KS connector

Lengthwise or crosswise connection with KS connector.

Part No.	372 220	372 229	372 250	372 259
Clamping range	3-18 mm	3-18 mm	18-35 mm	18-35 mm
Material of clamp	St/tZn	StSt	St/tZn	StSt
Clamping range Rd	7-10 mm	6-10 mm	7-10 mm	6-10 mm
Standard	EN 62561-1	EN 62561-1	EN 62561-1	EN 62561-1
PU	25 pc(s)	25 pc(s)	25 pc(s)	25 pc(s)

Connection Clamps with Thrust Piece

For connection to steel constructions and steel sheets with single-screw technique.

Small design

Lengthwise or crosswise connection.



Part No.	372 018	372 019
Clamping range	5-18 mm	5-18 mm
Material of clamp	St/tZn	StSt
Clamping range Rd	6-10 mm	6-10 mm
Standard	EN 62561-1	EN 62561-1
PU	25 pc(s)	25 pc(s)



Large design

Lengthwise or crosswise connection.

Part No.	372 035
Clamping range	18-35 mm
Material of clamp	St/tZn
Clamping range Rd	6-10 mm
Standard	EN 62561-1
PU	25 pc(s)

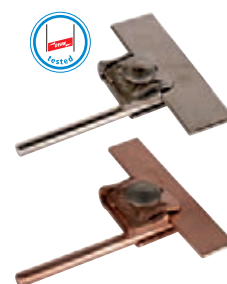
Saddle Clamps

For connecting conductors with seams of the same or of different materials.

With clamping frame

Lengthwise or crosswise conductor leading.

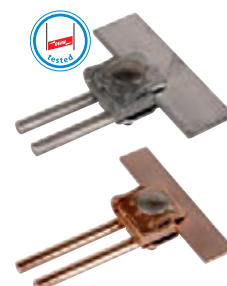
Part No.	365 030	365 031	365 037	365 039
Clamping range of flange	0.7-8 mm	0.7-8 mm	0.7-8 mm	0.7-8 mm
Material of clamp	St/tZn	Al	Cu	StSt
Clamping range Rd	6-10 mm	6-10 mm	6-10 mm	6-10 mm
Standard	EN 62561-1	EN 62561-1	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)	50 pc(s)	50 pc(s)



With double cleat

Lengthwise or crosswise conductor leading.

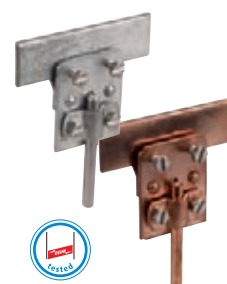
Part No.	365 010	365 017	365 019
Clamping range of flange	0.7-8 mm	0.7-8 mm	0.7-8 mm
Material of clamp	St/tZn	Cu	StSt
Clamping range Rd	8-10 mm	8-10 mm	8-10 mm
Standard	EN 62561-1	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)	50 pc(s)



With two-screw cleat

Lengthwise or crosswise conductor leading.

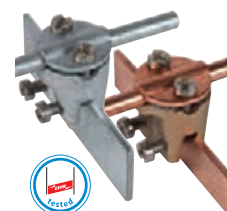
Part No.	251 002	251 027
Clamping range of flange	0.7-5 mm	0.7-5 mm
Material of clamp	St/tZn	Cu
Clamping range Rd	7-10 mm	7-10 mm
Standard	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)



With two-screw cleat, e.g. for standing seams

Lengthwise or crosswise conductor leading.

Part No.	365 000	365 007
Clamping range of flange	0.7-6 mm	0.7-6 mm
Material of clamp	ZDC	RCB
Clamping range Rd	7-10 mm	7-10 mm
Standard	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)

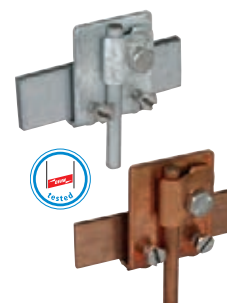


With clamping frame, for hooking at seams

Close to a roof or wall surface.

Lengthwise or crosswise conductor leading.

Part No.	365 020	365 027
Clamping range of flange	0.7-10 mm	0.7-10 mm
Material of clamp	St/tZn	Cu
Clamping range Rd	6-10 mm	6-10 mm
Standard	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)

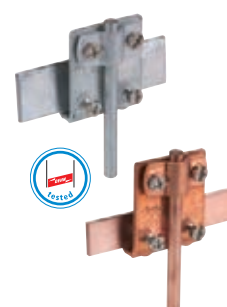


With two-screw cleat, for hooking at seams

Close to a roof or wall surface.

Lengthwise or crosswise conductor leading.

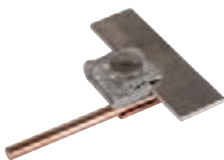
Part No.	365 040	365 047
Clamping range of flange	0.7-10 mm	0.7-10 mm
Material of clamp	St/tZn	Cu
Clamping range Rd	7-10 mm	7-10 mm
Standard	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)





Bimetallic, for Cu seams, with intermediate plate (Cupal)

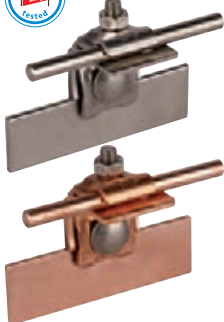
Part No.	365 117
Clamping range of flange	0.7-8 mm
Material of clamp	St/tZn / Cu
Clamping range Rd	6-10 mm
Standard	EN 62561-1
PU	50 pc(s)



Bimetallic, for St/tZn seams, with intermediate plate (Cupal)

Part No.	365 127
Clamping range of flange	0.7-8 mm
Material of clamp	Cu / St/tZn
Clamping range Rd	6-10 mm
PU	50 pc(s)

Saddle Clamps with Enlarged Contact Surface

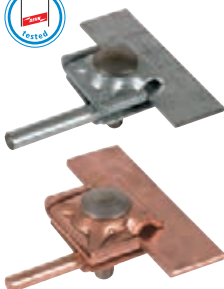


For connecting conductors with seams; enlarged contact surface.

Angled design

Lengthwise or crosswise connection.

Part No.	365 050	365 051	365 057	365 059
Clamping range of seam	0.7-8 mm	0.7-8 mm	0.7-8 mm	0.7-8 mm
Material of clamp	St/tZn	Al	Cu	StSt
Clamping range Rd	6-10 mm	6-10 mm	6-10 mm	6-10 mm
Standard	EN 62561-1	EN 62561-1	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)	50 pc(s)	50 pc(s)



Straight design

Lengthwise or crosswise connection.

Part No.	365 220	365 221	365 227	365 229
Clamping range of seam	0.7-10 mm	0.7-10 mm	0.7-10 mm	0.7-10 mm
Material of clamp	St/tZn	Al	Cu	StSt
Clamping range Rd	8-10 mm	8-10 mm	8-10 mm	8-10 mm
Standard	EN 62561-1	EN 62561-1	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)	50 pc(s)	50 pc(s)

UNI Saddle Clamp

For integrating mounting systems e.g. of PV installations into the functional equipotential bonding / functional earthing (optionally black conductor) and lightning equipotential bonding.

The StSt contact plate (intermediate element) allows for different materials of conductors (Cu, Al, St/tZn and StSt) to be connected to the usual mounting systems, e.g. to aluminium, without the risk of contact corrosion. The double cleat design allows for easy and quick inter-connection of the profiles, e.g. by feed-through wiring.

With screw M8 and self-locking nut

Part No.	365 250
Clamping range of saddle	0.7-8 mm
Material of clamping bracket	Al
Clamping range Rd	8-10 mm
Connection (solid / stranded)	4-50 mm ²
Material of double cleat	StSt
Standard	EN 62561-1
PU	50 pc(s)



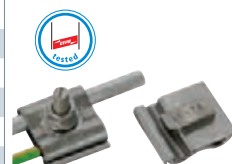
UNI Earthing Clamps

For integrating the mounting systems e.g. of PV installations into the functional equipotential bonding / functional earthing (optionally black conductor colour) and lightning equipotential bonding.

The StSt contact plate (intermediate element) allows for different materials of conductors (Cu, Al, St/tZn and StSt) to be connected to the usual mounting systems, e.g. to aluminium, without the risk of contact corrosion.

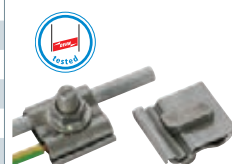
With hammer-head bolt M8 and self-locking nut

Part No.	540 250
Material of clamp	StSt
Clamping range Rd	8-10 mm
Connection (solid / stranded)	4-50 mm ²
Screw	hammer-head bolt M8 x 30 mm
Material of screw / nut	StSt
Standard	EN 62561-1
PU	50 pc(s)



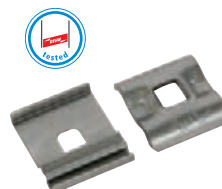
With hammer-head bolt M10 and self-locking nut

Part No.	540 260
Material of clamp	StSt
Clamping range Rd	8-10 mm
Connection (solid / stranded)	4-50 mm ²
Screw	hammer-head bolt M10 x 30 mm
Material of screw / nut	StSt
Standard	EN 62561-1
PU	50 pc(s)



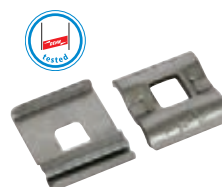
Contact plate and double cleat (separate) with square hole for screw M8

Part No.	540 251
Material of clamp	StSt
Clamping range Rd	8-10 mm
Connection (solid / stranded)	4-50 mm ²
Standard	EN 62561-1
PU	10 pc(s)



Contact plate and double cleat (separate) with square hole for screw M10

Part No.	540 261
Material of clamp	StSt
Clamping range Rd	8-10 mm
Connection (solid / stranded)	4-50 mm ²
Standard	EN 62561-1
PU	10 pc(s)



Connection Lugs

For connecting metal claddings by blind rivets or screws.



With square hole

Dimension 11 x 11 mm (e.g. for KS connector M10), lengthwise or crosswise connection.

Part No.	377 005	377 017	377 009
Material of bracket	Al	Cu	StSt
Fixing	[4x] Ø5.2 / [2x] Ø6.5 mm	[4x] Ø5.2 / [2x] Ø6.5 mm	[4x] Ø5.2 / [2x] Ø6.5 mm
Standard	EN 62561-1	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)	50 pc(s)

With clamping frame

For conductors Rd 6-10 mm, lengthwise or crosswise connection.



Part No.	377 100
Material of bracket	Al
Fixing	[4x] Ø5.2 / [2x] Ø6.5 mm
Material of clamping frame	St/tZn
Standard	EN 62561-1
PU	50 pc(s)

With double cleat

For conductors Rd 8-10 mm, lengthwise or crosswise connection.



Part No.	377 200
Material of bracket	Al
Fixing	[4x] Ø5.2 / [2x] Ø6.5 mm
Material of double cleat	Al
Standard	EN 62561-1
PU	50 pc(s)

Clamping Shoes

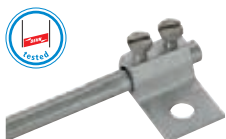
For connecting conductors with construction parts.

With bore



Part No.	345 008	345 010
Clamping range Rd	8 mm	10 mm
Material	St/tZn	St/tZn
Fixing bore Ø	11 mm	11 mm
PU	100 pc(s)	100 pc(s)

With screws



Part No.	347 205
Clamping range Rd	7-10 mm
Material	Al
Fixing bore Ø	10.5 mm
Standard	EN 62561-1
PU	100 pc(s)

Clamping Piece

For the connection of flat material to construction parts, or e.g. of connection clamps for steel girders (without bore in the flat strip).

Part No.	380 129
Clamping range Fl	-30 x 4 mm
Material	StSt
Fixing	square hole 11 x 11 mm
Standard	EN 62561-1
PU	50 pc(s)



Rod Clamps

For connecting air-termination rods with conductors, for lengthwise connection of all conductor materials.
Crosswise connection (crosswise arrangement) only St/tZn and StSt.

Part No.	380 020	380 029
Material of clamp	St/tZn	StSt
Clamping range Rd / Rd	8-10 / 16 mm	8-10 / 16 mm
Standard	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)



MV Clamps for Air-termination Rods

Multi-purpose connecting clamp for universal use as a cross clamp, T clamp and parallel clamp; two-piece.

With hexagon screw, spring washer and thread in the base part

Part No.	392 050	392 059
Material of clamp	St/tZn	StSt
Clamping range Rd	8-10 / 16 mm	8-10 / 16 mm
Standard	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)



With truss head screw and anti-rotation lock

Part No.	392 060	392 069
Material of clamp	St/tZn	StSt
Clamping range Rd	8-10 / 16 mm	8-10 / 16 mm
Standard	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)



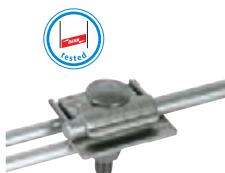
FS Clamps (Air-termination Rod Clamps)

For connecting air-termination rods with one or two conductors.

Connection of two conductors improves the distribution of lightning current and reduces the separation distance.

For air-termination rod 10 mm

With truss head screw, disk, nut and double cleat.



Part No.	380 110
Material of clamp	Al
Clamping range of air-termination rod	8-10 mm
Clamping range Rd	2x 8-10 mm
Material of pressure disk	St/tZn
Standard	EN 62561-1
PU	50 pc(s)

For air-termination rod 16 mm

With truss head screw, disk, nut and double cleat.



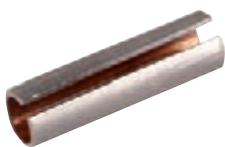
Part No.	380 116
Material of clamp	Al
Clamping range of air-termination rod	16 mm
Clamping range Rd	2x 8-10 mm
Material of pressure disk	St/tZn
Standard	EN 62561-1
PU	50 pc(s)

Cupul Sleeves

For corrosion-resistant connection between steel or aluminium and copper.

For pushing onto cut conductors

Note: Rd 8 mm = 50 mm²



General technical data:			
Material thickness	1.0 mm		
Part No.	562 250	562 035	562 050
Material outside	Al	Al	Al
Material inside	Cu	Cu	Cu
Cross section	25 mm ²	35 mm ²	50 mm ²
Length (l1)	29 mm	32 mm	40 mm
Diameter Ø inside	6.3 mm	7.5 mm	8.2 mm
Diameter Ø outside (d)	8.3 mm	9.5 mm	10.0 mm
PU	100 pc(s)	100 pc(s)	100 pc(s)
Part No.	562 135	562 150	
Material outside	Cu	Cu	
Material inside	Al	Al	
Cross section	35 mm ²	50 mm ²	
Length (l1)	32 mm	40 mm	
Diameter Ø inside	7.5 mm	8.2 mm	
Diameter Ø outside (d)	9.5 mm	10.0 mm	
PU	100 pc(s)	100 pc(s)	

For attaching to uncut conductors

Note: Rd 8 mm = 50 mm²



Part No.	562 001	562 101
Material outside	Al	Cu
Material inside	Cu	Al
Cross section	50 mm ²	50 mm ²
Length (l1)	60 mm	60 mm
Diameter Ø inside	8.5 mm	8.5 mm
Diameter Ø outside (d)	9.5 mm	9.5 mm
Material thickness	0.5 mm	0.5 mm
PU	100 pc(s)	100 pc(s)

Cupal Sheets

Metal strips for corrosion-resistant connection between steel or aluminium and copper.

Part No.	562 440	562 460
Material	Al / Cu	Al / Cu
Dimension	500 x 40 x 0.5 mm	500 x 60 x 0.5 mm
PU	1 pc(s)	1 pc(s)



Protective Spark Gap

Protective spark gap in closed design with plastic sheath for indirect connection of an overhead line roof pole to the external lightning protection system.

DSFS

Plastic-insulated protective spark gap for indirect connection of an overhead line roof superstructure to the external lightning protection system.

Part No.	920 000
100% lightning impulse sparkover voltage (1.2/50 μ s) (U_{imp})	~ 25 kV
Nominal discharge current (8/20 μ s) (I_n)	25 kA
Power frequency sparkover voltage (50 Hz) (U_{50})	~ 10 kV
PU	1 pc(s)



Pipe Clamps for Roof Poles

For the connection of spark gaps with roof poles.

Part No.	410 212	410 300
Clamping range \varnothing pipe	76 mm (2 1/2")	89 mm (3")
Material	St/tZn	St/tZn
Bore \varnothing	11 mm	11 mm
Standard	EN 62561-1	EN 62561-1
PU	20 pc(s)	15 pc(s)



Conductor Holders for Roof Poles

For fixing round conductors at roof poles, insulated clamp bush.

Part No.	425 076	425 089
Clamping range \varnothing pipe	76 mm	89 mm
Material	St/tZn	St/tZn
Conductor holder support Rd	8-10 mm	8-10 mm
Conductor leading	fixed	fixed
PU	50 pc(s)	20 pc(s)



Isolating Spark Gaps

For lightning equipotential bonding according to IEC/EN 62305 as well as for use in IT installations according to IEC 60364-5-54.

TFS / KFSU

Isolating spark gaps with plastic coating and two stainless steel connections (Rd 10 mm).

Part No.	923 023	923 021
Lightning impulse current (10/350 μ s) (I_{imp})	100 kA	—
Rated impulse sparkover voltage (U_{imp})	≤ 4 kV	≤ 4 kV
Extended technical data:		
– Nominal discharge current (8/20 μ s) (I_n)	100 kA	100 kA
– Power frequency sparkover voltage (50 / 60 Hz) (U_{50})	≤ 2.5 kV	≤ 2.5 kV
PU	1 pc(s)	1 pc(s)



DEHN protects.



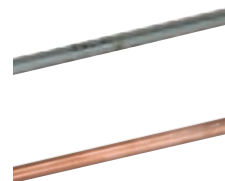
Air-termination Rods

For protecting roof-mounted structures, chimneys, etc., also for erection with concrete base.
Depending on the gust wind speed additional fasteners e.g. DEHNiso spacers are necessary.

Diameter 10 mm, chamfered

Especially for wedge mounting with concrete base 8.5 kg (Part No. 102 075) or for fixing with conductor holders.

Part No.	101 000	101 009	101 007
Total length (l1)	1000 mm	1000 mm	1000 mm
Material	Al	StSt	Cu
Diameter Ø	10 mm	10 mm	10 mm
Standard	EN 62561-2	EN 62561-2	EN 62561-2
PU	20 pc(s)	20 pc(s)	20 pc(s)



Diameter 16 mm, chamfered

General technical data:				
Diameter Ø	16 mm			
Standard	EN 62561-2			
Part No.	104 150	104 200	104 250	104 300
Total length (l1)	1500 mm	2000 mm	2500 mm	3000 mm
Material	AlMgSi	AlMgSi	AlMgSi	AlMgSi
PU	10 pc(s)	10 pc(s)	10 pc(s)	10 pc(s)
Part No.	483 100	483 125	483 150	483 200
Total length (l1)	1000 mm	1250 mm	1500 mm	2000 mm
Material	St/tZn	St/tZn	St/tZn	St/tZn
PU	10 pc(s)	10 pc(s)	10 pc(s)	10 pc(s)



With tapering, chamfered

Length of tapering 1000 mm each.

General technical data:				
Material	AlMgSi			
Diameter Ø	16 / 10 mm			
Type	chamfered			
Standard	EN 62561-2			
Part No.	103 210	103 220	103 230	103 240
Total length (l1)	1500 mm	2000 mm	2500 mm	3000 mm
PU	10 pc(s)	10 pc(s)	10 pc(s)	10 pc(s)
Part No.	103 250	103 260	103 280	
Total length (l1)	3500 mm	4000 mm	5000 mm	
PU	10 pc(s)	10 pc(s)	10 pc(s)	



With tapering, thread M16

Length of tapering 1000 mm each.

General technical data:	
Material	AlMgSi
Diameter Ø	16 / 10 mm
Type	M16
Standard	EN 62561-2

Part No.	103 211	103 221	103 231
Total length (l1)	1500 mm	2000 mm	2500 mm
PU	10 pc(s)	10 pc(s)	10 pc(s)

Part No.	103 241	103 251	103 261
Total length (l1)	3000 mm	3500 mm	4000 mm
PU	10 pc(s)	10 pc(s)	10 pc(s)



Tubular air-termination rods with tapering 16 / 10 mm

Light design; length of tapering 1000 mm each.

General technical data:				
Diameter Ø	16 / 10 mm			
Standard	EN 62561-2			
Part No.	103 410	103 420	103 430	103 440
Total length (l1)	1500 mm	2000 mm	2500 mm	3000 mm
Material	AlMgSi	AlMgSi	AlMgSi	AlMgSi
PU	10 pc(s)	10 pc(s)	10 pc(s)	10 pc(s)
Part No.	103 450	103 460	103 480	103 417
Total length (l1)	3500 mm	4000 mm	5000 mm	1500 mm
Material	AlMgSi	AlMgSi	AlMgSi	Cu
PU	10 pc(s)	10 pc(s)	10 pc(s)	10 pc(s)
Part No.	103 419	103 429	103 439	103 449
Total length (l1)	1500 mm	2000 mm	2500 mm	3000 mm
Material	StSt	StSt	StSt	StSt
PU	10 pc(s)	10 pc(s)	10 pc(s)	10 pc(s)

With forged lug

And clamping screw for connecting Rd 7-10 mm.

Part No.	100 100	100 150
Total length (l1)	1000 mm	1500 mm
Material	St/tZn	St/tZn
Diameter Ø	16 mm	16 mm
Terminal clamping range	7-10 mm	7-10 mm
Standard	EN 62561-(1+2)	EN 62561-(1+2)
PU	10 pc(s)	10 pc(s)

Diameter 16 mm, for cutting to length on site

Part No.	104 600
Total length (l1)	6000 mm
Material	AlMgSi
Diameter Ø	16 mm
Standard	EN 62561-2
PU	1 pc(s)

Self-supporting Air-termination Rods 2.5 to 3.5 m

With tripod to protect roof-mounted structures, adjustable to the roof inclination up to max. 10°.

Concrete base (Part No. 102 075 or 102 010) and support plate (Part No. 102 060 or 102 050) have to be ordered separately.

Air-termination rod	Concrete base	Support plate
Part No.	Part No.	Part No.
105 425	3x 102 075	3x 102 060
105 430	3x 102 010	3x 102 050
105 435	3x 102 010	3x 102 050

Part No.	105 425	105 430	105 435
Height	2500 mm	3000 mm	3500 mm
Max. gust wind speed at 3 bases 8.5 kg each	133 km/h	107 km/h	—
Space required for tripod at 3 bases 8.5 kg each (l x w)	620 x 670 mm	620 x 670 mm	—
Max. gust wind speed at 3 bases 17 kg each	187 km/h	165 km/h	137 km/h
Space required for tripod at 3 bases 17 kg each (l x w)	750 x 810 mm	750 x 810 mm	750 x 810 mm
Material of air-termination rod	Al	Al	Al
Standard	EN 62561-(1+2)	EN 62561-(1+2)	62561-(1+2)
PU	1 pc(s)	1 pc(s)	1 pc(s)



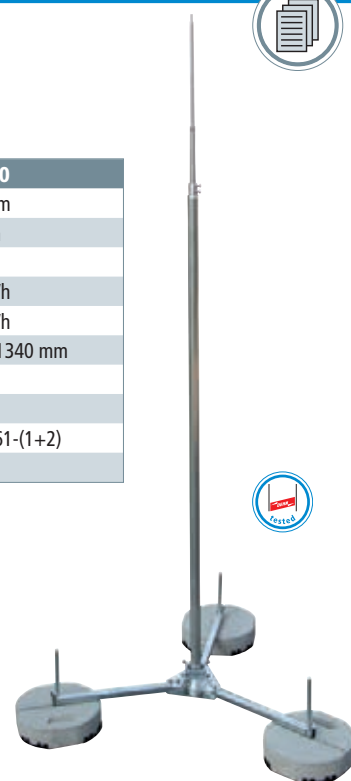
Self-supporting Air-termination Rods 4 to 9 m

With hinged tripod to protect larger roof-mounted structures, adjustable to the roof inclination up to max. 10°. Stackable concrete base (Part No. 102 010) and support plate (Part No. 102 050) have to be ordered separately.



Height up to 5.5 m

Part No.	105 400	105 450	105 500	105 550
Height	4000 mm	4500 mm	5000 mm	5500 mm
Radius	560 mm	560 mm	560 mm	560 mm
Max. gust wind speed at 3 bases 17 kg each	140 km/h	124 km/h	103 km/h	94 km/h
Max. gust wind speed at 6 bases 17 kg each	186 km/h	167 km/h	137 km/h	127 km/h
Max. gust wind speed at 9 bases 17 kg each	187 km/h	188 km/h	165 km/h	154 km/h
Space required for tripod	1210 x 1340 mm	1210 x 1340 mm	1210 x 1340 mm	1210 x 1340 mm
Material of tripod	St/tZn	St/tZn	St/tZn	St/tZn
Material of air-termination rod	Al	Al	Al	Al
Standard	EN 62561-(1+2)	EN 62561-(1+2)	EN 62561-(1+2)	EN 62561-(1+2)
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)

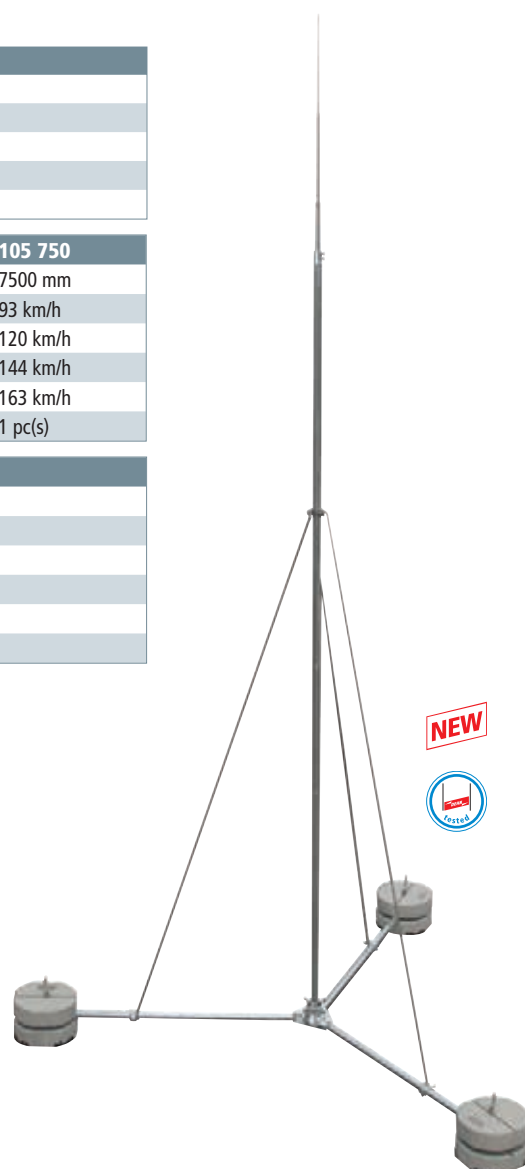


Height up to 9 m with adjustable StSt braces Ø10 mm

General technical data:	
Radius	1435 mm
Space required for tripod	2530 x 2850 mm
Material of tripod	St/tZn
Material of air-termination rod	Al
Standard	EN 62561-(1+2)

Part No.	105 600	105 650	105 700	105 750
Height	6000 mm	6500 mm	7000 mm	7500 mm
Max. gust wind speed at 3 bases 17 kg each	115 km/h	109 km/h	97 km/h	93 km/h
Max. gust wind speed at 6 bases 17 kg each	146 km/h	140 km/h	126 km/h	120 km/h
Max. gust wind speed at 9 bases 17 kg each	175 km/h	167 km/h	149 km/h	144 km/h
Max. gust wind speed at 12 bases 17 kg each	188 km/h	189 km/h	168 km/h	163 km/h
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)

Part No.	105 800	105 850	105 900
Height	8000 mm	8500 mm	9000 mm
Max. gust wind speed at 3 bases 17 kg each	—	—	—
Max. gust wind speed at 6 bases 17 kg each	111 km/h	106 km/h	106 km/h
Max. gust wind speed at 9 bases 17 kg each	131 km/h	126 km/h	125 km/h
Max. gust wind speed at 12 bases 17 kg each	147 km/h	143 km/h	142 km/h
PU	1 pc(s)	1 pc(s)	1 pc(s)



NEW





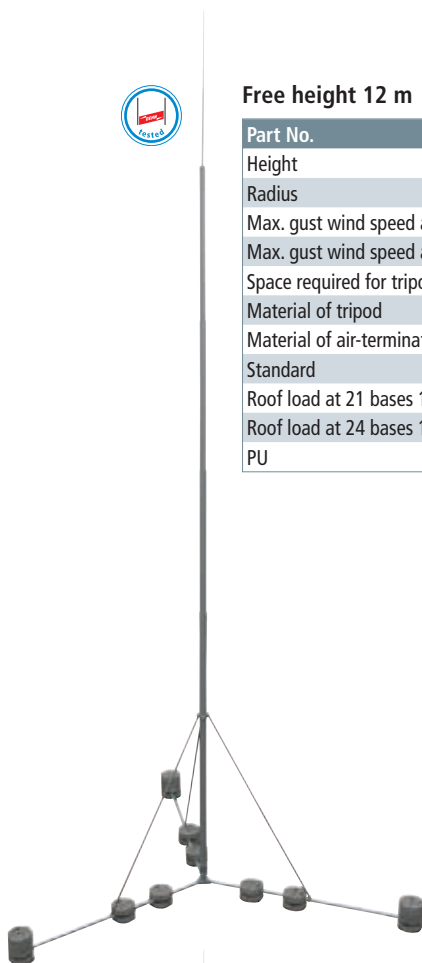
Self-supporting Air-termination Rod 12 / 14 m

With hinged tripod for protecting larger roof-mounted structures or erection on compacted ground without foundation works. Adjustable to the roof inclination up to max. 5°. The stackable concrete block (Part No. 102 010) and the support plate (Part No. 102 050) have to be ordered separately.



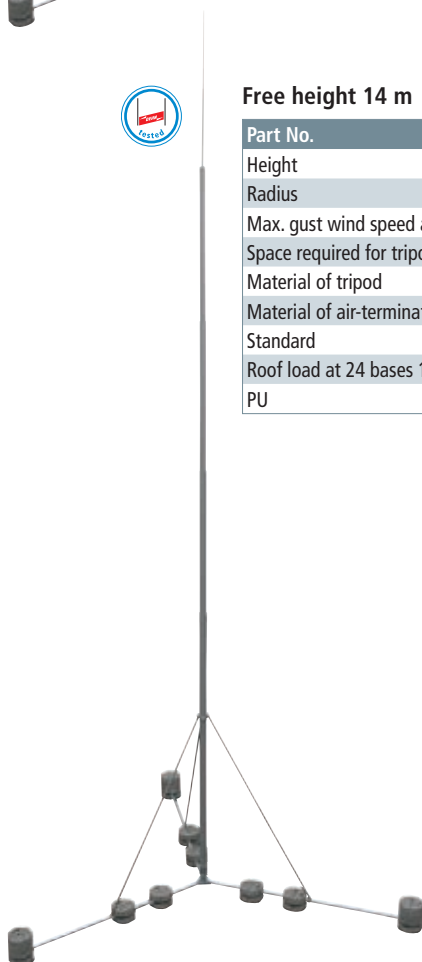
Free height 12 m

Part No.	105 912
Height	12000 mm
Radius	3000 mm
Max. gust wind speed at 21 bases 17 kg each	159 km/h
Max. gust wind speed at 24 bases 17 kg each	175 km/h
Space required for tripod	4920 x 5640 mm
Material of tripod	St/tZn
Material of air-termination mast/air-termination rod	Al
Standard	EN 62561-(1+2)
Roof load at 21 bases 17 kg each	approx. 460 kg
Roof load at 24 bases 17 kg each	approx. 515 kg
PU	1 pc(s)



Free height 14 m

Part No.	105 914
Height	14000 mm
Radius	3000 mm
Max. gust wind speed at 24 bases 17 kg each	128 km/h
Space required for tripod	4920 x 5640 mm
Material of tripod	St/tZn
Material of air-termination mast/air-termination rod	Al
Standard	EN 62561-(1+2)
Roof load at 24 bases 17 kg each	approx. 525 kg
PU	1 pc(s)



Air-termination Rods D40

For fixing e.g. on walls or other constructions.

The maximum free length relates to the distance between the rod tip and the upper support (fixing point).

For reasons of stability three supports shall be mounted. The distance between upper support and middle support must not exceed 15 cm.

The bottom rod holder has to be fixed in a height of ≤ 15 cm.



AI

General technical data:				
Material of air-termination rod	AI			
Standard	EN 62561-(1+2)			
Part No.	105 170	105 175	105 171	105 176
Total length (l1)	4000 mm	4500 mm	5000 mm	5500 mm
Max. free length with air-termination rod 2000 / 2500 mm (l2)	3500 mm	4000 mm	4000 mm	4500 mm
Clamping length with air-termination rod 2000 / 2500 mm (l3)	500 mm	500 mm	1000 mm	1000 mm
Quantity of fixings	2	2	2	2
Max. gust wind speed	186 km/h	186 km/h	186 km/h	187 km/h
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)
Part No.	105 172	105 177	105 173	
Total length (l1)	6000 mm	6500 mm	7000 mm	
Max. free length with air-termination rod 2000 / 2500 mm (l2)	4500 mm	5000 mm	5500 mm	
Clamping length with air-termination rod 2000 / 2500 mm (l3)	1500 mm	1500 mm	1500 mm	
Quantity of fixings	3	3	3	
Max. speed of wind gusts	187 km/h	184 km/h	156 km/h	
PU	1 pc(s)	1 pc(s)	1 pc(s)	
Part No.	105 178	105 174	105 179	
Total length (l1)	7500 mm	8000 mm	8500 mm	
Max. free length with air-termination rod 2000 / 2500 mm (l2)	5500 mm	5500 mm	5500 mm	
Clamping length with air-termination rod 2000 / 2500 mm (l3)	2000 mm	2500 mm	3000 mm	
Quantity of fixings	3	3	3	
Max. gust wind speed	161 km/h	156 km/h	161 km/h	
PU	1 pc(s)	1 pc(s)	1 pc(s)	

StSt

General technical data:				
Material of air-termination rod	StSt			
Standard	EN 62561-(1+2)			
Part No.	105 190	105 195	105 191	105 196
Total length (l1)	4000 mm	4500 mm	5000 mm	5500 mm
Max. free length with air-termination rod 2000 / 2500 mm (l2)	3500 mm	4000 mm	4000 mm	4500 mm
Clamping length with air-termination rod 2000 / 2500 mm (l3)	500 mm	500 mm	1000 mm	1000 mm
Quantity of fixings	2	2	2	2
Max. gust wind speed	195 km/h	194 km/h	193 km/h	194 km/h
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)
Part No.	105 192	105 197	105 193	
Total length (l1)	6000 mm	6500 mm	7000 mm	
Max. free length with air-termination rod 2000 / 2500 mm (l2)	4500 mm	5000 mm	5500 mm	
Clamping length with air-termination rod 2000 / 2500 mm (l3)	1500 mm	1500 mm	1500 mm	
Quantity of fixings	3	3	3	
Max. gust wind speed	193 km/h	192 km/h	165 km/h	
PU	1 pc(s)	1 pc(s)	1 pc(s)	
Part No.	105 198	105 194	105 199	
Total length (l1)	7500 mm	8000 mm	8500 mm	
Max. free length with air-termination rod 2000 / 2500 mm (l2)	5500 mm	5500 mm	5500 mm	
Clamping length with air-termination rod 2000 / 2500 mm (l3)	2000 mm	2500 mm	3000 mm	
Quantity of fixings	3	3	3	
Max. gust wind speed	168 km/h	159 km/h	163 km/h	
PU	1 pc(s)	1 pc(s)	1 pc(s)	

Type with shorter transport lengths (separable pipe) upon request.



Tripods for Air-termination Rods D40 and Supporting Tubes GRP/Al

For erection with concrete bases (weight 17 kg).

By means of threaded rod M16 adjustable to the roof inclination up to max. 10°.

Air-termination rods D40 / supporting tubes or the stackable concrete block (Part No. 102 010) and the support plate (Part No. 102 050) have to be ordered separately.

Hinged design St/tZn

For air-termination rods D40 mm or supporting tubes D50 mm length 3200 mm (e.g. Part No. 105 440 or 105 300) without additional fixing at construction elements. Connection with double cleat for 2x Rd 8-10 mm [lightning current carrying capability 100 kA (10/350)].



Part No.	105 200
Material of tripod	St/tZn
Support	Ø40 / 50 mm
Radius	560 mm
Required space for tripod	1200 x 1330 mm
Weight	9.6 kg
Standard	EN 62561-1
PU	1 pc(s)

Hinged design StSt

For air-termination rods D40, DEHNiso Combi supporting tubes with air-termination rod or HVI Conductor inside / outside of a supporting tube.



Part No.	105 290
Material of tripod	StSt
Support	Ø40 / 50 mm
Radius	590 mm
Required space for tripod	1230 x 1370 mm
Weight	8.4 kg
PU	1 pc(s)

Separable design StSt

For air-termination rods D40, DEHNiso Combi supporting tubes with air-termination rod or HVI Conductor inside / outside a supporting tube.



Part No.	105 291
Material of tripod	StSt
Support	Ø40 / 50 mm
Radius	1155 mm
Required space for tripod	2050 x 2300 mm
Weight	19 kg
PU	1 pc(s)

Concrete Bases

For air-termination rods, for protecting small-sized roof-mounted structures on flat roofs and for installing spacers of the DEHNiso spacer programme, e.g. for isolated ring conductors or for self-supporting air-termination rods in the tripod (only with a weight of 17 kg).

Weight 17 kg, for wedge mounting

Stackable, for air-termination rods Ø16 mm, chamfered, tapered, or for DEHNiso spacer Ø16 mm.



Part No.	102 010
Weight	17 kg
Support	wedge Ø16 mm
Diameter Ø	337 mm
Material	concrete (C45/55)
Material of wedge	StSt
PU	54 pc(s)

Weight 17 kg, for wedge mounting, with adapted support plate

Stackable



Part No.	102 340
Weight	17 kg
Support	wedge Ø16 mm
Diameter Ø	337 mm
Material	concrete (C45/55)
Material of wedge	StSt
PU	54 pc(s)

Air-termination Rods, Accessories

Weight 17 kg, with threaded adapter

For air-termination rods with thread M16.

Part No.	102 002
Weight	17 kg
Support	thread M16
Diameter Ø	337 mm
Material	concrete (C45/55)
Material of adapter	plastic
PU	54 pc(s)



Weight 17 kg

Concrete base without wedge for the erection of tripods with threaded rods M16 (e.g. Part No. 105 390 + 105 396 ...).

Part No.	102 012
Weight	17 kg
Support	Ø16 mm
Diameter Ø	337 mm
Material	concrete (C45/55)
PU	27 pc(s)



Weight 8.5 kg, for wedge mounting

For air-termination rods Ø10 mm, length 1000 mm or DEHNiso spacers Ø16 mm, length up to 675 mm (distance 0.8 m) or conductor holder (Part No. 253 279)..

Part No.	102 075
Weight	8.5 kg
Support	wedge mounting Ø10 / 16 mm
Diameter Ø	240 mm
Material	concrete (C45/55)
Material of wedge	StSt
PU	120 pc(s)



Weight 8.5 kg, with threaded adapter

For air-termination rods with thread and additional fixing e.g. with DEHNiso spacers.

Part No.	102 003
Weight	8.5 kg
Support	thread M16
Diameter Ø	240 mm
Material	concrete (C45/55)
Material of adapter	plastic
PU	120 pc(s)



Support Plates

For protecting the roof sheeting under the concrete base.

Large

For concrete bases (Part No. 102 010, 102 002) weight 17 kg.

Part No.	102 050
Diameter Ø outside	370 mm
Diameter Ø inside	360 mm
Material	EVA
Colour	black ●
PU	1 pc(s)



Small

For concrete bases (Part No. 102 075, 102 003) weight 8.5 kg.

Part No.	102 060
Diameter Ø outside	280 mm
Diameter Ø inside	270 mm
Material	EVA
Colour	black ●
PU	1 pc(s)



Supports for Air-termination Rods D40 and DEHNcon-H

Wall mounting bracket for horizontal mounting



Part No.	105 140
Material	StSt
Fixing	[8x] Ø5.1 / [4x] 11 x 20 mm
Wall distance	80 mm
Clamping range of air-termination rod	40 mm
PU	1 pc(s)

Wall mounting bracket for vertical mounting



Part No.	105 342
Material	StSt
Fixing	[8x] Ø5.1 / [4x] 7 x 10 / [2x] 11 x 20 mm
Wall distance	46 mm
Clamping range of air-termination rod	40-50 mm
PU	1 pc(s)

Wall mounting bracket with adjustment range of 150-200 mm

For fixing the supporting tubes or air-termination rods D40 / D50 with double cleat, for connection of 2x Rd 8-10 mm.



Part No.	105 344
Material	StSt
Fixing	[4x] 12 x 26 mm
Wall distance	150-200 mm
Clamping range Rd	8-10 mm
Clamping range of air-termination rod	40-50 mm
Standard	EN 62561-1
PU	1 pc(s)

Wall mounting bracket with adjustment range of 400-700 mm



Part No.	105 343
Material	St/tZn / StSt
Fixing	[4x] 12 x 26 mm
Wall distance	400-700 mm
Clamping range of air-termination rod	40-50 mm
PU	1 pc(s)

Railing clamps



Part No.	105 354
Material	StSt
Clamping range Ø of pipe	48-60 mm (1 1/2 - 2")
Clamping range of air-termination rod	40-50 mm
PU	5 pc(s)

Fixing clamp with tensioning strap

Using two fixing clamps provides mechanical stability and a lightning current carrying capability of 100 kA (10/350 µs).



Part No.	105 160
Material	StSt
Clamping range of pipe	50-300 mm
Clamping range of air-termination rod	40-50 mm
Standard	EN 62561-1
PU	1 pc(s)

Accessory for Supports for Air-termination Rods D40 and DEHNcon-H

Railing Clamp

With spacer for adjusting e.g. the antenna fastener.



Part No.	105 162 ^{NEW}
Material	StSt
Clamping range of pipe Ø	45-65 mm (1 1/2 - 2")
Clamping range of supporting tube	40-50 mm
Length of spacer	95 mm
PU	1 pc(s)

Telescopic Lightning Protection Mast with Screw Foundation

Air-termination mast to protect special facilities e.g. biogas plants, ground-installed PV systems against direct lightning strike.

The masts are erected in screw foundation.

Digging or foundation work is not necessary.

The screw foundation is just be screwed into the natural ground and additionally fixed by three earth rods Ø20 mm, length 1500 mm (Part No. 620 151) each, which have to be ordered separately.

These calculations are based on a natural ground pressure of 0.02 kN/cm² (e.g. loamy, sandy, gravel soil of medium density).



General technical data:

Material	St/tZn / Al
Standard	EN 62561-(1+2)

Part No.	103 121	103 122	103 123
Height above floor (l1)	6000 mm	7000 mm	8000 mm
Max. gust wind speed	225 km/h	186 km/h	137 km/h
PU	1 pc(s)	1 pc(s)	1 pc(s)

Part No.	103 124	103 125	103 126
Height above floor (l1)	9000 mm	10000 mm	11000 mm
Max. gust wind speed	133 km/h	111 km/h	111 km/h
PU	1 pc(s)	1 pc(s)	1 pc(s)

Telescopic Lightning Protection Mast for Bucket or Concrete Foundation

Air-termination mast to protect special facilities, e.g. biogas plants, ground-mounted PV systems, Ex systems, ammunition dumps etc. against direct lightning strike.

The masts are erected in bucket foundation (pre-fabricated) or in concrete foundation (on site) with foundation basket (to be ordered separately). More details on the locking system, the foundation and the erection/installation in the installation instructions.

Advantages of the air-termination mast system:

- Earthwork can be completed in advance
- Erection in (prefabricated) bucket foundation with little on-site effort or
- Alternatively erection in concrete foundation (on site) with foundation basket (concrete curing time to be observed for scheduling and erection)
- Type with flange plate for fast mounting
- Easy adjustment by threaded bolts M24
- Detailed mounting instructions
- Verifiable statics (upon request)

Components:

- Air-termination rod St/tZn Ø42 / 20 / 10 mm length 2400 or 5400 mm with thread M20 and lock nut
- Conic mast segments
- Flange plate with connection lug for earth connection bore Ø12 mm (of round conductor Ø10 mm e.g. with KS connector Part No. 301 019)

Max. transport length 6 m



General technical data:

Material	St/tZn
Max. gust wind speed	115 km/h
Standard	EN 62561-(1+2)

Part No.	103 013	103 016	103 019
Height above ground level (l1)	13.35 m	16.35 m	19.35 m
Mast segments	2	2	3
Dimension of flange plate	400 x 400 mm	400 x 400 mm	400 x 400 mm
Type of flange plate	4x Ø28 mm for 4x M24 (300 x 300 mm)	4x Ø28 mm for 4x M24 (300 x 300 mm)	4x Ø28 mm for 4x M24 (300 x 300 mm)
Concrete foundation on-site (l x w x h)	1400 x 1400 x 900 mm	1400 x 1400 x 900 mm	1600 x 1600 x 900 mm
Weight	approx. 228 kg	approx. 230 kg	approx. 310 kg
PU	1 pc(s)	1 pc(s)	1 pc(s)

Part No.	103 022	103 025
Height above ground level (l1)	22.35 m	24.85 m
Mast segments	4	5
Dimension of flange plate	565 x 565 mm	565 x 565 mm
Type of flange plate	8x Ø28 mm for 8x M24 (490 x 490 mm)	8x Ø28 mm for 8x M24 (490 x 490 mm)
Concrete foundation on-site (l x w x h)	1800 x 1800 x 900 mm	2000 x 2000 x 900 mm
Weight	approx. 450 kg	approx. 550 kg
PU	1 pc(s)	1 pc(s)



Bucket Foundations for Telescopic Lightning Protection Masts

As prefabricated element for easy erection of the telescopic lightning protection masts.
No concreting work on site.
More details on the telescopic system, foundation and erection in the installation instructions.

Type KöFU I

For masts of 13.35 to 19.35 m of height above ground level.
(Part No. 103 013 / 103 016 / 103 019)
Flange plate 400 x 400 mm.



Part No.	103 030
Material	concrete (C50/60)
Dimension	1800 x 2000 x 850 mm
Weight	approx. 2.5 t
PU	1 pc(s)

Type KöFU II

For masts of 22.35 or 24.85 m of height above ground level.
(Part No. 103 022 or 103 025)
Flange plate 565 x 565 mm.



Part No.	103 031
Material	concrete (C50/60)
Dimension	2400 x 2400 x 1010 mm
Weight	approx. 4.9 t
PU	1 pc(s)



Foundation Basket for On-site Concrete Foundation

For setting in concrete, with threaded bolts, suits for the flange plate of telescopic lightning protection masts.
More details on the telescopic system, foundation and erection in the installation instructions.

Small design

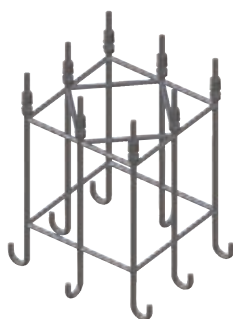
For masts of 13.35 m up to 19.35 m of height above ground level (Part No. 103 013 / 103 016 / 103 019).
Flange plate 400 x 400 mm.



Part No.	103 040
Material	steel
Dimension	472 x 324 x 870 mm
Type of threaded bolt	4x M24 (300 x 300 mm)
PU	1 pc(s)

Large design

For masts of 22.35 m or 24.85 m of height above ground level (Part No. 103 022 or 103 025).
Flange plate 565 x 565 mm.



Part No.	103 041
Material	steel
Dimension	662 x 662 x 870 mm
Type of threaded bolt	8x M24 (490 x 490 mm)
PU	1 pc(s)

Air-termination Rods for Metal Roofs

For protecting roof-mounted structures, domelights, etc.

Braces with boreholes (Ø11 mm) to be fixed on the roof by means of four roof conductor holders. The conductor holders have to be chosen according to the roof profile. A round standing seam e.g. requires Part No. 223 010, or a standing seam Part No. 365 059.

Height 2 m

With threaded bolts M16.

Part No.	123 021
Total length (Ø16 / 10 mm)	2000 mm
Max. gust wind speed	185 km/h
Profile distance	230-520 mm
Fixing	[4x] Ø11 mm
Material of braces	StSt
Material of air-termination rod	Al
Standard	EN 62561-(1+2)
PU	1 pc(s)

Height up to 3.5 m

Adjustable to the roof inclination up to max. 10°.

Part No.	123 425	123 430	123 435
Total length (Ø22 / 16 / 10 mm)	2500 mm	3000 mm	3500 mm
Max. gust wind speed	187 km/h	172 km/h	159 km/h
Profile distance	230-520 mm	230-520 mm	230-520 mm
Fixing	[4x] Ø11 mm	[4x] Ø11 mm	[4x] Ø11 mm
Material of braces	StSt	StSt	StSt
Material of air-termination rod	Al	Al	Al
Standard	EN 62561-(1+2)	EN 62561-(1+2)	EN 62561-(1+2)
PU	1 pc(s)	1 pc(s)	1 pc(s)

Air-termination Rod for Trapezoidal Sheet Metal Roofing

For protecting roof-mounted structures, domelights etc.

The air-termination rod is fit in the profile valley of the roof cladding. Due to the variable base frame it is adjustable to any trapezoidal profile.

Part No.	123 032 ^{NEW}
Total length (Ø16 / 10 mm)	2000 mm
Max. gust wind speed	143 km/h
Profile distance	600-770 mm
Length of palisade	1000 mm
Material of air-termination rod	Al
Material of bases	plastic
Standard	EN 62561-2
PU	1 pc(s)

Type with a length of 1500 mm (with Part No. 103 211) upon request.

Air-termination Rod for Ridge and Hip Tiles

For protecting solar thermal modules or photovoltaic generators or other roof-mounted structures on gable roofs.

Installation by means of a clamping bracket which is stepwise adjustable to the diameter of the ridge tiles.

Part No.	123 109
Material of air-termination rod	Al
Length	1000 mm
Clamping range	120-240 mm
Standard	EN 62561-2
PU	1 pc(s)



NEW





Holders for Air-termination System on Ridge and Hip Tiles

For air-termination rods or spacer bars with conductor holder, for protecting solar thermal modules, photovoltaic generators or other roof-mounted structures on gable roofs.
Tensioning strip clamping bracket as holder fitting. With one clip permanently attached at the tensioning strap and an adjustable clip the holder can be mounted at various Types of ridge tiles.

Air-termination rods or spacer bars have to be ordered separately.

Single design

For air-termination rods (length 1000 mm) or spacer bars GRP Ø10 mm.



Part No.	123 110
Clamping range Rd	10 mm
Tensioning range	120-300 mm
Material of fixing bush	StSt
Max. gust wind speed	150 km/h
PU	1 pc(s)

Double design

For air-termination rods Ø16 / 10 mm, length max. 1.5 m, incl. clamping frame for connection of round conductors Rd 6-10 mm.



Part No.	123 116
Clamping range Rd	16 mm
Tensioning range	120-300 mm
Mounting distance (l1)	approx. 280 / 350 / 420 mm
Material of fixing bush	StSt
Max. gust wind speed	199 km/h
PU	1 pc(s)

Accessories for Holders for Air-termination System on Ridge and Hip Tiles

Air-termination rods

For protecting roof-mounted structures, chimneys.



Part No.	101 000	101 009
Total length	1000 mm	1000 mm
Material	Al	StSt
Standard	EN 50164-2	EN 50164-2
Diameter	10 mm	10 mm
PU	20 pc(s)	20 pc(s)

Tubular air-termination rods

For protecting roof-mounted structures.



Part No.	103 410
Total length (l1)	1500 mm
Material	AlMgSi
Diameter Ø	16/10 mm
Max. gust wind speed	175 km/h
PU	10 pc(s)

Spacer bar with conductor holder

For plugging into the holder for air-termination systems on ridge and hip tiles. For an elevated leading of conductors, loose conductor leading.



Part No.	253 315	253 325
Conductor holder support Rd	8 mm	8 mm
Material of conductor holder	plastic	plastic
Length (l1)	280 mm	420 mm
Insulating clearance	220 mm	360 mm
Permanent temperature range	-30 °C ... +80 °C	-30 °C ... +80 °C
PU	24 pc(s)	24 pc(s)

Air-termination Rod Holder for Gable Roofs



For fitting air-termination rods or air-termination rods GRP/Al to protect e.g. photovoltaic generators on gable roofs.

For fitting of:

- Air-termination rods Ø16 / 10 mm
- Air-termination rods GRP/Al, Ø16 / 10 mm
- Air-termination rods Ø10 mm

The necessary roof bushing kit has to be ordered separately.

The air-termination rod holder is designed for an initial torque up to 35 Nm.

Part No.	223 006
Clamping range Rd	10 / 16 mm
Distance of rafters	500-700 mm
Roof inclination	24°-53°
Material of fixing bush	StSt
PU	1 pc(s)



Accessories for Air-termination Rod Holder for Gable Roofs

Tubular air-termination rods

For protecting roof-mounted structures.

Part No.	103 410
Total length (l1)	1500 mm
Material	AlMgSi
Diameter	16/10 mm
Max. gust wind speed	175 km/h
PU	10 pc(s)



Air-termination rods GRP/Al

For the installation of isolated air-termination systems.

Part No.	106 207	106 210
Total length (l1)	1660 mm	2000 mm
Isolating clearance (l2)	635 mm	975 mm
Material of air-termination rod / bush	Al	Al
Material of spacer	GRP	GRP
Max. gust wind speed (elevated, Al Ø8 mm, distance 1.100 mm)	132 km/h	105 km/h
PU	10 pc(s)	10 pc(s)

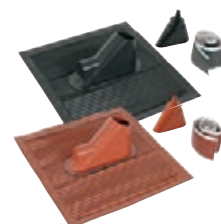


Roof Bushing Kit

- For bushing and sealing of poles and pipes on steep roofs
- Universally usable with different roof tiles / roof stones due to formable aluminium roof tile

Roof bushing kit comprises aluminium roof tile, rubber grommet and sealing tape.

Part No.	105 245	105 246
Material of roof tile	aluminium, with UV stabilised plastic coating	aluminium, with UV stabilised plastic coating
Dimension of roof tile	450 x 500 mm	450 x 500 mm
Diameter Ø of mast hole	10 / 16 / 48 mm	10 / 16 / 48 mm
Roof inclination	24-53°	24-53°
Material of rubber grommet	UV stabilised rubber mixture	UV stabilized rubber mixture
Material of sealing tape	rubber based plastical sealant	rubber based plastical sealant
Type of sealing tape	strongly adhesive, self-welding	strongly adhesive, self-welding
Dimension of sealing tape	600 x 80 mm	600 x 80 mm
Processing temperature	+5 °C ... +40 °C	+5 °C ... +40 °C
Permanent temperature range of sealing tape	-40 °C ... +80 °C	-40 °C ... +80 °C
Colour	black ●	red ●
PU	1 pc(s)	1 pc(s)



Rod Holder for Gable Roofs

Footing for fitting air-termination rods on gable roofs with anti-rotation lock (toothed washer) and lock nut as well as bores for screwing the brace at the roof battens.

At the chimney the air-termination rod has to be fixed additionally e.g. by means of DEHNiso spacer.



Part No.	223 005
Material of brace	St/tZn
Material of bolt	StSt
Length of bolt	475 mm
Conductor holder support Rd	16 mm
PU	1 pc(s)

Pipe Clamp for Air-termination Rods

For fixing as well as lightning-current-carrying-capable contacting of the air-termination rod e.g. at metal subconstructions of photovoltaic (PV) installations (square hollow profile); typically installed at steel skeleton or reinforced concrete structures. For mounting at pipes, the pressure plate (flat plate 2x angled) has to be removed.

Each air-termination rod has to be installed with two pipe clamps. The maximum free length of the respective air-termination rod according to the wind load has to be considered for the installation.



Part No.	540 105
Material of head / strip	StSt
Clamping range of square hollow profile	40 x 60 to 70 x 70 mm
Clamping range of pipe	50-300 mm
Connection Rd	16 mm
Dimension of strip	1100 x 25 x 0.3 mm
Standard	EN 62561-1
PU	1 pc(s)

Angled Air-termination Rods

For protecting e.g. ground-installed photovoltaic systems or carports with PV system against direct lightning strike.

A distance of 15-20 cm between the saddle clamps and the free length of 80-85 cm have to be observed.

The air-termination rod is adjustable to the inclination angle of the PV system. The standard design is angled to 55° which corresponds to a PV system inclination of 35°.

Angled rod with two saddle clamps (Part No. 365 031)

Clamping range of the saddle clamps 0.7-8 mm.

Part No.	101 110
Total length	1000 mm
Material	Al
Diameter Ø	10 mm
Max. gust wind speed	224 km/h
PU	1 pc(s)

Angled rod

For combination e.g. with connection clamps for steel girders.

Part No.	101 010
Total length	1000 mm
Material	Al
Diameter Ø	10 mm
Max. gust wind speed	224 km/h
PU	10 pc(s)

Air-termination Rod Adapter

For vertical positioning of air-termination rods in case of roof inclinations up to 10°. For use with wedge mounting concrete bases (Part No. 102 010 or 102 340).

Part No.	106 008
Material of support	St/tZn
Clamping range	16 mm
Material of bolt	StSt
PU	1 pc(s)



Air-termination Caps

For use as end cap of air-termination conductors.

For steel or aluminium conductors

Part No.	110 000
Material	ZDC
Conductor Rd	7-10 mm
Length	29 mm
Diameter Ø outside	15 mm
PU	50 pc(s)



For copper conductors

Part No.	110 017
Material	Ms/gal Cu
Conductor Rd	8 mm
Length	29 mm
Diameter Ø outside	14 mm
PU	10 pc(s)



Air-termination Stud

For the installation of meshed air-termination systems, for walkable and drivable flat roofs, e.g. parking decks. The air-termination stud and the conductors may either be installed in concrete or in the joints of the deck slabs.



Installation depth at least 60 mm.

Part No.	108 009
Material of clamp	StSt
Material of stud	StSt
Connection Rd	8-10 mm
Standard	EN 62561-1
Installation depth	min. 70 mm
Levelling range	18 mm
PU	10 pc(s)



Connecting Components 200 kA (10/350 µs)

For use in protection class I and II of the lightning protection system (class of LPS I, II). Clamps are tested with a 200 kA (10/350 µs) lightning impulse current, based on EN 62561-1.



UNI disconnecting clamp for two round conductors

Part No.	459 200 ^{NEW}
Material	StSt
Clamping range Rd / Rd	10 / 10 mm
Clamping range Rd / FI	10 / 30 mm
Lightning current carrying capability (10/350 µs)	200 kA
Standard	based on EN 62561-1
PU	1 pc(s)



NEW



UNI disconnecting clamp for earth entry rods

Part No.	459 219 ^{NEW}
Material	StSt
Clamping range Rd / Rd	8-10 / 16 mm
Lightning current carrying capability (10/350 µs)	200 kA
Standard	based on EN 62561-1
PU	1 pc(s)



NEW



Clamping piece

Part No.	380 209 ^{NEW}
Material	StSt
Clamping range FI	30 x 4 mm
Lightning current carrying capability (10/350 µs)	200 kA
Standard	based on EN 62561-1
PU	1 pc(s)



NEW




NEW


KS connector

Part No.	301 209 ^{NEW}
Material	StSt
Clamping range Rd	10 mm
Lightning current carrying capability (10/350 µs)	200 kA
Standard	based on EN 62561-1
PU	1 pc(s)


NEW


MV clamp for round conductors

Part No.	390 209 ^{NEW}
Material	StSt
Clamping range Rd / Rd	8-10 mm
Lightning current carrying capability (10/350 µs)	200 kA
Standard	based on EN 62561-1
PU	1 pc(s)


NEW


MV clamp for air-termination rods

Part No.	392 209 ^{NEW}
Material	StSt
Clamping range Rd / Rd	8-10 / 16 mm
Lightning current carrying capability (10/350 µs)	200 kA
Standard	based on EN 62561-1
PU	1 pc(s)

Connecting Sleeve for Air-termination Rods

With embossings (stop boss) for connecting longer air-termination rods (transport length).
The air-termination rod needs an additional fixing above the sleeve.



Part No.	385 216
Material	Al
Clamping range Rd / Rd	16 / 16 mm
Screw	⌀ M8 x 12 mm
Material of screw	StSt
Diameter Ø outside	28 mm
Standard	EN 62561-1
PU	10 pc(s)

MV Clamps for Air-termination Rods

Multi-purpose connecting clamp for universal use as a cross clamp, T clamp and parallel clamp; two-piece.

With hexagon screw, spring washer and thread in the base part

Part No.	392 050	392 059
Material of clamp	St/tZn	StSt
Clamping range Rd	8-10 / 16 mm	8-10 / 16 mm
Standard	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)

With truss head screw and anti-rotation lock

Part No.	392 060	392 069
Material of clamp	St/tZn	StSt
Clamping range Rd	8-10 / 16 mm	8-10 / 16 mm
Standard	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)



Rod Clamps

For connecting air-termination rods with conductors, for lengthwise connection of all conductor materials.
Crosswise connection (crosswise arrangement) only St/tZn and StSt.

Part No.	380 020	380 029
Material of clamp	St/tZn	StSt
Clamping range Rd / Rd	8-10 / 16 mm	8-10 / 16 mm
Standard	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)



FS Clamps (Air-termination Rod Clamps)

For connecting air-termination rods with one or two conductors.
Connection of two conductors improves the distribution of lightning current and reduces the separation distance.

For air-termination rod 10 mm

With truss head screw, disk, nut and double cleat.

Part No.	380 110
Material of clamp	Al
Clamping range of air-termination rod	8-10 mm
Clamping range Rd	2x 8-10 mm
Material of pressure disk	St/tZn
Standard	EN 62561-1
PU	50 pc(s)



For air-termination rod 16 mm

With truss head screw, disk, nut and double cleat.

Part No.	380 116
Material of clamp	Al
Clamping range of air-termination rod	16 mm
Clamping range Rd	2x 8-10 mm
Material of pressure disk	St/tZn
Standard	EN 62561-1
PU	50 pc(s)



Information Sign

Lightning Voltage

Front in German

„ACHTUNG! Blitzspannung
Bei Gewitter Bereich räumen / nicht betreten“

Back in English

„ATTENTION! Lightning voltage
Clear / do not enter this area during thunderstorms“

Part No.	480 698
Material	Al
Dimension (l x w x d)	297 x 210 x 0.7 mm
Fixing	[4x] Ø6.5 mm
PU	1 pc(s)



Components for Buildings with Thatched Roof



Lightning protection system components for thatched roofs. Air-termination conductors on thatched roofs have to be installed as elevated traverses e.g. on isolating supports. Certain distances have to be kept also to the eaves.

Intended span width for ridge conductors is approx. 15 m and for down conductors approx. 10 m without additional supports. Span stakes have to be fastened at the roof construction (rafters and crosspieces) by anchor bolts and flat washers.

**Wooden stake**

With rain shelter, suitable for clamping cap (Part No. 146 309).

Part No.	145 241
Material	oak (impregnated)
Dimension (l x w x h)	90 x 90 x 2400 mm
PU	1 pc(s)

**Clamping cap**

For fixing at wooden stakes (Part No. 145 241).

With air-termination rod (length 300 mm, Ø10 mm in StSt).

Part No.	146 309
Material	StSt
Support Rd	7-10 mm
PU	1 pc(s)

**Roof conductor support**

With conductor holder.

Part No.	240 000
Material	oak (impregnated)
Dimension (l x w x h)	134 x 300 x 598 mm
Support Rd	6-10 mm
PU	1 pc(s)

**Eaves supports St/tZn / StSt**

For guying the conductors/cables at eaves.

Distance between wall and conductors is adjustable.

Part No.	239 000	239 001	239 009	239 019
Material	St/tZn	St/tZn	StSt	StSt
Adjustable range (l1)	1.05-1.20 m	1.40-1.55 m	1.25-1.55 m	1.45-1.75 m
Support Rd	7-10 mm	7-10 mm	7-10 mm	7-10 mm
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)

Guy clamp

For tightening / guying the conductors / cables on the wall.



Part No.	241 009
Material	StSt
Dimension (l x w x d)	150 x 40 x 4 mm
Support Rd	8 mm
PU	20 pc(s)

DEHNiso Spacers

Variable range of supports for conductors and air-termination rods for keeping the separation distance according to IEC/EN 62305-3. Spacer bar made of glass-fibre reinforced plastic (GRP), Ø16 mm, UV stabilised, light grey colour.

With rod holder and fixing plate

Fixed conductor leading.

Part No.	106 115	106 120	106 123
Conductor holder support Rd	16 mm	16 mm	16 mm
Material of conductor holder	StSt	StSt	StSt
Length (l1)	530 mm	690 mm	1030 mm
Insulating distance (l2)	445 mm	605 mm	945 mm
Fixing	[8x] Ø5.1 / [4x] 7 x 10 / [2x] 11 x 20 mm	[8x] Ø5.1 / [4x] 7 x 10 / [2x] 11 x 20 mm	[8x] Ø5.1 / [4x] 7 x 10 / [2x] 11 x 20 mm
Permanent temperature range	-50 °C ... +100 °C	-50 °C ... +100 °C	-50 °C ... +100 °C
Max. gust wind speed mounting variant 1	130 km/h	125 km/h	120 km/h
PU	1 pc(s)	1 pc(s)	1 pc(s)



With conductor holder and fixing plate

Fixed conductor leading.

Part No.	106 090	106 100	106 105
Conductor holder support Rd	7-10 mm	7-10 mm	7-10 mm
Material of conductor holder	StSt	StSt	StSt
Length (l1)	530 mm	690 mm	1030 mm
Insulating distance (l2)	445 mm	605 mm	945 mm
Fixing	[8x] Ø5.1 / [4x] 7 x 10 / [2x] 11 x 20 mm	[8x] Ø5.1 / [4x] 7 x 10 / [2x] 11 x 20 mm	[8x] Ø5.1 / [4x] 7 x 10 / [2x] 11 x 20 mm
Permanent temperature range	-50 °C ... +100 °C	-50 °C ... +100 °C	-50 °C ... +100 °C
Max. gust wind speed (holder distance 1000 mm, Al Ø8-10 mm)	224 km/h	184 km/h	137 km/h
PU	1 pc(s)	1 pc(s)	1 pc(s)



With rod holder and pipe bracket

Part No.	106 225	106 226	106 228
Conductor holder support Rd	16 mm	16 mm	16 mm
Material of conductor holder	StSt	StSt	StSt
Length (l1)	530 mm	690 mm	1030 mm
Insulating distance (l2)	445 mm	605 mm	945 mm
Clamping range of pipe	40-60 mm (1 1/4"-2")	40-60 mm (1 1/4"-2")	40-60 mm (1 1/4"-2")
Permanent temperature range	-50 °C ... +100 °C	-50 °C ... +100 °C	-50 °C ... +100 °C
Max. gust wind speed mounting variant 2	130 km/h	121 km/h	103 km/h
PU	1 pc(s)	1 pc(s)	1 pc(s)



With rod holder and pipe clamp

Part No.	106 245	106 246	106 248
Conductor holder support Rd	16 mm	16 mm	16 mm
Material of conductor holder	StSt	StSt	StSt
Length (l1)	530 mm	690 mm	1030 mm
Insulating distance (l2)	445 mm	605 mm	945 mm
Clamping range of pipe	50-300 mm	50-300 mm	50-300 mm
Permanent temperature range	-50 °C ... +100 °C	-50 °C ... +100 °C	-50 °C ... +100 °C
Max. gust wind speed mounting variant 3	146 km/h	135 km/h	112 km/h
PU	1 pc(s)	1 pc(s)	1 pc(s)



With DEHNgrip conductor holder

For installation e.g. in concrete base (Part No. 102 075) Loose conductor leading.

Part No.	106 160
Conductor holder support Rd	8 mm
Material of conductor holder	StSt
Length (l1)	675 mm
Insulating distance (l2)	590 mm
Permanent temperature range	-50 °C ... +100 °C
Max. gust wind speed (base 8.5 kg, holder distance 1100 mm, Al Ø8 mm)	102 km/h
Max. gust wind speed (base 17 kg, holder distance 1100 mm, Al Ø8 mm)	175 km/h
PU	1 pc(s)



**With MMV Clamp**

For crossing points, on installation in concrete base (Part No. 102 075), fixed conductor leading.

Part No.	106 150
Conductor holder support Rd	6-10 mm
Material of conductor holder	StSt
Length (l1)	675 mm
Insulating distance (l2)	590 mm
Permanent temperature range	-50 °C ... +100 °C
Max. gust wind speed (base 8.5 kg, holder distance 1100 mm, Al Ø10 mm)	94 km/h
Max. gust wind speed (base 17 kg, holder distance 1100 mm, Al Ø10 mm)	162 km/h
PU	1 pc(s)

Design with other lengths of spacer bar upon request.

Accessories for DEHNiso Spacers**Spacer Bar**

For cutting to length.

Part No.	106 125
Material	GRP
Permanent temperature range	-50 °C ... +100 °C
Colour of spacer bar	light grey (RAL 7035) ●
Diameter Ø	16 mm
Total length	3000 mm
PU	10 pc(s)

Fixing Bush

For variable fixing of conductor and rod holders at a spacer bar (Ø16 mm) with female thread M8.

Part No.	106 126
Material	ZDC
Female thread	M8
Diameter Ø	23 mm
PU	20 pc(s)

Fixing Plate

Base plate for fixing the spacer or the spacer bar (Ø16 mm) e.g. at construction components.

Part No.	106 127
Material of fixing plate	StSt
Material of fixing bush	ZDC
Fixing	[8x] Ø5,1 / [4x] 7 x 10 / [2x] 11 x 20 mm
Dimension	170 x 40 x 3 mm
PU	20 pc(s)

Conductor Holder with Fixing Bush

For fixing the conductor at the GRP bar.

Part No.	106 128
Material of conductor holder	StSt
Conductor holder support Rd	7-10 mm
Conductor leading	fixed
PU	20 pc(s)

Rod Holder with Fixing Bush

For fastening the air-termination rod at the GRP bar.

Part No.	106 129
Material of conductor holder	StSt
Conductor holder support Rd	16 mm
Conductor leading	fixed
PU	20 pc(s)

Accessories for DEHNiso Spacers

Spacers with Conductor Holder

For fixing conductors at different supports, fixed conductor leading.

Part No.	106 165	106 170	106 175
Conductor holder support Rd	7-10 mm	7-10 mm	7-10 mm
Material of conductor holder	StSt	StSt	StSt
Length (l1)	515 mm	675 mm	1015 mm
Insulating clearance (l2)	435 mm	595 mm	935 mm
Max. speed of wind gusts (holder spacing 1.000 mm, Al Ø10 mm)	224 km/h	184 km/h	137 km/h
PU	1 pc(s)	1 pc(s)	1 pc(s)



Spacers with Rod Holder

For fastening air-termination rods at different supports, fixed conductor leading.

Part No.	106 178	106 180	106 185
Conductor holder support Rd	16 mm	16 mm	16 mm
Material of conductor holder	StSt	StSt	StSt
Length (l1)	515 mm	675 mm	1015 mm
Max. gust wind speed mounting variant 1	130 km/h	125 km/h	120 km/h
PU	1 pc(s)	1 pc(s)	1 pc(s)



Fixing Bolt

With thread M10, nut, toothed lock washer and screw as spacer bar support.

Part No.	106 301	106 309
Material of bolt	Al	StSt
Clamping range Rd	16 mm	16 mm
PU	20 pc(s)	20 pc(s)



Fixing Bracket

With fixing bolt (Al) for spacer bar (Ø16 mm).

Part No.	106 311
Material	StSt
Angle	90°
Fixing	[4x] Ø5.1 / [2x] Ø6.5 / [2x] 11 x 20 mm
PU	20 pc(s)



Fixing Bracket

For DEHNiso spacer, with bore Ø11 mm.

Part No.	106 310
Material	StSt
Angle	90°
Fixing	[4x] Ø5.1 / [2x] Ø6.5 / [2x] 11 x 20 mm
Dimension	110 x 60 x 30 mm
PU	20 pc(s)



Fixing Bracket

For DEHNiso spacer, with bore Ø11 mm.

Part No.	106 315
Material	StSt
Angle	45°
Fixing	[4x] Ø5.1 / [2x] Ø6.5 / [2x] 11 x 20 mm
Dimension	104 x 54 x 30 mm
PU	20 pc(s)



Corner Bracket

With fixing bolt (Al) for spacer bar (Ø16 mm).

Part No.	106 316
Material	StSt
Angle	90°
Fixing	[8x] Ø5.1 / [4x] Ø6.5 / [4x] 11x20 mm
Dimension	132 x 155 x 30 mm
PU	20 pc(s)



**Pipe Clamp**

With fixing bush for spacer (Ø16 mm) for pipes up to Ø60 mm.

Part No.	106 352
Material of clamp	StSt
Clamping range of pipe Ø	40-60 mm (1 1/4-2")
Material of bush	ZDC
PU	10 pc(s)

**Pipe Clamp**

With fixing bush for spacer (Ø16 mm) for pipes up to Ø90 mm.

Part No.	106 353
Material of clamp	StSt
Clamping range of pipe Ø	70-90 mm (2 1/4-3")
Material of bush	ZDC
PU	10 pc(s)

**Railing Clamp**

For square hollow profiles with bush for spacer bar (Ø16 mm).

Part No.	106 312
Material	ZDC / StSt
Clamping range of square profile	20 x 20 bis 50 x 50 mm
PU	5 pc(s)

Clip for Fixing Spacers at Pipes

Fixing by tensioning straps up to 30 mm
(e.g. tensioning strap 25 x 0.3 mm with grip head Part No. 106 323) with fixing bolt for spacer bar (Ø16 mm).



Part No.	106 321
Material of clip	StSt
Material of bolt	Al
Width of slot (l x w)	32 x 6 mm
Fixing	[2x] Ø11 mm
PU	10 pc(s)

Attachment with Fixing Bush

For fixing spacers (Ø16 mm) at pipes e.g. with pipe clamp Part No. 106 323.



Part No.	106 322
Material	StSt
Width of slot (l x w)	26 x 6 mm
Clamping range Rd	16 mm
PU	10 pc(s)

Pipe Clamp

For fixing (tensioning) of conductor holders (e.g. 275 359) at different pipes.



Part No.	106 323
Material of head / strap	StSt
Clamping range Ø	50-300 mm
Dimension of strap	1100 x 25 x 0.3 mm
Material of screw	StSt
PU	10 pc(s)

Clip

Clip for fastening at pipes by tensioning strap Part No. 540 901 (25 x 0.3 mm) combined with grip head Part No. 106 324, with square hole, suits for screws M8.



Part No.	106 320
Material	StSt
Clamping range of tube Ø	approx. 50-300 mm
PU	20 pc(s)

Accessories for DEHNiso Spacers

Separate Grip Head

For combination with endless tensioning strap (Part No. 540 901) in case of larger pipe diameters, e.g. for adapter with fixing bush.

Part No.	106 324
Material of head	StSt
For strap (w x d)	25 x 0.3 mm
Screw	M8 x 20 mm
Material of screw	StSt
PU	20 pc(s)



Tensioning Strap

Part No.	540 901
Material	StSt
Strap dimension (w x d)	25 x 0.3 mm
Length	100 m
PU	1 pc(s)



Adapter for Angled Support

For air-termination rods (Ø16 mm) with 2 fixing bolts for spacer bar (Ø16 mm).

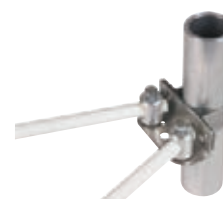
Part No.	106 325
Material	StSt
Clamping range Rd	16 / 16 mm
PU	10 pc(s)



Adapter for Angled Support

For supporting tubes DEHNiso Combi (Ø50 mm) with 2 fixing bolts for spacer bar (Ø16 mm).

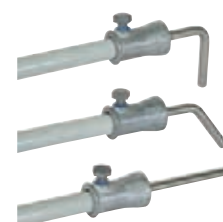
Part No.	106 326
Material	StSt
Clamping range Rd	50 / 16 mm
PU	10 pc(s)



Fixing Adapter

For saddle and connection clamps.

Part No.	106 340	106 341	106 342
Material of bar	StSt	StSt	StSt
Bar Ø	8 mm	8 mm	8 mm
Angle	0°	90°	130°
Material of bush	ZDC	ZDC	ZDC
PU	20 pc(s)	20 pc(s)	20 pc(s)



MV Clamp

Especially for the fixing of air-termination rods at the spacer bar without fixing bush.

Part No.	393 069
Material	StSt
Conductor holder support Rd	16 / 16 mm
Conductor leading	fixed
PU	50 pc(s)



Connection Clamp with Fixing Bolt

For fixing of spacers (Ø16 mm) e.g. at steel girders.

Part No.	106 319
Clamping range	3-18 mm
Clamping range Rd	16 mm
Material of fixing bolt	Al
Connection with	fixing bolt
PU	25 pc(s)



Air-termination Rods GRP/Al

For implementing isolated air-termination systems e.g. on flat roofs, installed on wedge mounting concrete base.

Material factor $k_m = 0.7$ is used to determine the separation distance (length of spacer bar).
Diameter 16 mm, UV stabilised, light grey colour, permanent temperature range -50 to +100 °C.

Crimped

Part No.	106 207	106 210
Total length (l1)	1660 mm	2000 mm
Insulating distance (l2)	635 mm	975 mm
Material of air-termination rod / bush	Al	Al
Max. gust wind speed (1x base 17 kg, holder distance 1100 mm, Al Ø10 mm)	112 km/h	—
Max. gust wind speed (2x base 17 kg, holder distance 1100 mm, Al Ø10 mm)	126 km/h	102 km/h
PU	10 pc(s)	10 pc(s)

Variable with thread M10

e.g. for air-termination rod Part No. 101 001, air-termination rod with MV clamp Part No. 105 071 (for crossings) or MV clamp for spanning Part No. 105 079.

Part No.	106 217	106 220
Total length (l1)	675 mm	1015 mm
Insulating distance (l2)	635 mm	975 mm
Material of air-termination rod / bush	Al	Al
PU	10 pc(s)	10 pc(s)

Accessories for Air-termination Rods GRP/Al

Air-termination Rod with Lock Nut

For screwing in.

Part No.	101 001
Material	StSt
Diameter Ø	10 mm
Length	1000 mm
Thread	M10
Standard	EN 62561-2
PU	1 pc(s)

Air-termination Rod with MV Clamp

For screwing in.

Part No.	105 071
Material of air-termination spike	StSt
Air-termination rod (l x Ø)	1000 x 10 mm
Clamping range Rd	8-10 mm
Standard	EN 62561-(1+2)
PU	1 pc(s)

MV Clamp for Spanning

For screwing in.

Part No.	105 079
Material	StSt
Clamping range Rd	8-10 mm
Standard	EN 62561-1
PU	1 pc(s)



DEHNiso Roof Conductor Holders

Variable range of supports for keeping the separation distance when installing conductors on flat roofs.
 Spacer bar made of glass-fibre reinforced plastic (GRP) Ø10 mm, UV stabilised, light grey colour.
 Spacer with concrete block and support plate for conductor Rd 8 mm.

Spacer with concrete block and support plate, loose conductor leading.

Part No.	253 115	253 125
Material of roof conductor holder	plastic / GRP	plastic / GRP
Length (l1)	295 mm	435 mm
Insulating clearance	220 mm	360 mm
Total weight	approx. 4.8 kg	approx. 4.8 kg
Permanent temperature range	-30 °C ... +80 °C	-30 °C ... +80 °C
Max. gust wind speed (holder distance 1200 mm, Al Ø8 mm)	179 km/h	142 km/h
PU	24 pc(s)	24 pc(s)



Accessories for DEHNiso Roof Conductor Holders

Spacer Bars with Conductor Holder

For insertion into the base plate (lock bush) stabilised with concrete block. For elevated conductor leading, loose conductor leading.

Part No.	253 315	253 325
Material of conductor holder	plastic	plastic
Length (l1)	280 mm	420 mm
Insulating clearance	220 mm	360 mm
Permanent temperature range	-30 °C ... +80 °C	-30 °C ... +80 °C
PU	24 pc(s)	24 pc(s)



Conductor Holder with Lock Bush

For conductor fixing at the GRP bar.

Part No.	253 302
Material	plastic
Colour	grey ●
Conductor holder support Rd	8 mm
Permanent temperature range	-30 °C ... +80 °C
PU	24 pc(s)



Spacer Bar for DEHNiso Roof Conductor Holders

For cutting to length.

Part No.	253 310
Material	GRP
Colour	light grey (RAL 7035) ●
Diameter Ø	10 mm
Length	3000 mm
Permanent temperature range	-30 °C ... +80 °C
PU	10 pc(s)



Concrete Block

For stabilising the support plate.

Part No.	253 301
Material	concrete (C35/45)
Weight	4.6 kg
Dimension	180 x 180 x 70 mm
PU	24 pc(s)



Support Plate

Support plate with adapter (lock bush) for the spacer bar (Part No. 253 315, 253 325) as well as conductor holder (Part No. 253 289) and for protection of the roofing sheets under the concrete block (Part No. 253 301).

Part No.	253 300
Diameter Ø	300 mm
Diameter Ø of socket	10 mm
Height	60 mm
Material	plastic
Colour	grey ●
PU	24 pc(s)





DEHNiso Combi Sets

Components for separated air-termination systems (isolated).
For protecting roof-mounted structures, e.g. air-conditioning systems, recooling systems etc.
For keeping the separation distance to electrically conductive parts according to IEC/EN 62305-3.
Material factor $k_m = 0.7$ is applied to determine the separation distance (length of spacer bar).

One-piece, total height 4200 mm

Consisting of:
1x air-termination rod StSt, L = 1000 mm (Part No. 105 071)
1x supporting tube GRP/Al, L = 3200 mm (Part No. 105 300)
2x wall fixing bracket StSt (Part No. 105 340)
1x spacer GRP/Al, L = 1030 mm (Part No. 106 331)

Part No.	105 440
Total length	4200 mm
Quantity of fixing brackets	2
Length of supporting tube	3200 mm
Max. free length with air-termination rod 2500 / 1000 mm	3500 mm
Max. gust wind speed	134 km/h
Material of supporting tube	GRP / Al
PU	1 pc(s)

One-piece, total height 5700 mm

Consisting of:
1x air-termination rod StSt, L = 1000 mm (Part No. 105 071)
1x supporting tube GRP/Al, L = 4700 mm (Part No. 105 301)
3x wall fixing bracket StSt (Part No. 105 340)
2x spacer GRP/Al, L = 1030 mm (Part No. 106 331)

Part No.	105 455
Total length	5700 mm
Quantity of fixing brackets	3
Length of supporting tube	4700 mm
Max. free length with air-termination rod 3000 / 1000 mm	4000 mm
Max. gust wind speed	130 km/h
Material of supporting tube	GRP / Al
PU	1 pc(s)

Two-piece, total height 7200 mm

(transport length 3200 mm)

Consisting of:
1x air-termination rod StSt, L = 1000 mm (Part No. 105 071)
1x supporting tube GRP/Al, L = 6200 mm (Part No. 105 302)
3x wall fixing bracket StSt (Part No. 105 340)
3x spacer GRP/Al, L = 1030 mm (Part No. 106 331)

Part No.	105 470
Total length	7200 mm
Quantity of fixing brackets	3
Length of supporting tube	6200 mm
Max. free length with air-termination rod 3000 / 1000 mm	4000 mm
Max. gust wind speed	130 km/h
Material of supporting tube	GRP / Al
PU	1 pc(s)

Accessories for DEHNiso Combi Sets

Air-termination Rod with MV Clamp

For screwing into the supporting tube head and for fixing the air-termination conductors (wires or cables).
With thread M10.

Part No.	105 071
Material of air-termination rod	StSt
Air-termination rod (l x Ø)	1000 x 10 mm
Clamping range Rd	8-10 mm
Thread	M10
Standard	EN 62561-(1+2)
PU	1 pc(s)



MV Clamp for Spanning

For screwing into the supporting tube head with screw M10 in order to support cable spanning.

Part No.	105 079
Material	StSt
Clamping range Rd	8-10 mm
Standard	EN 62561-1
PU	1 pc(s)

**Supporting Tubes GRP / Al**

For separated (insulated) installation of air-termination systems with female thread for air-termination rod or MV clamp for elevated spanning. Also for use to fasten the HVI Conductor. One-piece.

Part No.	105 300	105 301
Material of supporting tube	GRP / Al	GRP / Al
Length of supporting tube (l1)	3200 mm	4700 mm
Diameter Ø outside	50 mm	50 mm
Transport length	3200 mm	4700 mm
Length of insulating clearance	1535 mm	1535 mm
Permanent temperature range	-50 °C ... +100 °C	-50 °C ... +100 °C
PU	1 pc(s)	1 pc(s)

Two-piece.

Part No.	105 302
Material of supporting tube	GRP / Al
Length of supporting tube	6200 mm
Diameter Ø outside	50 mm
Transport length	3200 / 3000 mm
Length of insulating clearance	1535 mm
Permanent temperature range	-50 °C ... +100 °C
PU	1 pc(s)

One-piece, combined with air-termination rod Ø16 / 10 mm, Al, length 2500 mm.

Part No.	105 306
Material of supporting tube	GRP / Al
Length of supporting tube	3200 mm
Diameter Ø outside	50 mm
Transport length	3200 mm
Length of insulating clearance	1535 mm
Permanent temperature range	-50 °C ... +100 °C
PU	1 pc(s)

Fixing Bracket

For fixing the supporting tubes at the structure to be protected or on the wall.

Part No.	105 340
Material	StSt
Clamping range of supporting tube	50 mm
Wall / corner distance	80 mm
Dimension of fixing	320 mm
Fixing	[8x] Ø5.1 / [4x] 11 x 20 mm
PU	1 pc(s)

**Fixing Bracket**

For fixing the supporting tubes at the structure to be protected or on the wall.

Part No.	105 341
Material	StSt
Clamping range of supporting tube	50 mm
Wall / corner distance	80 mm
Dimension of fixing	152 mm
Fixing	[8x] Ø5.1 / [4x] 11 x 20 mm
PU	1 pc(s)



Accessories for DEHNiso Combi Sets

Fixing Bracket

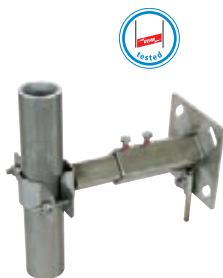
Wall mounting bracket for vertical mounting.
For fastening of the supporting tubes or air-termination rods D40 / D50.



Part No.	105 342
Material of bracket	StSt
Fixing	[8x] Ø5.1 / [4x] 7 x 10 / [2x] 11 x 20 mm
Clamping range of supporting tube	40-50 mm
Wall / corner distance	46 mm
Dimension of fixing	170 mm
PU	1 pc(s)

Fixing Bracket

Wall mounting bracket with adjustment range between 150-200 mm.
For fastening of supporting tubes or air-termination rods D40 / D50 with double cleat for connection of 2x Rd 8-10 mm.



Part No.	105 344
Material of bracket	StSt
Clamping range of supporting tube	40-50 mm
Wall / corner distance	150-200 mm
Dimension of plate	120 x 120 x 4 mm
Fixing	[4x] 12 x 26 mm
Standard	EN 62561-1
PU	1 pc(s)

Fixing Bracket

Wall mounting bracket with adjustment range between 400-700 mm.
For fastening of the supporting tubes or air-termination rods D40 / D50.



Part No.	105 343
Material of bracket	St/tZn / StSt
Clamping range of supporting tube	40-50 mm
Wall / corner distance	400-700 mm
Dimension of plate	120 x 120 x 4 mm
Fixing	[4x] 12 x 25 mm
PU	1 pc(s)

Fixing Clamp with Tensioning Strap

For fixing the supporting tubes at construction elements e.g. antenna masts.



Part No.	105 360
Material of clip	StSt
Clamping range of supporting tube	50 mm
Clamping range of pipe Ø	50-300 mm
Material of tensioning strap	StSt
Dimension of strap (w x d)	25 x 0.3 mm
PU	1 pc(s)

Fixing Clamp with Tensioning Strap

With additional spacer for adjusting the fasteners of sector antennas at the mast.



Part No.	105 361
Material of clip	StSt
Clamping range of supporting tube	50 mm
Clamping range of pipe Ø	50-300 mm
Material of tensioning strap	StSt
Dimension of strap (w x d)	25 x 0.3 mm
Length of spacer	30 mm
PU	1 pc(s)

Accessories for DEHNiso Combi Sets

Fixing Clamp with Tensioning Strap

With additional long spacer for adjusting the fasteners of sector antennas at the mast.

Part No.	105 362
Material of clip	StSt
Clamping range of supporting tube	50 mm
Clamping range of pipe Ø	50-300 mm
Material of tensioning strap	StSt
Dimension of strap (w x d)	25 x 0.3 mm
Length of spacer	95 mm
PU	1 pc(s)



Railing Clamp

For pipes.

Part No.	105 354
Material	StSt
Clamping range of pipe Ø	48-60 mm (1 1/2-2")
Clamping range of supporting tube	40-50 mm
PU	5 pc(s)



Railing Clamp

With spacer for adjusting e.g. the antenna fastener.

Part No.	105 162 <small>NEW</small>
Material	StSt
Clamping range of pipe Ø	45-65 mm (1 1/2-2")
Clamping range of supporting tube	40-50 mm
Length of spacer	95 mm
PU	1 pc(s)



Railing Clamp

For pipes.

Part No.	105 355
Material	StSt
Clamping range of pipe Ø	70-90 mm (2 1/4-3")
Clamping range of supporting tube	40-50 mm
PU	5 pc(s)



Railing Clamps

For square hollow profiles.

Part No.	105 356	105 376
Material	StSt	StSt
Clamping range of square profile	20 x 20 bis 50 x 50 mm	60 x 120 mm
Clamping range of supporting tube	40-50 mm	40-50 mm
PU	5 pc(s)	5 pc(s)



Pipe Clamp

With fixing bush for spacer (Ø16 mm) for pipes up to Ø60 mm.

Part No.	106 352
Material of clamp	StSt
Clamping range of pipe Ø	40-60 mm (1 1/4-2")
Material of bush	ZDC
PU	10 pc(s)



Pipe Clamp

With fixing bush for spacer (Ø16 mm) for pipes up to Ø90 mm.

Part No.	106 353
Material of clamp	StSt
Clamping range of pipe Ø	70-90 mm (2 1/4-3")
Material of bush	ZDC
PU	10 pc(s)



Accessories for DEHNiso Combi Sets

**Railing Clamp**

For square hollow profiles with bush for spacer bar (Ø16 mm).

Part No.	106 312
Material	ZDC / StSt
Clamping range of square profile	20 x 20 bis 50 x 50 mm
PU	5 pc(s)

Spacers for Supporting Tubes

For fixing of conductors at the supporting tube and for keeping the separation distance according to IEC/EN 62305.



Part No.	106 328	106 331
Material of spacer	GRP	GRP
Material of fixing element	StSt	StSt
Total length (l1)	690 mm	1030 mm
Insulating clearance (l2)	605 mm	945 mm
Permanent temperature range	-50 °C ... +100 °C	-50 °C ... +100 °C
PU	1 pc(s)	1 pc(s)

Tripod for DEHNiso Combi

For self-supporting erection of supporting tubes D50 mm or air-termination rods D40 mm with a length of 3200 mm (e.g. Part No. 105 300 or 105 440), without additional fixing at construction elements.

Adjustable to the roof inclination up to max. 10°.

Connection with double cleat for 2x Rd 8-10 mm [lightning current carrying capability 100 kA (10/350 µs)].

The stackable concrete base (Part No. 102 010) and the support plate (Part No. 102 050) have to be ordered separately.

Hinged for transport.



Part No.	105 200
Material of tripod	St/tZn
Support	40 / 50 mm
Quantity of concrete blocks	6 / 9 blocks 17 kg each
Radius	560 mm
Space required for tripod	1200 x 1330 mm
Standard	EN 62561-1
PU	1 pc(s)

Tripod D50

For erection of tripods D50 mm length 4.7-6.2 m (e.g. Part No. 105 455 or 105 470), without additional fixing at construction elements.

Adjustable to the roof inclination up to max. 10°.

Connection with double cleat for 2x Rd 8-10 mm [lightning current carrying capability 100 kA (10/350 µs)].

The stackable concrete base (Part No. 102 010) and the support plate (Part No. 102 050) have to be ordered separately.

Hinged for transport.

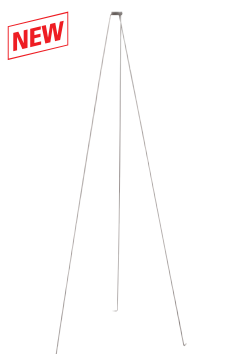


Part No.	105 201 ^{NEW}
Material of tripod	St/tZn
Support	50 mm
Quantity of concrete bases	3-12 blocks 17 kg each
Radius	1435 mm
Required space for tripod	2530 x 2850 mm
Standard	EN 62561-1
PU	1 pc(s)

Bracing

Bracing, 3-fold with clamp for tubes D 50 mm for fastening at the tripod (Part No. 105 201). Bracing suitable for supporting tubes with a length of 4700 mm (e.g. Part No. 105 332, 105 316, 105 333, 105 317).

Part No.	105 601 ^{NEW}
Material	StSt
Brace length	2910 mm
Ø clamp	50 mm
PU	1 pc(s)



Fixed Earthing Terminals



For installation into concrete as corrosion-free connection to the earth-termination system for protective equipotential bonding and / or functional equipotential bonding of the down conductor e.g. to the reinforcement of buildings. For the double thread M10 and M12 mind the following minimum lengths of the screws:

35 mm of M10 (thread length 40 mm)

15 mm of M12 (thread length 20 mm)

Type M

With connection axis (l = 180 mm, Ø10 mm).

Part No.	478 011	478 019
Connection thread	M10 / M12	M10 / M12
Material of plate	StSt (V4A)	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316	316Ti / 316L / 316
Material of axis	St/tZn	StSt
Connection plate Ø	80 mm	80 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	6.5 kA	3.9 kA
Standard	EN 62561-1	EN 62561-1
PU	10 pc(s)	10 pc(s)



Type M without connection axis

Part No.	478 012
Connection thread	M10 / M12
Material of plate	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316
Connection plate Ø	80 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	9.3 kA (with copper cable lug)
Standard	EN 62561-1
PU	10 pc(s)



Type M press-fitted

Terminal axis (l = 180 mm, Ø10 mm).

Part No.	478 041	478 049
Connection thread	M10 / M12	M10 / M12
Material of plate	StSt (V4A)	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316	316Ti / 316L / 316
Material of axis	St/tZn	StSt
Connection plate Ø	80 mm	80 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	3.7 kA	3.3 kA
Standard	EN 62561-1	EN 62561-1
PU	10 pc(s)	10 pc(s)



Part No. 478 049 with UL approval.

Type M press-fitted with additional water barrier

Against penetration of water along the axis into the wall (tested with 5 bar compressed air according to EN 62561-5 and 1 bar pressure water).

Part No.	478 051
Connection thread	M10 / M12
Material of plate	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316
Material of axis	St/tZn
Connection plate Ø	80 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	3.7 kA
Material of water barrier	PVC
Standard	EN 62561-1
PU	1 pc(s)





Type M with MV clamp

For round conductors 8-10 mm, only needs little space in the shuttering.

Part No.	478 112
Connection thread	M10 / M12
Material of plate	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316
Connection plate Ø	80 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	9.3 kA
Standard	EN 62561-1
PU	10 pc(s)

Type K

With plastic ring and terminal axis (l = 180 mm, Ø10 mm).

Part No.	478 200
Connection thread	M10 / M12
Material of plate	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316
Material of axis	St/tZn
Connection plate Ø	46 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	6.5 kA
Standard	EN 62561-1
PU	10 pc(s)



Fixed Earthing Terminal M16

With connection thread M16 for higher current loadings (50 Hz), e.g. for connecting the ring equipotential bonding system with the earth-termination systems of power installation with nominal a.c. voltages over 1 kV (transformer earthing).

Part No.	478 027
Connection thread	M16
Material of plate	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316
Material of cable	Cu/gal Sn
Cross section of connecting cable	70 mm ²
Length of connecting cable	400 mm
Diameter Ø connecting cable	10.5 mm
Connection plate Ø	80 mm
Standard	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	11 kA
PU	1 pc(s)



Connecting Clamps for Fixed Earthing Terminals and Reinforcement

For connecting the reinforcement with clamping frame. For round conductors or fixed earthing terminals and concurrent fixing in the formwork. Arrangement: (II) = parallel (+) = cross

For small diameters

Part No.	308 035
Material	St/bare
Clamping range Rd / Rd	(+//) 6-22 / 6-10 mm
Clamping range Rd / Fl	(+) 6-22 / 40 mm
Screw	✚ M10 x 60 mm
Standard	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	1.0 kA
PU	25 pc(s)



U-clamp for large diameters

Part No.	308 046
Material	St/bare
Clamping range Rd / Rd	(+//) 16-48 / 6-10 mm
Clamping range Rd / Fl	(II) 16-48 / 30-40 mm
Screw	stirrup bolt M10 x 48 mm
Standard	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	6.5 kA
PU	25 pc(s)

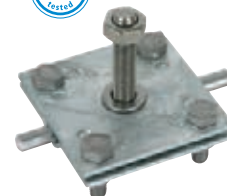


Connection Clamps with Threaded Bolt

For connection of round and flat conductors to fixed earthing terminals with thread M10 / M12 (e.g. Part Nos. 478 011, 478 200). Clamps with thread M10 are also suitable for installation on the back side of the fixed earthing terminal (without connection axis) e.g. to connect flat strip.

Heavy design M10

Part No.	478 141
Material of clamp	St/tZn
Clamping range Rd / FI	7-10 / 30-40 mm
Dimension	70 x 70 x 3 mm
Standard	EN 62561-1
PU	10 pc(s)



Light design M10

Part No.	478 129
Material of clamp	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316
Clamping range Rd / FI	8-10 / 30 mm
Dimension	58 x 30 x 2.5 mm
Standard	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	2.7 kA
PU	10 pc(s)



Heavy design M12

Part No.	478 149
Material of clamp	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316
Clamping range Rd / FI	7-10 / 30-40 mm
Dimension	70 x 70 x 3 mm
Standard	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	3.3 kA
PU	10 pc(s)



Threaded Adapter

For connection to fixed earthing terminals with thread M10, lock nut and spring washer, for use in case of perimeter insulation or thermal insulation composite systems.

Part No.	478 699
Material	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316
Female thread	M10 x 25 mm
Male thread	M10 x 80 mm
Total length	130 mm
Standard	EN 62561-1
PU	10 pc(s)



End Pieces

For screwing to the fixed earthing terminal to connect e.g. an equipotential bonding bar or construction elements such as steel girders etc.

Basic design

Universally usable for connections M10 and M12, e.g. at the fixed earthing terminal.

For connection of Rd e.g. with KS connector (Part No. 301 019), or for connection of FI with screws and nuts M10 or M12.



Part No.	390 499
Material	StSt
Bore Ø	10.5 / 12.5 mm
PU	50 pc(s)

Design with square holes

Dimension 11 x 11 mm, for connection of Rd e.g. with KS connector (Part No. 301 019) or for connection of FI with screws and nuts M10.



Part No.	390 479
Material	StSt
Distance of bores	30 mm
Bore Ø	13 mm
PU	50 pc(s)

Design with bores and KS connector

With bores Ø11 mm.



Part No.	363 010
Material	St/tZn
Distance of bores	22 mm
Bore Ø	11 mm
Clamping range Rd	7-10 mm
Standard	EN 62561-1
PU	50 pc(s)

Design with bores

With bores Ø11 mm.



Part No.	363 000
Material	St/tZn
Distance of bores	22 mm
Bore Ø	11 mm
PU	50 pc(s)

Connecting Clamps for Reinforcements

In accordance with the German standard DIN 18014: 2014-03 Fundamente – Planung, Ausführung und Dokumentation (Title English: Foundation earth electrode - Planning, execution and documentation), foundation earth electrodes have to be connected every two meters with the foundation plate. Among the various connection possibilities the clamping connection has turned out to be the most economic, as it can be realised fast and easily on site.

Among others also reinforcing steels shall be used as natural components of the down conductor system according to the current lightning protection standards. In the following a survey of the nominal and outer diameters as well as cross sections of the reinforcing steels DIN EN 10080: 2005.

For connecting concrete reinforcing mats or reinforcements with round and flat conductors.

Arrangement: (II) = parallel (+) = cross



The outer diameter including corrugation is approx. $d_A = 1.15 \times d_s$.

Nominal diameter d_s (mm)	6	8	10	12	14	16	20	25	28	32	40
Average outer diameter incl. corrugation d_A (mm)	7.1	9.4	11.8	14.2	16.5	18.9	23.6	29.5	33.1	37.8	47.2
Nominal cross section (mm ²)	28.3	50.3	78.5	113.1	154	201	314	491	616	804	1257

For T, cross and parallel connections

Part No.	308 025
Material	St/tZn
Clamping range Rd / Rd	(+) 6-10 / 6-10 mm
Clamping range Rd / FI	(+) 6-10 / 30 mm
Clamping range FI / FI	(II) 30 / 30 mm
Screw	● M10 x 25 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	9 kA
Standard	EN 62561-1
PU	50 pc(s)



For T, cross and parallel connections

Part No.	308 026
Material	St/tZn
Clamping range Rd / FI	(+) 6-10 / 30 mm
Clamping range FI / FI	(+ / II) 30 / 30 mm
Screw	● M10 x 25 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	13 kA
Standard	EN 62561-1
PU	25 pc(s)



For T and cross connections

Part No.	308 030
Material	St/bare
Clamping range Rd / FI	(+) 6-22 / 40 mm
Screw	● M10 x 40 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	1.0 kA
Standard	EN 62561-1
PU	25 pc(s)





For T, cross and parallel connections with clamping frame

For flexible connection of round conductors or for fixed earthing terminals and simultaneous fixing in the formwork.

Part No.	308 035
Material	St/bare
Clamping range Rd / Rd	(+//II) 6-22 / 6-10 mm
Clamping range Rd / Fl	(+) 6-22 / 40 mm
Screw	● M10 x 60 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	1.0 kA
Standard	EN 62561-1
PU	25 pc(s)



U-bolt clamp for large diameters

Part No.	308 045
Material	St/bare
Clamping range Rd / Rd	(II) 16-48 / 6-10 mm
Clamping range Rd / Fl	(II) 16-48 / 30-40 mm
Screw	stirrup bolt M10 x 48 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	16 kA
Standard	EN 62561-1
PU	25 pc(s)



U-bolt clamp for large diameters with two additional clamping frames

For cross connections of round conductors (6-10 mm) or for the fixing and simultaneous connection of fixed earthing terminals.

Part No.	308 046
Material	St/bare
Clamping range Rd / Rd	(+//II) 16-48 / 6-10 mm
Clamping range Rd / Fl	(II) 16-48 / 30-40 mm
Screw	stirrup bolt M10 x 48 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	11 kA
Standard	EN 62561-1
PU	25 pc(s)



MAXI MV clamps

For T, cross and parallel connections.

Part No.	308 041	308 040
Material	St/tZn	St/bare
Clamping range Rd / Rd	(+//II) 8-16 / 15-25 mm	(+//II) 8-16 / 15-25 mm
Screw	● M12 x 65 mm	● M12 x 65 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	6.2 kA	10.2 kA
Standard	EN 62561-1	EN 62561-1
UL certification	—	UL467B
Stock No.	5999-12-362-1557	—
PU	20 pc(s)	20 pc(s)

Connecting Clamps for Foundation Earth Electrodes

For connecting round and flat conductors in the concrete foundation.
For T, cross and parallel connections, no need of threading the conductors.



Arrangement:
(II) = parallel
(+) = crosswise

Part No.	308 120	308 129
Material	St/tZn	StSt
Clamping range Rd / Fl	(+) 10 / 30 mm	(+) 10 / 30 mm
Clamping range Fl / Fl	(+//II) 30 / 30 mm	(+//II) 30 / 30 mm
Standard	EN 62561-1	EN 62561-1
PU	25 pc(s)	25 pc(s)

Connecting Clamps for Foundation Earth Electrodes and Reinforcements

For connecting round and flat conductors in the concrete foundation or the concrete reinforcing mats and the reinforcements with round and flat conductors.

Arrangement: (II) = parallel (+) = cross

Connecting clamp with thrust bracket

For T, cross and parallel connections.

Part No.	308 031
Material	St/bare
Clamping range Rd / Rd	(+//II) 6-20 / 6-10 mm
Clamping range Rd / Fl	(+//II) 6-20 / 30 x 3-4 mm
Clamping range Fl / Fl	(+//II) 30 x 3-4 / 30 x 3-4 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	8.4 kA
Standard	EN 62561-1
PU	25 pc(s)



Connecting clamp MAXI with thrust bracket

For T, cross and parallel connections.

Part No.	308 036
Material	St/bare
Clamping range Rd / Rd	(+//II) 20-32 / 6-10 mm
Clamping range Rd / Fl	(+//II) 20-32 / 40 x 4-5 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	14.0 kA
Standard	EN 62561-1
PU	25 pc(s)



Connecting clamp without thrust bracket

For cross connections.

Part No.	308 032
Material	St/bare
Clamping range Rd / Fl	(+) 6-20 / 30 x 3-4 mm
Clamping range Fl / Fl	(+) 30 x 3-4 / 30 x 3-4 mm
Standard	EN 62561-1
PU	25 pc(s)



Connecting clamp MAXI without thrust bracket

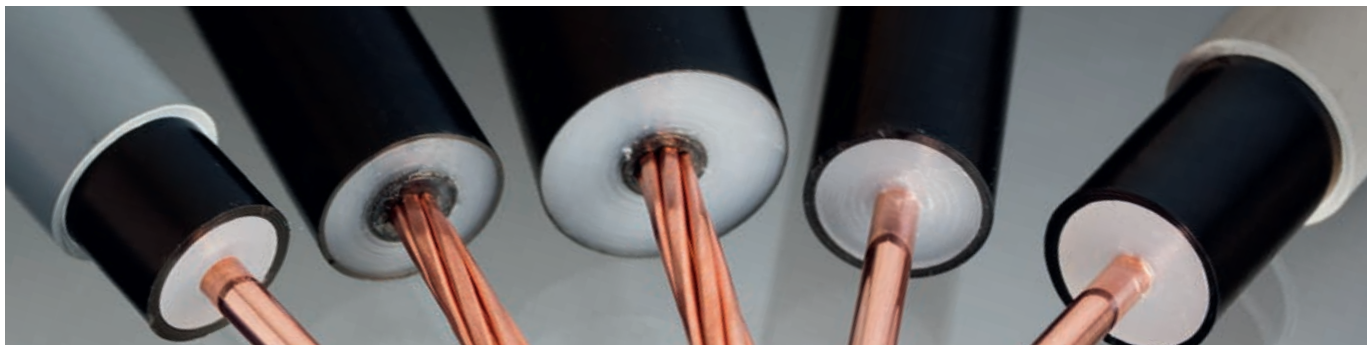
For cross connections.

Part No.	308 037
Material	St/bare
Clamping range Rd / Fl	(+) 20-32 / 30 x 3-40 x 5 mm
Standard	EN 62561-1
PU	25 pc(s)





DEHN protects.



High-voltage-resistant, insulated HVI® Conductor: Innovation in lightning protection

For preventing dangerous flashover between components of the external lightning protection system and conductive internal system components (electric lines, pipes, etc.) keeping the **separation distance s** is a crucial factor when designing and realising a lightning protection system.

Unique design

When using conventional lightning protection systems, it is often not possible to maintain the necessary separation distances. This is no problem with the **HVI®Conductor** thanks to its unique design and special sheath. The lightning current carrying conductor of the **HVI®Conductor** is wrapped with insulating material in such a way that the required separation distance from other conductive parts of the building, electric lines and pipes is maintained. The coaxial conductor consists of an inner copper conductor with a high-voltage-resistant thick-walled insulation and a weather-resistant semi-conductive special outer sheath.

Feature of the HVI®Conductor

High pulse voltages cause flashover on the surface of insulating material if no additional measures are taken. This effect is also referred to as creeping flashover. If the creeping discharge inception voltage is exceeded, a surface discharge is initiated which can easily flash over a distance of several meters. To prevent creeping discharges, the **HVI®Conductor** features a special outer sheath which allows to discharge high lightning impulse voltages to a reference potential. For functional reasons, a connection is established between the semi-conductive outer sheath and the equipotential bonding system of the building (no lightning voltage) in the sealing end range. This connection to the functional equipotential bonding system can be made e.g. on earthed metal roof-mounted structures located in the protected zone of the lightning protection system, earthed parts of the building's structure that do not carry lightning voltage or the protective conductor of the low-voltage system.

Types of the HVI®Conductor

In 2003, DEHN launched an innovation in external lightning protection, the high-voltage-resistant, insulated **HVI®Conductor**. Since then, thousands of buildings and installations have been successfully equipped with **HVI®Lightning Protection**.

This high number of installed **HVI®Conductors** and intensive development work gave us an experience advantage which is reflected in the variety of **HVI®Conductor** types which meet the different requirements that are posed on lightning protection systems.

The application range has been gradually expanded by **HVI®light**, **HVI®long**, **HVI®power**, **HVI®power long** and **DEHNcon-H**, which is available as pre-assembled set. Thus, **HVI®Conductors** can be used for an **extremely wide** range of application.

The separation distance is crucial

The following overview makes it easier to select the right **HVI®Conductor**. The criterion for this selection is the **separation distance s** .

The IEC 62305-3 standard requires that a defined separation distance has to be kept as a minimum distance between the lightning protection system and electrically conductive materials. This prevents dangerous flashover and thus sparking, ensuring that lightning currents are reliably conducted to the earth-termination system. The high-voltage-resistant, insulated down conductors from DEHN provide an equivalent separation distance and thus meet the normative requirements.

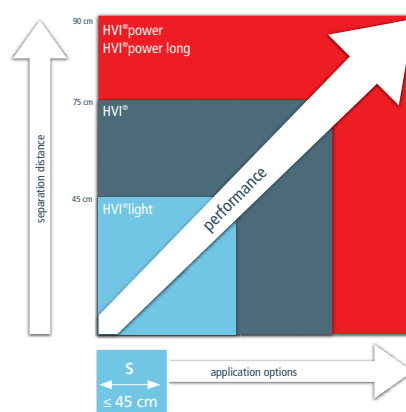
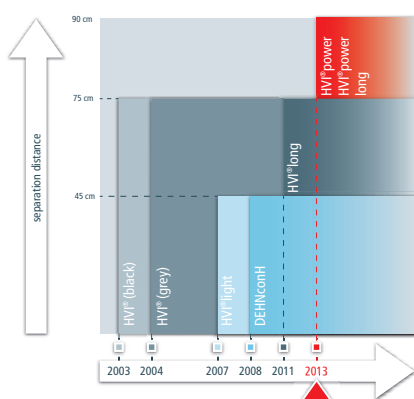
The separation distance can be calculated automatically by means of the **DEHNsupport Toolbox** software.

Types of the HVI®Conductor

Three types of the **HVI®Conductor** are available:

- **HVI®light**, **DEHNcon-H**
- **HVI®Conductor**, **HVI®long** Conductor
- **HVI®power**, **HVI®power long** Conductor

The **HVI®Conductor** types are different in strength and characteristics requiring individual installation specifications. In addition there are black and grey conductors within the HVI Conductor product line. With the additional grey sheath the **HVI®Conductor** installed at buildings has an improved aesthetic appearance.



HVI® Conductor in the self-supporting tube – dimensioned according to Eurocode 1


In addition to the material of the supporting tube with inside / outside installed HVI Conductor a sufficient stability is a crucial factor when choosing self-supporting air-termination systems. The area exposed to wind is larger with the HVI Conductors installed outside of the supporting tube, thus the standing surface and the necessary base weight has to be considered accordingly.



The speed of wind gusts is determined by means of the following parameters:



- Wind zone (I-V)
- Terrain category
- Object height
- Location altitude above sea level (standard up to 800 m above sea level)

The table lists the respective maximum wind gust velocities for self-supporting air-termination systems with HVI Conductor. They shall be compared with the defined values of the table wind gust velocities. If the max. wind gust velocity for an air-termination system is lower than the respective local velocity of wind gusts, the air-termination system suits for this application.

Combination set																			
Part No. Supporting tube / Air-termination rods		Installation of HVI Conductor		Tripod St/tZn (Radius 620 mm) Part No. 105 351			Tripod StSt (Radius 600 mm) Part No. 105 390			Four-legged support StSt (Radius 600 mm) Part No. 105 490			Tripod StSt (Radius 1450 mm) Part No. 105 391			Four-legged support StSt (Radius 1450 mm) Part No. 105 491			
Number of conductors / Number of concrete bases		max. outside	inside	6 bases	9 bases	12 bases	6 bases	9 bases	12 bases	8 bases	12 bases	16 bases	6 bases	9 bases	12 bases	4 bases	8 bases	12 bases	16 bases
HVI®long Conductor Outside installation	Part No. 105 330, Al , non slotted or Part No. 105 314, StSt , non slotted L = 3.2 m / rod = 1.0 m	4	0	104	124	143	99	119	137	130	156	180	123	146	165	127	161	191	202
	Part No. 105 331, Al , non slotted or Part No. 105 315, StSt , non slotted L = 3.2 m / rod = 2.5 m	4	0	94	114	130	93	110	125	119	144	159	116	137	153	120	151	159	—
	Part No. 105 332, Al , non slotted or Part No. 105 316, StSt , non slotted L = 4.7 m / rod = 1.0 m	4	0	—	—	98	—	—	94	93	111	118	101	117	132	106	132	154	167
	Part No. 105 333, Al , non slotted or Part No. 105 317, StSt , non slotted L = 4.7 m / rod = 2.5 m	4	0	—	—	93	—	—	—	—	104	109	95	113	126	100	126	149	—
HVI®long Conductor Inside and outside installation	Part No. 105 325, Al , slotted or Part No. 105 336, StSt , slotted L = 3.2 m / rod = 1.0 m	0	1	—	—	—	130	157	182	172	234	—	152	182	234	152	220	234	—
		4	1	—	—	—	100	119	138	131	157	180	125	147	166	128	163	193	202
	Part No. 105 326, Al , slotted or Part No. 105 337, StSt , slotted L = 3.2 m / rod = 2.5 m	0	1	—	—	—	112	134	154	147	176	188	139	163	186	140	179	188	—
		4	1	—	—	—	93	111	125	119	144	159	117	136	154	121	152	159	—
	Part No. 105 327, Al , slotted or Part No. 105 338, StSt , slotted L = 4.7 m / rod = 1.0 m	0	1	—	—	—	93	112	128	121	148	163	128	149	172	130	168	217	234
		4	1	—	—	—	—	—	95	93	111	118	102	118	134	107	133	155	167
	Part No. 105 328, Al , slotted or Part No. 105 339, StSt , slotted L = 4.7 m / rod = 2.5 m	0	1	—	—	—	—	100	116	111	132	143	117	138	155	120	152	181	188
		4	1	—	—	—	—	—	93	—	105	110	96	114	127	102	127	147	—
HVI®power Conductor Inside installation	Part No. 105 392, StSt , slotted L = 3.5 m / rod = 1.0 m	0	1	—	—	—	120	147	169	157	195	235	147	174	213	148	191	235	—
	Part No. 105 393, StSt , slotted L = 3.5 m / rod = 2.5 m	0	1	—	—	—	105	126	146	138	167	170	132	155	170	135	170	—	—
	Part No. 105 394, StSt , slotted L = 5.0 m / rod = 1.0 m	0	1	—	—	—	122	144	162	158	192	228	123	145	164	126	160	191	234
	Part No. 105 395, StSt , slotted L = 5.0 m / rod = 2.5 m	0	1	—	—	—	—	95	110	105	125	135	114	132	148	116	146	170	—

<div>HVI®light Conductor DEHNcon-H</div>		<div>Separation distance $s \leq 45 \text{ cm}$ "air" $s \leq 90 \text{ cm}$ "solid material"</div>	<div>s ↔ $\leq 45 \text{ cm}$</div>
<div>Technical data</div>		<div>HVI®light Conductor / DEHNcon-H</div>	
Outer diameter / colour		20 mm / dark grey	
Equivalent separation distance (air)		$\leq 45 \text{ cm}$	
Equivalent separation distance (solid material)		$\leq 90 \text{ cm}$	
Operating temperature		$-30 \text{ }^{\circ}\text{C} \dots +70 \text{ }^{\circ}\text{C}$	
Tested with I_{imp} (10/350 μs)		class H 100 kA according to EN 62561-1	
For use in class of LPS (at $k_c = 1$)		III, IV	
Installation in Ex zone 1 and 21		—	

<div>HVI®Conductor</div> <div>HVI®long Conductor</div>		<div>Separation distance</div> <div>$s \leq 75 \text{ cm}$ "air"</div> <div>$s \leq 150 \text{ cm}$ "solid material"</div>	<div>S</div> <div></div> <div>$\leq 75 \text{ cm}$</div>
<div>Technical data</div>		<div>HVI®Conductor / HVI®long Conductor</div>	
Outer diameter / colour		20 mm / black or 23 mm / grey	
Equivalent separation distance (air)		$\leq 75 \text{ cm}$	
Equivalent separation distance (solid material)		$\leq 150 \text{ cm}$	
Operating temperature		$-30 \text{ }^{\circ}\text{C} \dots +70 \text{ }^{\circ}\text{C}$	
Tested with I_{imp} (10/350 μs)		150 kA	
For use in class of LPS (at $k_c = 1$)		II, III, IV	
Installation in Ex zone 1 and 21		possible	

<div>HVI®power Conductor</div> <div>HVI®power long Conductor</div>		<div>Separation distance</div> <div>$s \leq 90 \text{ cm}$ "air"</div> <div>$s \leq 180 \text{ cm}$ "solid material"</div>	<div>s</div> <div></div> <div>$\leq 90 \text{ cm}$</div>
<div>Technical data</div>		<div>HVI®power Conductor / HVI®power long Conductor</div>	
Outer diameter / colour		27 mm / black	
Equivalent separation distance (air)		$\leq 90 \text{ cm}$	
Equivalent separation distance (solid material)		$\leq 180 \text{ cm}$	
Operating temperature		$-50 \text{ }^{\circ}\text{C} \dots +70 \text{ }^{\circ}\text{C}$	
Tested with I_{imp} (10/350 μs)		200 kA	
For use in class of LPS (at $k_c = 1$)		I, II, III, IV	
Installation in Ex zone 1 and 21		—	

HVI®light Conductor



The HVI light Conductor supplements the proven and tested HVI Conductor which has been used many times in practice. Designed for low, large-scale buildings where the separation distance cannot be maintained with conventional lightning protection systems.

A significant advantage of the HVI light Conductor is that it can be installed easily and quickly without sealing end.

A sealing end which is connected to the functional equipotential bonding system of the building is not required. Instead, the conductor is connected at a defined coupling point to the supporting tube in the tripod which does not have to be connected to the functional equipotential bonding system.

The roof area of buildings is often used as an installation level. Regardless of the potential risk of lightning strikes, pipes, electric and information technical systems or photovoltaic installations are installed there. All of these systems provide a conductive connection into the building along which lightning partial currents can flow into the structure where the sensitive electric / electronic equipment is interfered or even damaged. The insulated air-termination system prevents this transfer of lightning

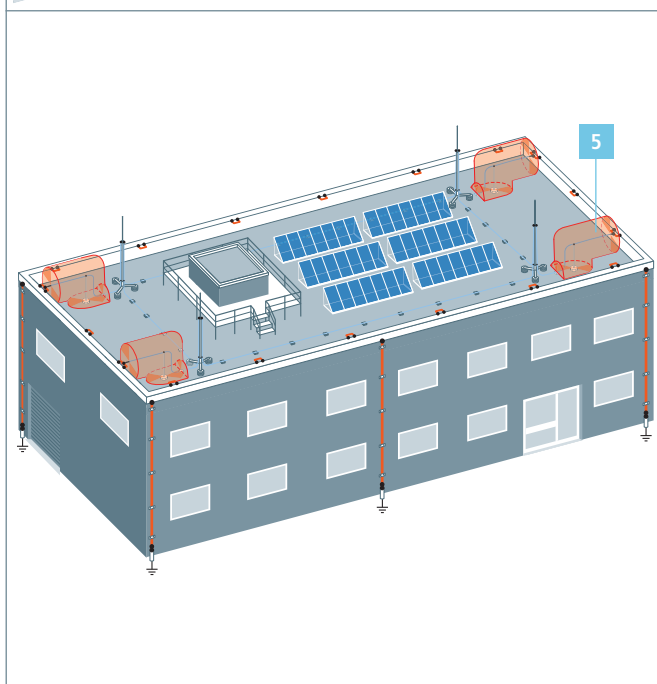
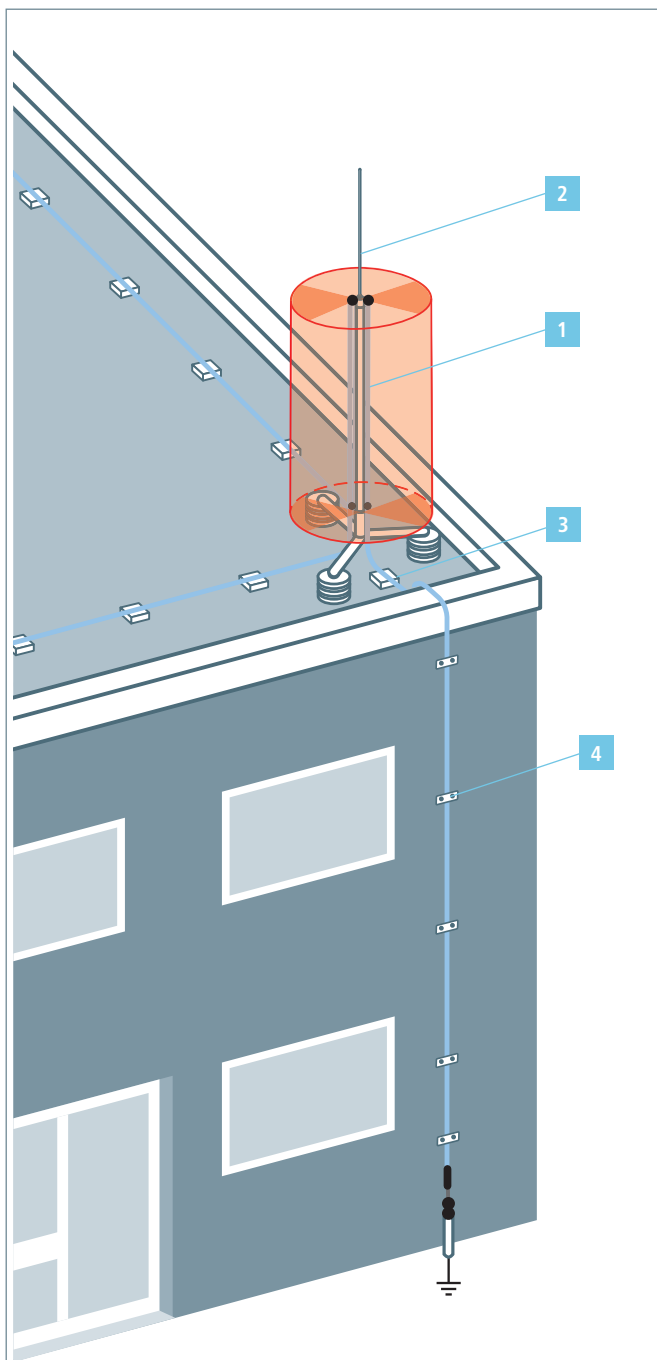
partial currents into the building. The HVI light Conductor is the system to maintain the separation distance on flat roofs. The high-voltage-resistant, insulated HVI light Conductor prevents an uncontrolled flashover to metal or electric components underneath the roofing.

The conductor is delivered in a length of 100 m on a disposable plywood reel (diameter approx. 800 mm, width approx. 485 mm) and an Allen key included in delivery.

- **high-voltage-resistant, insulated HVI light Conductor to maintain the separation distance to electrically conductive parts according to IEC 62305-3 (VDE 0185-305-3)**
- **equivalent separation distance $s \leq 0.45$ m (in air) or**
- **$s \leq 0.90$ m (solid material)**
- **the HVI light Conductor meets the requirements according to EN 62561-2 (VDE 0185-561-2)**

Technical data

Structure	solid
Cross section of the inner conductor (Cu)	19 mm ²
Colour	dark grey
Outer diameter	20 mm
Equivalent separation distance (air)	≤ 45 cm
Equivalent separation distance (solid material)	≤ 90 cm
Minimum bending radius (OD = outer diameter)	10 x OD, min. 200 mm
Operating temperature	-30 °C ... +70 °C
Installation temperature	-5 °C ... +40 °C
Tensile strength	950 N
UV / weather-resistant	yes
Tested with I_{imp} (10/350 µs)	class H 100 kA according to EN 62561-1
For use in class of LPS (at $k_c = 1$)	III, IV
Installation in Ex zone 1 and 21	—
Minimum order quantity	100 m
Cable weight / 100 m	~ 40 kg

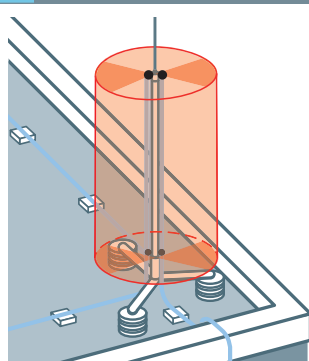


1 HVI®light Conductor and Accessories



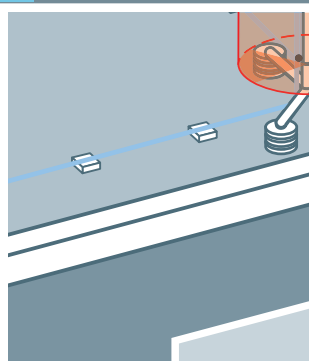
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2 Air-termination Mast-Kit



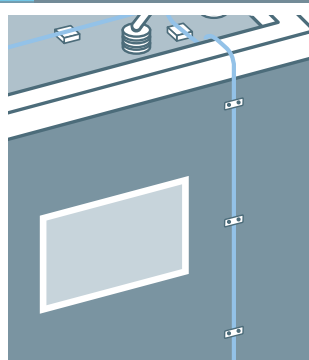
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3 Conductor Holders and Accessories for Installation on Flat Roofs



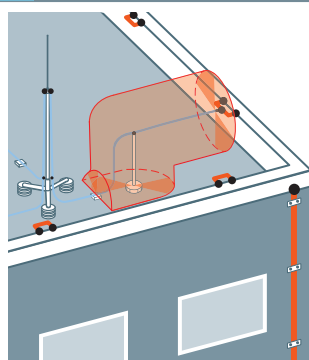
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4 Conductor Holders for Installation on Walls



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5 Adjustment Range



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1 HVI®light Conductor

System to maintain the separation distance e.g. on flat roofs. The high-voltage-resistant, insulated HVI light Conductor prevents uncontrolled flashover to metal or electric components underneath the roofing.
For use up to an equivalent separation distance $s \leq 45$ cm (in air) or $s \leq 90$ cm (solid material).

HVI®light Conductor (on reel)

The HVI light Conductor is delivered in a length of 100 m on a disposable plywood reel (diameter approx. 800 mm, width approx. 485 mm) and one Allen key included in delivery.



Part No.	819 125
Material of conductor	Cu
Material of insulation	PE
Material of sheath	PVC
Colour of conductor	dark grey ●
Diameter Ø conductor	20 mm
PU	100 m

HVI®light Conductor (cut to length)

The HVI light Conductor is delivered cut to length and in the carton (max. 70 m).
Conductor length to be indicated when ordering (0.5 m steps).



Part No.	819 129 <small>NEW</small>
Material of conductor	Cu
Material of insulation	PE
Material of sheath	PVC
Colour of conductor	dark grey ●
Diameter Ø conductor	20 mm
Minimum order length (l1)	6 m
PU	1 pc(s)



1 Connection Elements for HVI®light Conductor

Connection element for HVI®light Conductor

Connection element for connecting the HVI light Conductor to other parts of the external lightning protection system or earth-termination system. One heat-shrinkable sleeve included.



Part No.	819 299
Material	StSt
Connection	bolt Ø10 mm, L 50 mm
Design	with spring washer
Screw	threaded bolt M6 x 8 mm
PU	1 pc(s)

EB Connection element for HVI®light Conductor

For discharging the electrical field in the sealing end range of the HVI light Conductor.
Special slotted desing for electrical contacting of the semi-conductive sheath.



Part No.	410 219
Material	StSt
Clamping range Ø	17 mm
Connection bore Ø	11 mm
Screw	M10 x 20 mm
PU	1 pc(s)

2 Air-termination Masts for HVI®light Conductor on Flat Roofs

Complete with connection plate plate for four HVI light Conductors and fixing kit for mounting the conductors at the air-termination mast. Adjustable to roof inclination up to max. 10°. The concrete bases (weight 17 kg) and support plates have to be ordered separately.



Air-termination mast 30 for HVI®light Conductor KIT I total height 2600 mm

Part No.	819 281
Material of tripod	St/tZn
Radius	250 mm
Material of supporting tube	GRP / Al
Length of supporting tube	1500 mm
Insulating clearance	1195 mm
Length of air-termination rod	1000 mm
Material of air-termination rod	StSt
Max. gust wind speed at 3 blocks 17 kg each	138 km/h
PU	1 pc(s)

Air-termination mast 30 for HVI®light Conductor KIT II total height 3100 mm

Part No.	819 286
Material of tripod	St/tZn
Radius	250 mm
Material of supporting tube	GRP / Al
Length of supporting tube	1500 mm
Insulating clearance	1195 mm
Length of air-termination rod	1500 mm
Material of air-termination rod	Al
Max. gust wind speed at 3 blocks 17 kg each	127 km/h
PU	1 pc(s)

Air-termination mast 50 for HVI®light Conductor KIT I total height 2900 mm

Part No.	819 280
Material of tripod	St/tZn
Radius	560 mm
Material of supporting tube	GRP / Al
Length of supporting tube	1900 mm
Insulating clearance	1535 mm
Length of air-termination rod	1000 mm
Material of air-termination rod	StSt
Max. gust wind speed at 3 blocks 17 kg each	123 km/h
Max. gust wind speed at 6 blocks 17 kg each	166 km/h
Max. gust wind speed at 9 blocks 17 kg each	202 km/h
PU	1 pc(s)

Air-termination mast 50 for HVI®light Conductor KIT II total height 3900 mm

Part No.	819 285
Material of tripod	St/tZn
Radius	560 mm
Material of supporting tube	GRP / Al
Length of supporting tube	1900 mm
Insulating clearance	1535 mm
Length of air-termination rod	2000 mm
Material of air-termination rod	Al
Max. gust wind speed at 3 blocks 17 kg each	111 km/h
Max. gust wind speed at 6 blocks 17 kg each	148 km/h
Max. gust wind speed at 9 blocks 17 kg each	176 km/h
PU	1 pc(s)



3 Conductor Holders and Accessories for Installation on Flat Roofs

Roof Conductor Holder for Flat Roofs

For fixing round and strip conductors on flat roofs with single conductor holder Type FB.



Part No.	253 015
Conductor leading	loose
Material of conductor holder	plastic
Conductor holder support Rd	8 mm
Block	concrete (C35/45)
Weight	1 kg
PU	10 pc(s)

Adapter for Installation of the HVI®Conductor on Flat Roofs

With roof conductor holder Type FB (Part No. 253 015) for snapping on.



Part No.	253 026
Material	plastic
Colour	black ●
Conductor holder support Rd	20 mm
PU	50 pc(s)

Roof Conductor Holder

For flat roofs, weight approx. 4.7 kg.

Conductor holder, concrete block and base plate, to install the HVI light Conductor, HVI Conductor on flat roofs.



Part No.	253 229 <small>NEW</small>
Material of conductor holder	StSt
Conductor holder support Rd	20 / 23 mm
Total weight	approx. 4.7 kg
PU	1 pc(s)

Conductor Holder

Conductor holder with slotted cleat for HVI light-Leitung, HVI Conductor for fastening in the base plate (Part No. 253 300) with concrete block (Part No. 253 301).



Part No.	253 289 <small>NEW</small>
Material	StSt
Conductor holder support Rd	20 / 23 mm
Height of conductor holder	87 mm
Bolt	Ø10 mm (push-fit)
PU	24 pc(s)

Concrete Block

For stabilising the support plate.



Part No.	253 301
Material	concrete (C35/45)
Weight	4.6 kg
Dimension	180 x 180 x 70 mm
PU	24 pc(s)

Support Plate

Support plate with adapter (lock bush) for the spacer bar (Part No. 253 315, 253 325) as well as conductor holder (Part No. 253 289) and for protection of the roofing sheets under the concrete block (Part No. 253 301).



Part No.	253 300
Diameter Ø	300 mm
Diameter Ø of socket	10 mm
Height	60 mm
Material	plastic
Colour	grey ●
PU	24 pc(s)

Roof Conductor Holder

For flat roofs, weight approx. 8.6 kg.

Conductor holder, concrete block and base plate, for installing the HVI light Conductor, HVI Conductor on flat roofs.

Part No.	253 239 <small>NEW</small>
Material of conductor holder	StSt
Conductor holder support Rd	20 / 23 mm
Total weight	approx. 8.6 kg
PU	1 pc(s)



Conductor Holder

Conductor holder with slotted cleat for HVI light Conductor, HVI Conductor for fastening in the concrete base with wedge (Part No. 102 075).

Part No.	253 279 <small>NEW</small>
Material	StSt
Conductor holder support Rd	20 / 23 mm
Height of conductor holder	125 mm
Bolt	Ø16 mm (wedge-fit)
PU	25 pc(s)



Concrete Base

For wedge mounting, for air-termination rods Ø10, length 1000 mm or DEHNiso spacers Ø16 mm.

Part No.	102 075
Total weight	8.5 kg
Diameter Ø	240 mm
Material	concrete (C45/55)
Material of wedge / adapter	StSt
PU	120 pc(s)



Support Plate

For protecting the roofing sheets under the concrete base.

For concrete bases (Part No. 102 075, 102 003).

Part No.	102 060
Diameter Ø outside	280 mm
Diameter Ø inside	270 mm
Material	EVA
Colour	black ●
PU	1 pc(s)



Spacers for HVI®light Conductor

Spacer for installation e.g. with wedge mounting concrete block 8.5 kg (Part No. 102 075).

Part No.	106 852	106 812
Material of spacer	GRP	GRP
Werkstoff Leitungshalter / Adapter	PA	PA
Length (l1)	500 mm	1000 mm
Conductor holder support Rd	20 mm	20 mm
Thread	M8	M8
Max. gust wind speed (1x block 17 kg, holder spacing 1000 mm)	154 km/h	98 km/h
PU	1 pc(s)	1 pc(s)



Concrete Base

For wedge mounting and adapted support plate, stackable.

Part No.	102 340
Total weight	17 kg
Support	wedge mounting Ø16 mm
Diameter Ø	337 mm
Material	concrete (C45/55)
Material of wedge	StSt
PU	54 pc(s)





Concrete Base

For wedge mounting, stackable, for air-termination rods Ø16 mm, chamfered or tapered, DEHNiso spacers Ø16 mm or conductor holder (Part No. 253 279).

Part No.	102 010
Weight	17 kg
Support	wedge mounting Ø16 mm
Diameter Ø	337 mm
Material	concrete (C45/55)
Material of wedge / adapter	StSt
PU	54 pc(s)

Support Plate

For protecting the roofing sheets under the concrete base.
For concrete bases (Part No. 102 010, 102 002).



Part No.	102 050
Diameter Ø outside	370 mm
Diameter Ø inside	360 mm
Material	EVA
Colour	black ●
PU	1 pc(s)

4 Conductor Holders for Installation on Walls

Conductor Holders

With thread.
For wall mounting with two-screw cleat (not for use in the sealing end range).



Part No.	275 250 ^{NEW}	275 251 ^{NEW}
Material of conductor holder	StSt	StSt
Conductor holder support Rd	20 / 23 mm	20 / 23 mm
Thread	M8	M6
PU	25 pc(s)	25 pc(s)

Conductor Holder

With slot hole.
For wall mounting with two-screw cleat (not for use in the sealing end range).



Part No.	275 252 ^{NEW}
Material of conductor holder	StSt
Conductor holder support Rd	20 / 23 mm
Fixing bore	5,5 x 10 mm
PU	25 pc(s)

Conductor Holder

With plastic base.
For wall mounting with two-screw cleat (not for use in the sealing end range).



Part No.	275 259 ^{NEW}
Material of conductor holder	StSt
Conductor holder support Rd	20 / 23 mm
Thread	M8
PU	25 pc(s)

Conductor Holders for HVI®Conductor

For wall mounting and for mounting in the sealing end range.



Part No.	275 220
Material of conductor holder	PA
Conductor holder support Rd	20 mm
Female thread	M8
Fixing bore	6,5 mm
Screw	✚ M6 x 16 mm
PU	25 pc(s)

Stripping Tool for HVI®light Conductors



Tool for stripping the grey sheath and the semi-conductive sheath and the PE insulation of the HVI light Conductor, HVI Conductor (outer diameter 20 mm).

- Tool consisting of handle and various exchangeable cutting heads
- Stripping length of HVI light Conductor, HVI Conductor is adjustable in steps of 0.2 mm (lock points) by the set screw in the handle and is shown on the handle scale

Handling

Apply the cutting head at the conductor end and turn clockwise with light pressure for cutting / stripping.
Exchange of the cutting head without tool due to the bayonet coupling.

HVI®strip 20

For HVI light Conductor (handle + cutting head).

Part No.	597 220
Diameter Ø conductor	20 mm
Material of moulded part	plastic
Material of blade	StSt
PU	1 pc(s)



HVI®head 20

For HVI light Conductor (cutting head).

Part No.	597 120
Diameter Ø conductor	20 mm
Material of moulded part	plastic
Material of blade	StSt
PU	1 pc(s)



Accessories for Stripping Tool for HVI®light Conductors

HVI®head holder

Adapter with bayonet coupling for attaching the HVI head cutting head (pre-set stripping length 35 mm).
Adapter may be used in usual three-jaw chuck (Ø10 mm) e.g. of cordless screwdrivers.

Part No.	597 139
Material	plastic / Ms
PU	1 pc(s)



Stripping Tool for HVI®Conductors

Tool for stripping the additional grey sheath of the HVI light Conductor and HVI Conductor. DEHNhelix consists of a handle and an exchangeable bracket (depending on the conductor diameter).

DEHNhelix

Part No.	597 230
Diameter Ø conductor	20-27 mm
Material of moulded part	plastic
Material of blade	StSt
PU	1 pc(s)



Cable Shears for HVI®Conductors



Cable shears for easily cutting of the HVI light Conductor, HVI Conductor (outer diameter 20 / 23 mm) and HVI power Conductor (outer diameter 27 mm) and of the CUI Conductor.

The special design of the cable shears also allows for a precise cutting of stranded conductors for attaching the connection elements easily.

HVI®cutter

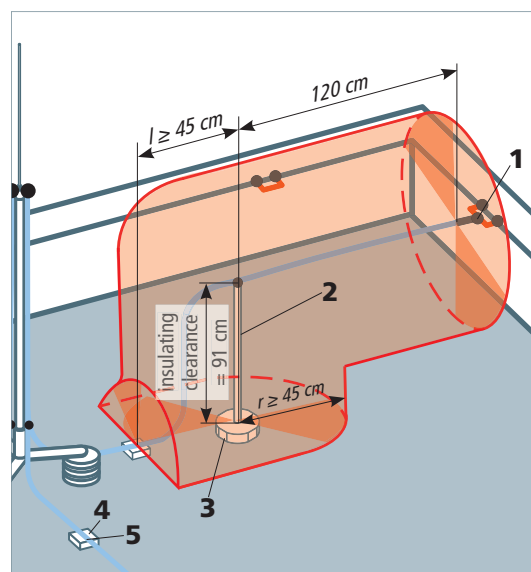
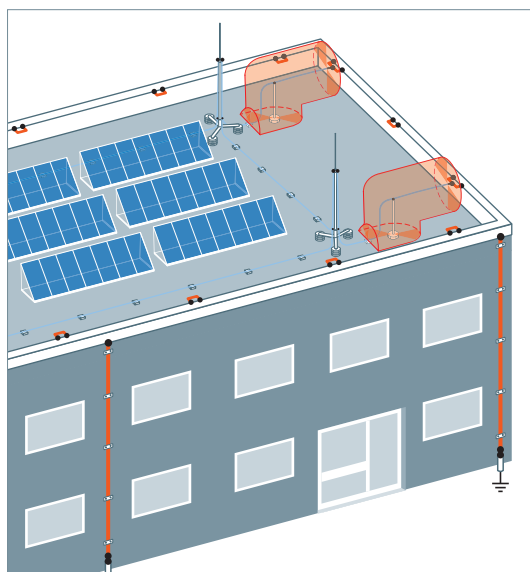
Part No.	597 032
Diameter Ø conductor	up to 32 mm
Material of blades	tool steel (CR-Moly (SCM440))
Material of handles	carbon steel (SS400)
Length	600 mm
PU	1 pc(s)



5 Adjustment Range, Separation Distance $s \leq 45 \text{ cm}$

Connection of the HVI light Conductor to an existing lightning protection system. The equivalent separation distance s at the connection point of the HVI light Conductor is $\leq 45 \text{ cm}$ (in air).

In the connection area an adjustment range around the HVI light Conductor has to be provided. No electrical, conductive or earthed parts may be installed in this area. This is necessary to inject the lightning current safely into the conductor. An equipotential bonding connection is not necessary.



Single Parts for Adjustment Range, Separation Distance $s \leq 45 \text{ cm}$

Connection Element for HVI®light Conductor

Connection element for sealing the HVI light Conductor and for connection of other parts of the external lightning protection system or of the earth-termination system. Including one heat-shrinkable sleeve.



Part No.	819 299
PU	1 pc(s)



Spacer for HVI®light Conductor

Spacer for installation e.g. with wedge mounting concrete block 8.5 kg (Part No. 102 075).

Part No.	106 812
PU	1 pc(s)



Concrete Base

For wedge mounting and adapted support plate, stackable.

Part No.	102 340
PU	54 pc(s)



Roof Conductor Holder for Flat Roofs

For fixing round and strip conductors on flat roofs with single conductor holder Type FB.

Part No.	253 015
PU	10 pc(s)



Adapter for Installation of the HVI®light Conductor on Flat Roofs

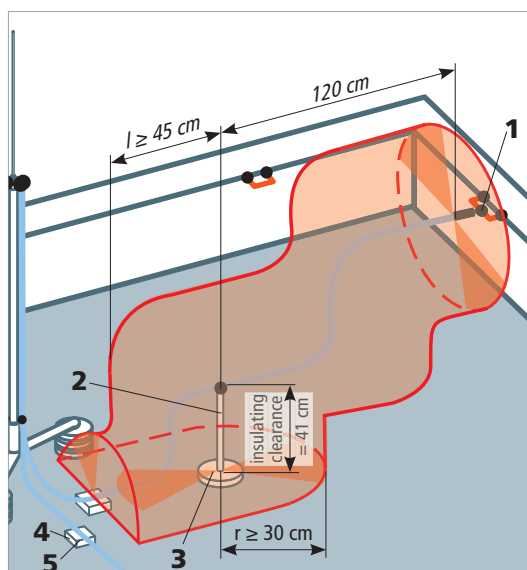
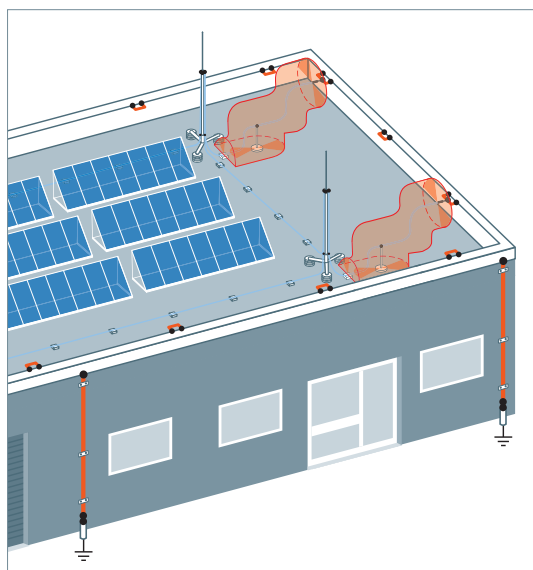
With roof conductor holder Type FB (Part No. 253 015) for snapping on.

Part No.	253 026
PU	50 pc(s)

5 Adjustment Range, Separation Distance $s \leq 30$ cm

Connection of the HVI light Conductor to an existing lightning protection system. The equivalent separation distance s at the connection point of the HVI light Conductor is ≤ 30 cm (in air).

In the connection area an adjustment range around the HVI light Conductor has to be provided. No electrical, conductive or earthed parts may be installed in this area. This is necessary to inject the lightning current safely into the conductor. An equipotential bonding connection is not necessary.



Single Parts for Adjustment Range, Separation Distance $s \leq 30$ cm

Connection Element for HVI®light Conductor

Connection element for sealing the HVI light Conductor and for connection of other parts of the external lightning protection system or of the earth-termination system. Including one heat-shrinkable sleeve.

Part No.	819 299
PU	1 pc(s)



Spacer for HVI®light Conductor

Spacer (L = 500 mm) for installation e.g. with wedge mounting concrete block 17 kg (Part No. 102 340).

Part No.	106 852
PU	1 pc(s)



Concrete Base 17 kg

For wedge mounting and adapted support plate, stackable.

Part No.	102 340
PU	54 pc(s)



Roof Conductor Holder for Flat Roofs

For fixing round and strip conductors on flat roofs with single conductor holder Type FB.

Part No.	253 015
PU	10 pc(s)



Adapter for Installation of the HVI®light Conductor on Flat Roofs

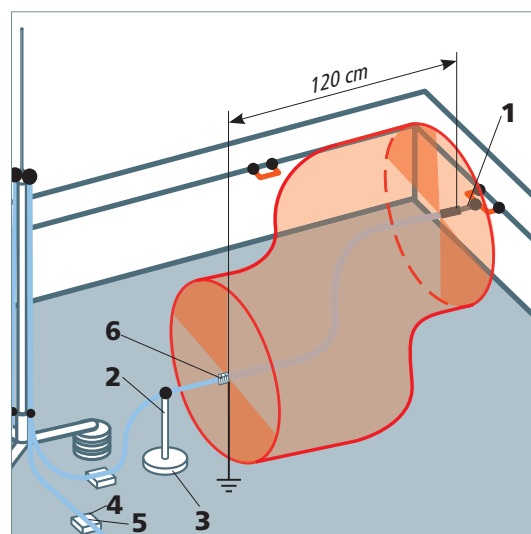
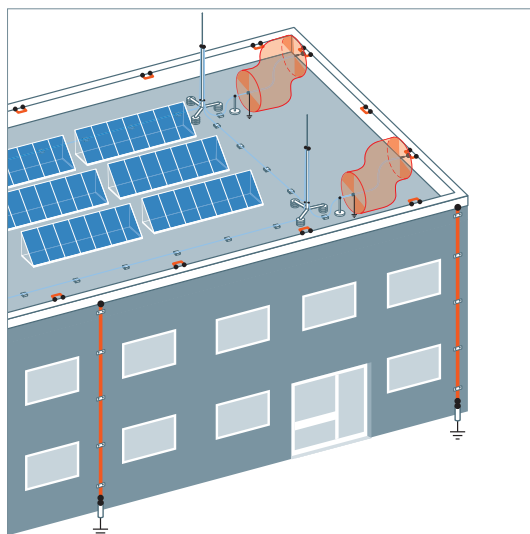
With roof conductor holder Type FB (Part No. 253 015) for snapping on.

Part No.	253 026
PU	50 pc(s)



5 Reduced Adjustment Range, Separation Distance $s \leq 45$ cm

Connection of the HVI light Conductor to an existing lightning protection system. The equivalent separation distance s at the connection point of the HVI light Conductor is ≤ 45 cm (in air). In the connection area a reduced adjustment range around the HVI light Conductor has to be provided. No electrical, conductive or earthed parts may be installed in this area. This is necessary to inject the lightning current safely into the conductor. At the end of the adjustment range an EB connection element will be installed and connected with the equipotential bonding system of the building. For this purpose the outer grey sheath of the HVI light Conductor has to be stripped so that the EB connection element contacts the black sheath. The EB connection element has to be connected with the equipotential bonding system of the building.



Single Parts for Reduced Adjustment Range, Separation Distance $s \leq 45$ cm

Connection Element for HVI®light Conductor

Connection element for sealing the HVI light Conductor and for connection of other parts of the external lightning protection system or of the earth-termination system. Including one heat-shrinkable sleeve.



Part No.	819 299
PU	1 pc(s)

Spacer for HVI®light Conductor

Spacer (L = 500 mm) for installation e.g. with wedge mounting concrete block 17 kg (Part No. 102 340).



Part No.	106 852
PU	1 pc(s)

Concrete Base

For wedge mounting and adapted support plate, stackable.



Part No.	102 340
PU	54 pc(s)

Roof Conductor Holder for Flat Roofs

For fixing round and strip conductors on flat roofs with single conductor holder Type FB.



Part No.	253 015
PU	10 pc(s)

Adapter for Installation of the HVI®light Conductor on Flat Roofs

With roof conductor holder Type FB (Part No. 253 015) for snapping on.



Part No.	253 026
PU	50 pc(s)

EB Connection Element for HVI®light Conductor

For discharging the electric field in the sealing end range of the HVI light Conductor. Special slotted design for electric contacting of the semi-conductive sheath.

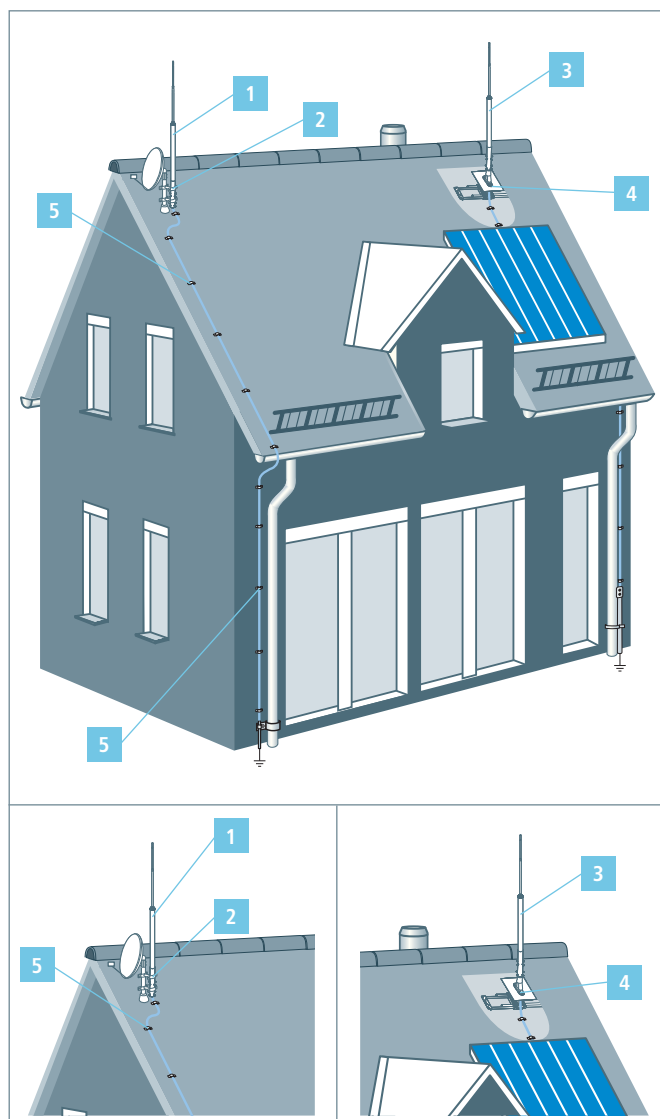


Part No.	410 219
PU	1 pc(s)

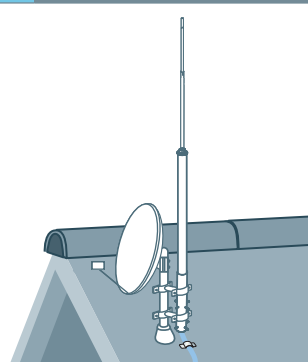
Installation of bare, uninsulated conductors can pose the problem of proximities in case of residential buildings or buildings of lower height. The consequent maintenance of the required separation distances often is not possible. In the lightning protection standard IEC 62305 (VDE 0185-305) and also in communication technology standards requirements for maintaining of the separation distance are specified. DIN EN 60728-11 (VDE 0855-1) points out that radio masts on buildings with lightning protection system shall be integrated preferably insulated (separated) in this system. The DEHNcon-H is ideally suited for this application.

- Aesthetically appealing due to the HVI/HVI light Conductor being installed inside of the supporting tube, reduced size of the supporting tubes and low weight of the whole structure, also fitting for subsequent installation at existing antenna poles.
- High-voltage-resistant, insulated down conductor for keeping the separation distance from electrically conductive parts according to IEC 62305-3 (VDE 0185-305-3).
- Supporting tube with insulating clearance made of glass-fibre reinforced plastic (GRP)
- Material factor $k_m = 0.7$
- Colour light grey, UV-stabilised

The HVI light / HVI Conductor meets the requirements according to EN 62561-2 (VDE 0185-561-2).

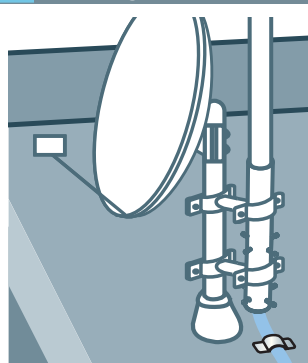


1 DEHNcon-H KIT for Installation on the Roof



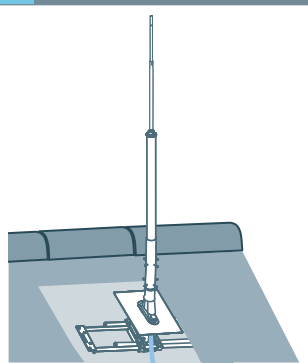
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2 Mounting Material for Installing DEHNcon-H on the Roof



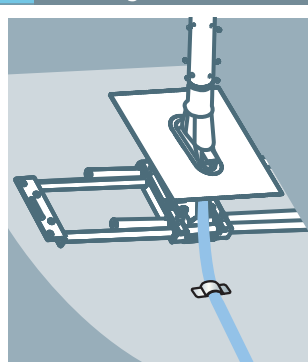
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3 DEHNcon-H KIT for Installation under the Roof



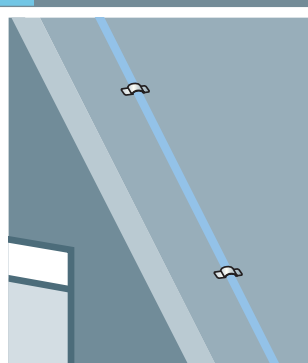
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4 Mounting Material for Installing DEHNcon-H under the Roof



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5 Roof Conductor Holders



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1 2 DEHNcon-H

Insulated air-termination system for transmitters/receivers (satellite dish, terrestrial antenna) or whole buildings or parts of a building. Aesthetically appealing due to the HVI light Conductor being installed inside of the supporting tube, reduced size of the supporting tubes (Al pipe 40 x 5 mm / GRP tube 30 x 3 mm) and light total weight, also suitable for subsequent mounting at antenna poles. Special interior sealing end provides a flexible StSt strip led out at the lower end of the supporting tube for connection to the equipotential bonding system of the building.

DEHNcon-H HVI®light Conductor I KIT

PU 1 corresponds to minimum order quantity of 6 m. Indicate conductor length when ordering (0.5 m steps).

Part No.	819 250	819 251	819 252	819 253
Material of conductor	Cu	Cu	Cu	Cu
Material of supporting tube	GRP / Al	GRP / Al	GRP / Al	GRP / Al
Length of air-termination rod	500 mm	1000 mm	500 mm	1000 mm
Length of supporting tube	2055 mm	2055 mm	2705 mm	2705 mm
Equivalent separation distance s (in air)	≤ 45 cm	≤ 45 cm	≤ 45 cm	≤ 45 cm
Minimum order length	6 m	6 m	6 m	6 m
Max. gust wind speed	228 km/h	195 km/h	228 km/h	195 km/h
Max. free length	1955 mm	2455 mm	2605 mm	3105 mm
Min. clamping length	600 mm	600 mm	600 mm	600 mm
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)

Accessories for DEHNcon-H

Fixing Clamp for DEHNcon-H

Clamp for fixing the supporting tube e.g. at the antenna pole. Design with spacer, length 30 mm for adjusting the antenna fastening.



Part No.	105 161
Material	StSt
Clamping range of pipe Ø	45-65 mm (1 1/2-2")
Clamping range of supporting tube	40-50 mm
Length of spacer	30 mm
PU	1 pc(s)

Fixing Bracket

Wall mounting bracket for vertical mounting.

For fastening of the supporting tubes or air-termination rods D40 / D50.



Part No.	105 342
Material of bracket	StSt
Fixing	[8x] Ø5.1 / [4x] 7 x 10 / [2x] 11 x 20 mm
Clamping range of supporting tube	40-50 mm
Wall / corner distance	46 mm
Dimension of fixing	170 mm
PU	1 pc(s)

Support for Air-termination Rod D40 and DEHNcon-H

Wall fixing bracket



Part No.	105 140
Material	StSt
Fixing	[8x] Ø5.1 / [4x] 11 x 20 mm
Wall distance	80 mm
Clamping range of air-termination rod	40 mm
PU	1 pc(s)

Railing Clamp

For pipes.



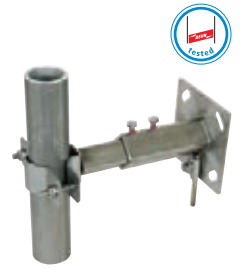
Part No.	105 354
Material	StSt
Clamping range of pipe Ø	48-60 mm (1 1/2-2")
Clamping range of supporting tube	40-50 mm
PU	5 pc(s)

Fixing Bracket

Wall mounting bracket with adjustment range between 150-200 mm.

For fastening of supporting tubes or air-termination rods D40 / D50 with double cleat for connection of 2x Rd 8-10 mm.

Part No.	105 344
Material of bracket	StSt
Clamping range of supporting tube	40-50 mm
Wall / corner distance	150-200 mm
Dimension of plate	120 x 120 x 4 mm
Fixing	[4x] 12 x 26 mm
Standard	EN 62561-1
PU	1 pc(s)



Fixing Bracket

Wall mounting bracket with adjustment range between 400-700 mm.

For fastening of the supporting tubes or air-termination rods D40 / D50.

Part No.	105 343
Material of bracket	St/tZn / StSt
Clamping range of supporting tube	40-50 mm
Wall / corner distance	400-700 mm
Dimension of plate	120 x 120 x 4 mm
Fixing	[4x] 12 x 25 mm
PU	1 pc(s)



Support for Air-termination Rod D40 and DEHNcon-H

Fixing clamp with tensioning strap.

Part No.	105 160
Material	StSt
Clamping range Ø pipe	50-300 mm
Clamping range of air-termination rod	40-50 mm
Dimension of strip (w x d)	25 x 0.3 mm
Standard	EN 62561-1
PU	1 pc(s)



Railing Clamp

With spacer for adjusting e.g. the antenna fastener.

Part No.	105 162 ^{NEW}
Material	StSt
Clamping range of pipe Ø	45-65 mm (1 1/2-2")
Clamping range of supporting tube	40-50 mm
Length of spacer	95 mm
PU	1 pc(s)





3 Air-termination Masts for Sub-roof Installation of the HVI®Conductor

For attaching on the mounting bracket for use at rafters.

Aesthetically appealing installation of the HVI Conductor or HVI light Conductor inside of the supporting tube. The HVI Conductors are ducted through the supporting tube of the mounting bracket for rafters and installed in the area of the counter-battens/roof battens.

Advantages:

- Sub-roof installation – not visible
- Only the supporting tube is visible
- No mechanical loading e.g. by snow

DEHNcon-H / HVI®light Conductor I in the supporting tube with air-termination rod

With interior sealing end and air-termination rod Ø10 mm, length 1000 mm.

PU 1 corresp. to a minimum order length of 6 m.

Conductor length to be indicated when ordering (in steps of 0.5 m).

Part No.	819 241
Material of supporting tube	GRP / Al
Length of supporting tube	2940 mm
Diameter Ø of conductor	20 mm
Colour of conductor	grey ●
Material of conductor	Cu
Equivalent separation distance s (in air)	≤ 45 cm
Minimum order length	6 m
Max. gust wind speed	176 km/h
PU	1 pc(s)

HVI®Conductor I in Supporting Tube with Air-termination Rod

With interior sealing end and air-termination rod Ø16 / 10 mm, length 2500 mm.

PU 1 corresp. to a minimum order length of 6 m.

Conductor length to be indicated when ordering (in steps of 0.5 m).

Part No.	819 245
Material of supporting tube	GRP / Al
Length of supporting tube	1950 mm
Diameter Ø of conductor	20 mm
Colour of conductor	black ●
Material of conductor	Cu
Equivalent separation distance s (in air)	≤ 75 cm
Minimum order length	6 m
Max. gust wind speed	145 km/h
PU	1 pc(s)

4 Mounting Bracket for Use at Rafters

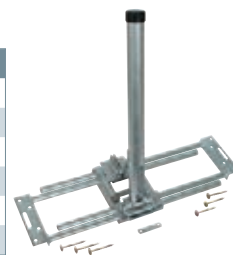


For lateral fixing of the

- DEHNcon-H supporting tube (Ø40 mm)
- HVI Conductor inside of the supporting tube (Ø50 mm)

as well as for attaching and fixing of the supporting tubes and for the sub-roof installation of the HVI Conductor or HVI light Conductor.

Part No.	105 240
Material	St/tZn
Adjustment range	600-750 mm
Roof pitch	24°-53°
Diameter Ø of supporting tube	48 mm
Fixing screw	8 x 120 mm
PU	1 pc(s)



Accessories for Mounting Bracket for Use at Rafters

Roof Bushing Kit

- For bushing and sealing of poles and pipes on steep roofs
- Universally usable with different roof tiles / roof stones due to formable aluminium roof tile
- Roof bushing kit comprises aluminium roof tile, rubber grommet and sealing tape.

Part No.	105 245	105 246
Material of roof tile	aluminium, with UV stabilised plastic coating	aluminium, with UV stabilised plastic coating
Dimension of roof tile	450 x 500 mm	450 x 500 mm
Diameter Ø of mast hole	10 / 16 / 48 mm	10 / 16 / 48 mm
Roof inclination	24-53°	24-53°
Material of rubber grommet	UV stabilised rubber mixture	UV stabilized rubber mixture
Material of sealing tape	rubber based plastical sealant	rubber based plastical sealant
Type of sealing tape	strongly adhesive, self-welding	strongly adhesive, self-welding
Dimension of sealing tape	600 x 80 mm	600 x 80 mm
Processing temperature	+5 °C ... +40 °C	+5 °C ... +40 °C
Permanent temperature range of sealing tape	-40 °C ... +80 °C	-40 °C ... +80 °C
Colour	black ●	red ●
PU	1 pc(s)	1 pc(s)



5 Accessories for DEHNcon-H

Roof Conductor Holder

With preformed bending points for angling and hooking at the tile and for screwing to the batten, for installing the HVI Conductor on saddle roofs.

Part No.	202 829 <small>NEW</small>
Material of roof conductor holder	StSt
Material of conductor holder	StSt
Conductor holder support Rd	20 / 23 mm
Length of brace	205 mm
PU	1 pc(s)



NEW

5 Conductor Holders for Installation on Walls

Conductor Holders

With thread.

For wall mounting with two-screw cleat (not for use in the sealing end range).



Part No.	275 250 <small>NEW</small>	275 251 <small>NEW</small>
Material of conductor holder	StSt	StSt
Conductor holder support Rd	20 / 23 mm	20 / 23 mm
Thread	M8	M6
PU	25 pc(s)	25 pc(s)

Conductor Holder

With slot hole.

For wall mounting with two-screw cleat (not for use in the sealing end range).



Part No.	275 252 <small>NEW</small>
Material of conductor holder	StSt
Conductor holder support Rd	20 / 23 mm
Fixing bore	5.5 x 10 mm
PU	25 pc(s)

Conductor Holder

With plastic base.

For wall mounting with two-screw cleat (not for use in the sealing end range).



Part No.	275 259 <small>NEW</small>
Material of conductor holder	StSt
Conductor holder support Rd	20 / 23 mm
Thread	M8
PU	25 pc(s)

Conductor Holders for HVI®Conductor

For wall mounting and for mounting in the sealing end range.



Part No.	275 220
Material of conductor holder	PA
Conductor holder support Rd	20 mm
Female thread	M8
Fixing bore	6.5 mm
Screw	☛ M6 x 16 mm
PU	25 pc(s)

Stripping Tool for HVI®light Conductors / HVI®Conductors



Tool for stripping the grey sheath and the semi-conductive sheath and the PE insulation of the HVI light Conductor (outer diameter 20 mm).

- Tool consists of a handle and various exchangeable cutting heads
- Stripping length of HVI light Conductor, HVI Conductor is adjustable in steps of 0.2 mm (lock points) by the set screw in the handle and is shown on the handle scale

Handling

Apply the cutting head at the conductor end and turn clockwise with light pressure for cutting / stripping.
Exchange of the cutting head without tool due to the bayonet coupling.

HVI®strip 20

For HVI light Conductor and HVI Conductor (handle + cutting head).

Part No.	597 220
Diameter Ø conductor	20 mm
Material of moulded part	plastic
Material of blade	StSt
PU	1 pc(s)



HVI®head 20

For HVI light Conductor and HVI Conductor (cutting head).

Part No.	597 120
Diameter Ø conductor	20 mm
Material of moulded part	plastic
Material of blade	StSt
PU	1 pc(s)



Accessories for Stripping Tool for HVI®light Conductors / HVI®Conductors

HVI®head holder

Adapter with bayonet coupling for attaching the HVI head cutting head (pre-set stripping length 35 mm).
The adapter may be used in usual three-jaw chuck e.g. of cordless screwdrivers.

Part No.	597 139
Material	plastic / Ms
PU	1 pc(s)



Stripping Tool for HVI®Conductors

Tool for stripping the additional grey sheath of the HVI light Conductor and HVI Conductor. DEHNhelix consists of a handle and an exchangeable bracket (depending on the conductor diameter).

DEHNhelix

Part No.	597 230
Diameter Ø conductor	20-27 mm
Material of moulded part	plastic
Material of blade	StSt
PU	1 pc(s)



Cable Shears for HVI®Conductors



Cable shears for easily cutting of the HVI light Conductor, HVI Conductor (outer diameter 20 / 23 mm) and HVI power Conductor (outer diameter 27 mm) and of the CUI Conductor.

The special design of the cable shears also allows for a precise cutting of stranded conductors for attaching the connection elements easily.

HVI®cutter

Part No.	597 032
Diameter Ø conductor	up to 32 mm
Material of blades	tool steel (CR-Moly (SCM440))
Material of handles	carbon steel (SS400)
Length	600 mm
PU	1 pc(s)



The HVI / HVI long Conductor can be used for a wide range of installation variants to protect for example larger roof-mounted structures, antennas as well as masts with information technology systems against direct lightning strike. Due to the special characteristics this conductor can also be directly routed to the earth-termination system. If this is not required, connection to already existing conventional lightning protection systems (elevated / separated ring conductor) is also possible.

With the high-voltage-resistant, insulated conductor a separation distance to electrically conductive parts according to IEC 62305-3 is maintained. Equivalent separation distance $s < 0,75 \text{ m}$ (air) or $s < 1.5 \text{ m}$ (solid material).

HVI®Conductor pre-assembled

The pre-assembled HVI Conductor is delivered with one head piece and one connection element (loosely included). The following types are available:

- HVI Conductor pre-assembled for installation inside of tube
- HVI Conductor pre-assembled for installation outside of tube

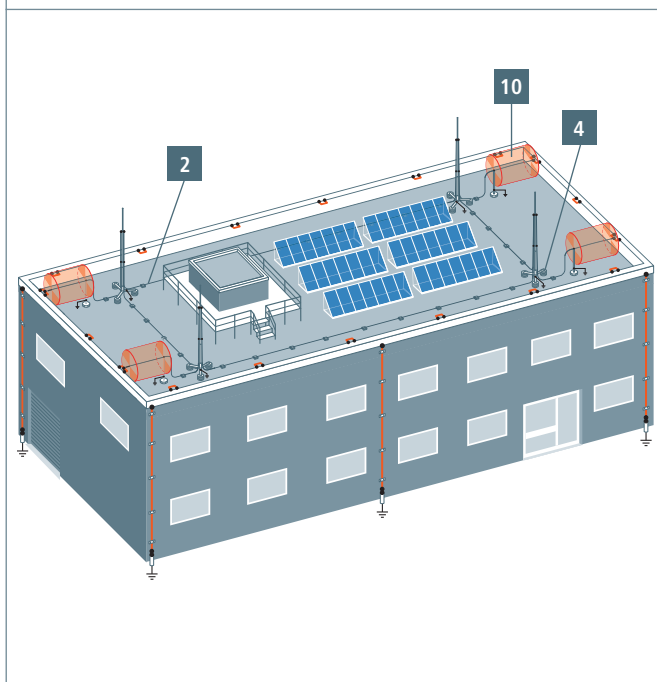
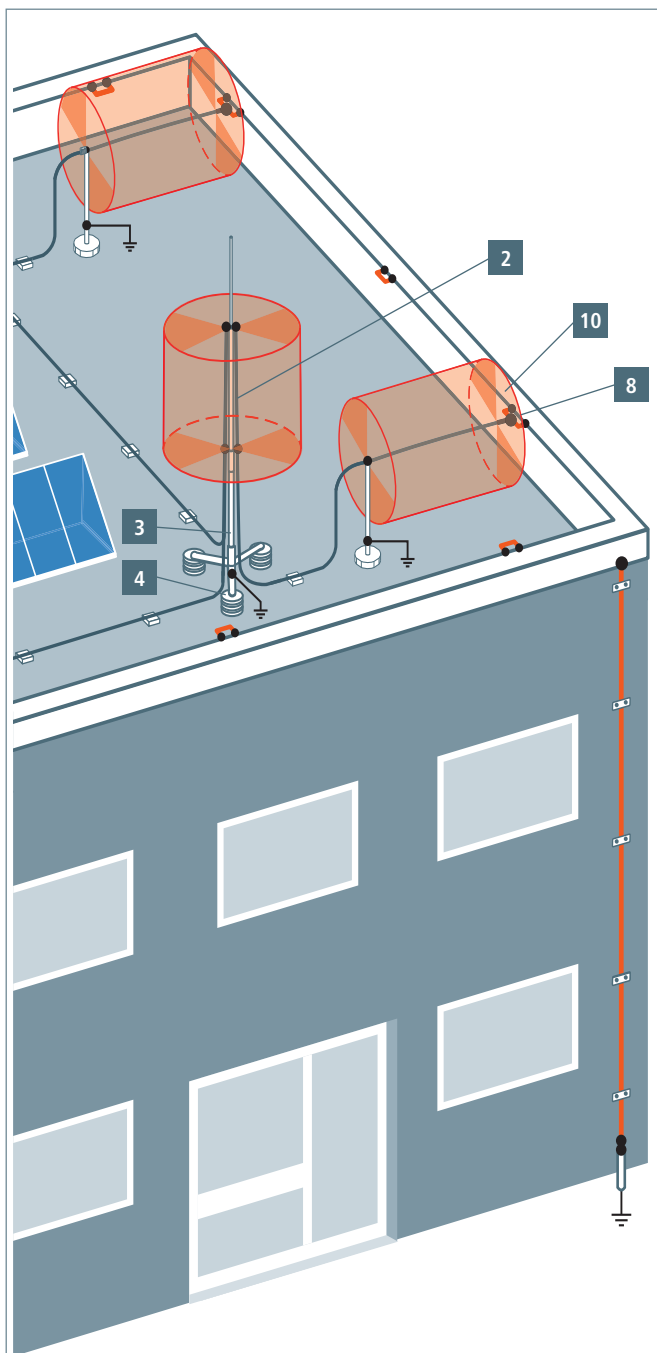
HVI®long Conductor

Due to an undefined or changing building situation in case of new buildings or building restorations, the exact conductor length can rarely be defined at the design stage of the lightning protection system. Therefore, the HVI long Conductor can be assembled on site.

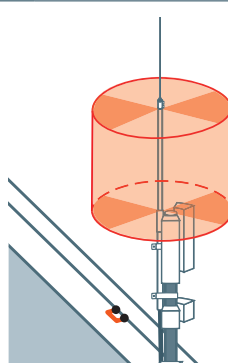
The HVI long Conductor is available in a length of 100 m on a disposable plywood reel (diameter approx. 800 mm, width approx. 485 mm) with one Allen key included in delivery. The installer determines the exact length on site, cuts the conductor to length, strips it and attaches the sealing ends.



Technical data	HVI®Conductor		HVI®long	
	black	grey	black	grey
Structure	solid / stranded	solid / stranded	solid / stranded	solid / stranded
Cross-section of interior conductor (Cu)	19 mm ²	19 mm ²	19 mm ²	19 mm ²
Conductor colour	black	grey	black	grey
Outer diameter	20 mm	23 mm	20 mm	23 mm
Equivalent separation distance (air)	≤ 75 cm	≤ 75 cm	≤ 75 cm	≤ 75 cm
Equivalent separation distance (solid material)	≤ 150 cm	≤ 150 cm	≤ 150 cm	≤ 150 cm
Minimum bending radius (OD = outer diameter)	10 x OD, 200 mm	10 x OD, 230 mm	10 x OD, 200 mm	10 x OD, 230 mm
Operating temperature	-30 °C ... +70 °C	-30 °C ... +70 °C	-30 °C ... +70 °C	-30 °C ... +70 °C
Temperature for installation	-5 °C ... +40 °C	-5 °C ... +40 °C	-5 °C ... +40 °C	-5 °C ... +40 °C
Tensile strength	950 N	950 N	950 N	950 N
UV stability / weather resistance	yes	yes	yes	yes
Tested with I _{imp} (10/350 μs)	150 kA	150 kA	150 kA	150 kA
For use in class of LPS (at k _c = 1)	II, III, IV	II, III, IV	II, III, IV	II, III, IV
Installation in Ex zone 1 and 21	possible	possible	possible	possible
Minimum order quantity	> 6 m	> 6 m	100 m	100 m
Cable weight / 100 m	—	—	48 kg	~ 63 kg

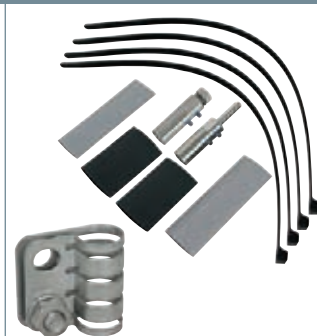


1 Supporting Tube with HVI®Conductor



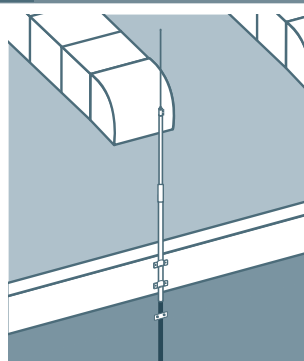
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2 HVI®Conductor / HVI®long Conductor and Accessories



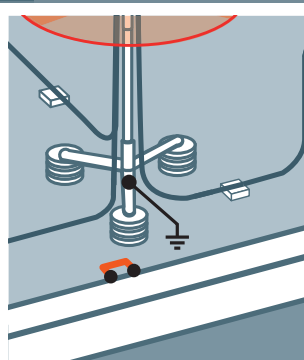
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3 Supporting Tube for HVI®long Conductor



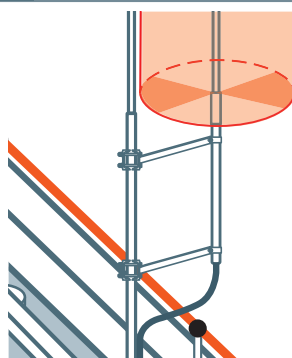
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4 Tripod for Supporting Tube and Accessories

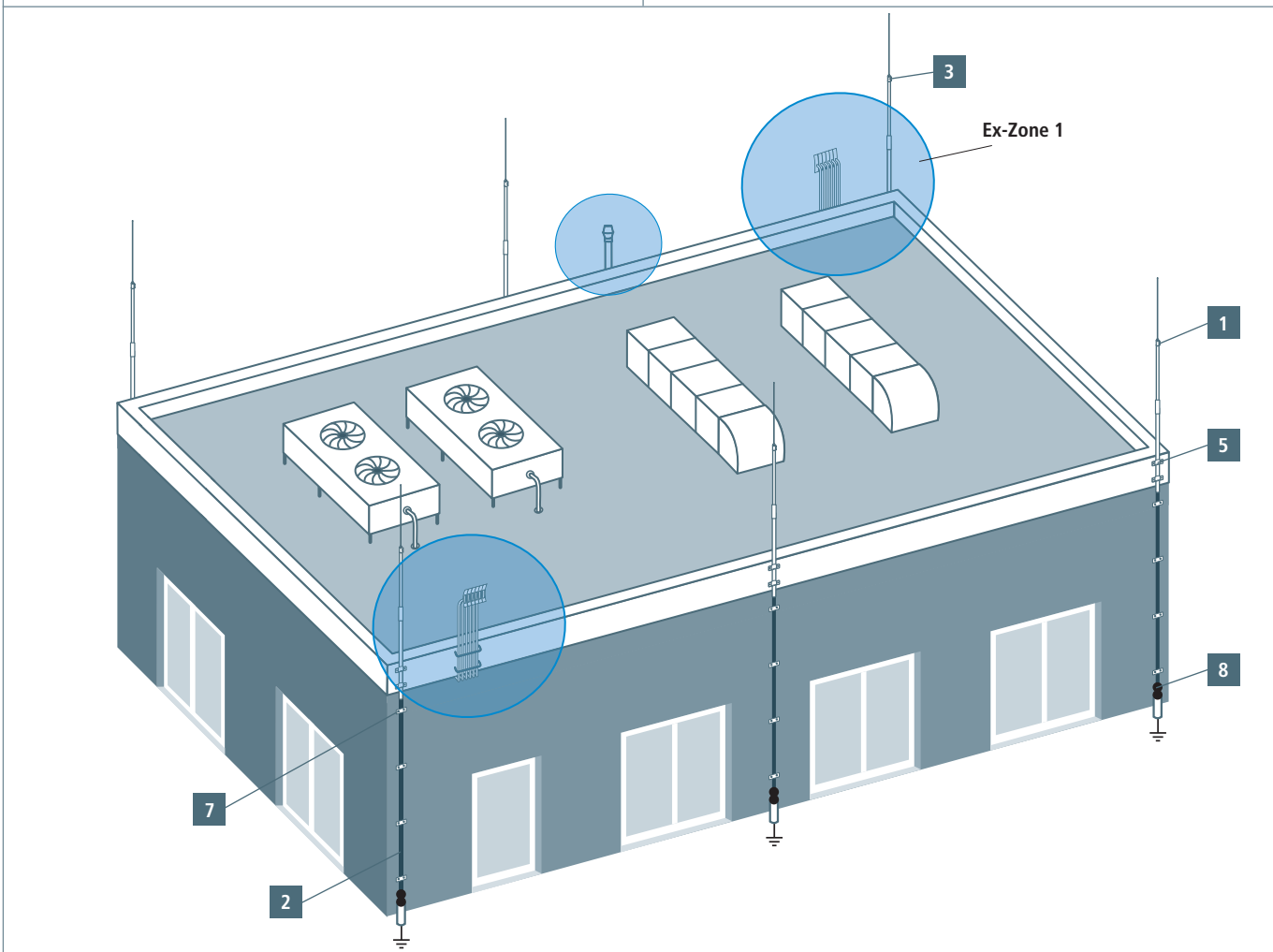
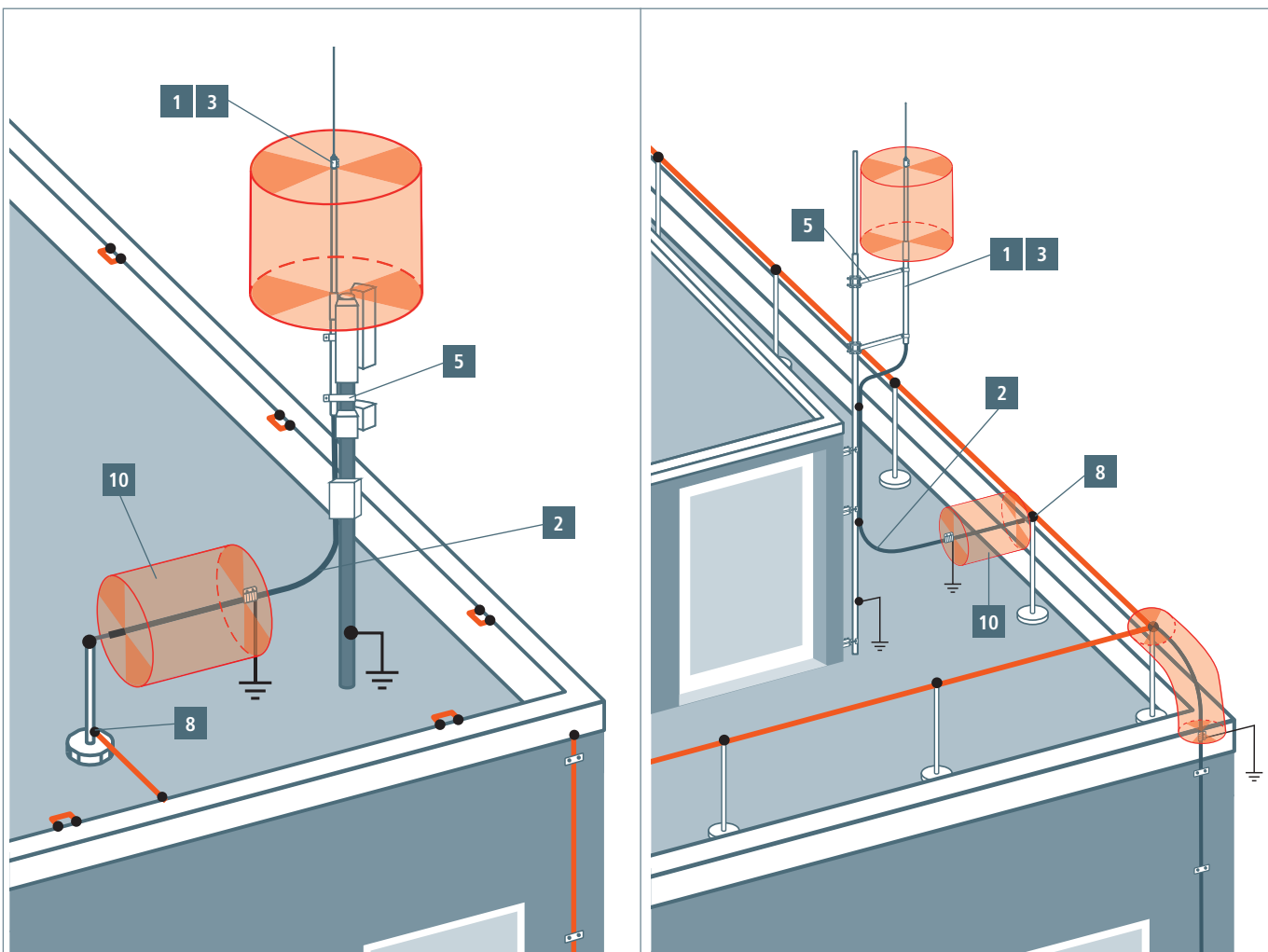


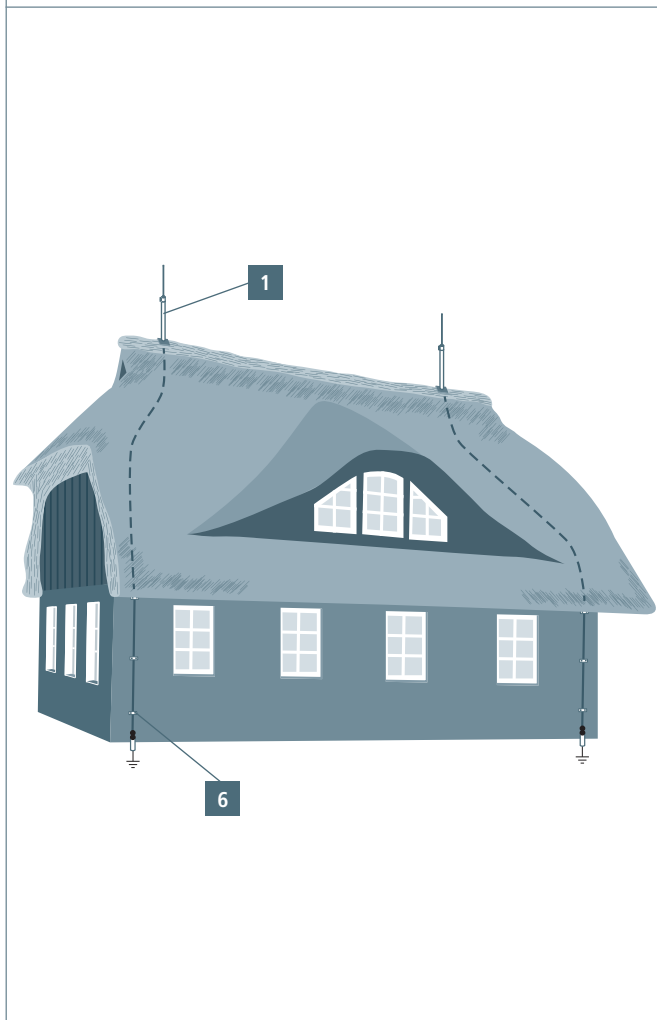
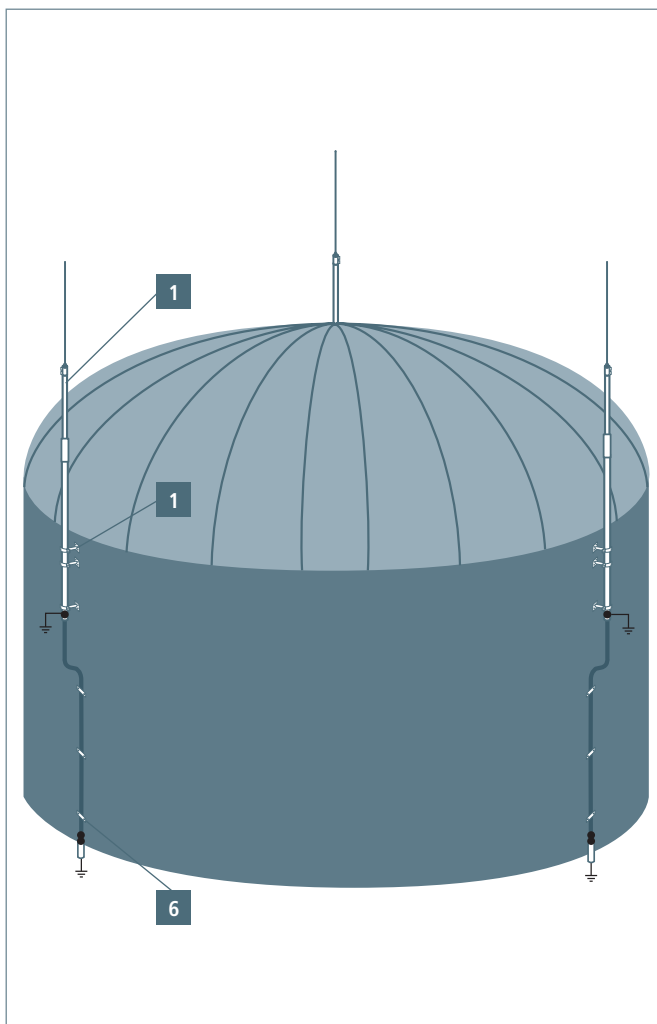
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5 Fixing Elements for Supporting Tube

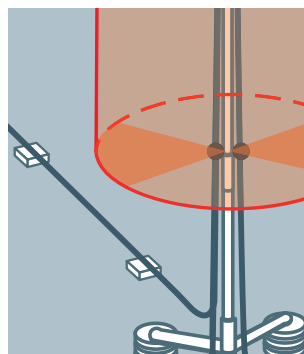


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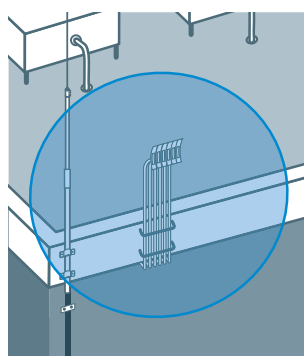


6 Conductor Holders and Accessories



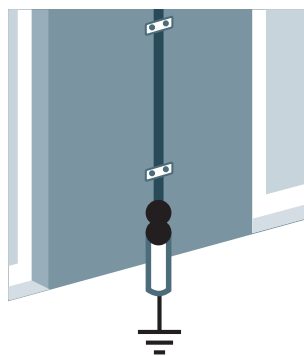
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7 Conductor Holders for HVI®Conductor in Ex Areas



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8 Connecting Components 200 kA (10/350 μ s)



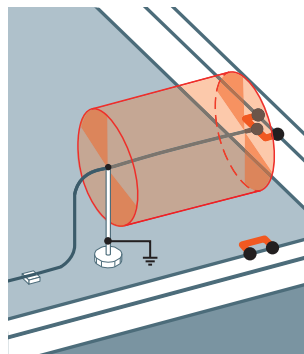
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9 Tools for the HVI®Conductor



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10 Sealing End Range



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1 Supporting Tube with HVI®Conductor

Visually appealing installation of HVI Conductor inside of the supporting tube with small wind exposed surface area.
For use up to an equivalent separation distance $s \leq 75$ cm (in air) or $s \leq 150$ cm (solid material).
Conductor length to be indicated when ordering (steps of 0.5 m).

HVI®Conductor in supporting tube with air-termination rod

With interior sealing end and air-termination rod StSt Ø10 mm, length 1000 mm.



Part No.	819 326 ^{NEW}	819 336 ^{NEW}
Material of supporting tube	GRP / AI	GRP / AI
Length of supporting tube	3200 mm	3200 mm
Transport length	3200 mm	3200 mm
Diameter Ø conductor	20 mm	23 mm
Colour of conductor	black ●	grey ●
Material of conductor	Cu	Cu
Minimum order length	6 m	6 m
Max. free length with air-termination rod (wall mounting)	3500 mm	3500 mm
Max. gust wind speed (wall mounting, 1x HVI inside)	237 km/h	237 km/h
Max. gust wind speed (wall mounting, 1x HVI outside)	227 km/h	225 km/h
Max. gust wind speed (wall mounting, 4x HVI outside)	197 km/h	197 km/h
PU	1 pc(s)	1 pc(s)

Max. gust wind speed (tripod with supporting tube) see table on page 142.

HVI®Conductor in supporting tube with air-termination rod

With interior sealing end and air-termination rod Al Ø22 / 16 / 10 mm, length 2500 mm.



Part No.	819 328 ^{NEW}	819 338 ^{NEW}	819 426 ^{NEW}	819 438 ^{NEW}
Material of supporting tube	GRP / AI	GRP / AI	GRP / AI	GRP / AI
Length of supporting tube	3200 mm	3200 mm	4700 mm	4700 mm
Transport length	3200 mm	3200 mm	4700 mm	4700 mm
Diameter Ø conductor	20 mm	23 mm	20 mm	23 mm
Colour of conductor	black ●	grey ●	black ●	grey ●
Material of conductor	Cu	Cu	Cu	Cu
Minimum order length	6 m	6 m	6 m	6 m
Max. free length with air-termination rod (wall mounting)	5000 mm	5000 mm	5000 mm	5000 mm
Max. gust wind speed (wall mounting, 1x HVI inside)	190 km/h	190 km/h	190 km/h	190 km/h
Max. gust wind speed (wall mounting, 1x HVI outside)	175 km/h	175 km/h	175 km/h	175 km/h
Max. gust wind speed (wall mounting, 4x HVI outside)	163 km/h	163 km/h	163 km/h	163 km/h
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)

Max. gust wind speed (tripod with supporting tube) see table on page 142.

HVI®Conductor in supporting tube (lateral outlet) with air-termination rod and tripod small

With interior sealing end and air-termination rod StSt Ø10 mm, length 1000 mm or air-termination rod Al Ø22 / 16 / 10 mm, length 2500 mm. With tripod (Part No. 105 390) and threaded rods set (Part No. 105 397).



Part No.	819 371 ^{NEW}	819 381 ^{NEW}	819 373 ^{NEW}	819 383 ^{NEW}
Design	air-termination rod	air-termination rod	air-termination rod	air-termination rod
Material of supporting tube	GFK / AI	GFK / AI	GFK / AI	GFK / AI
Length of supporting tube	3200 mm	3200 mm	3200 mm	3200 mm
Transport length	3200 mm	3200 mm	3200 mm	3200 mm
Diameter Ø conductor	20 mm	23 mm	20 mm	23 mm
Colour of conductor	black ●	grey ●	black ●	grey ●
Material of conductor	Cu	Cu	Cu	Cu
Radius of tripod	600 mm	600 mm	600 mm	600 mm
Space required for tripod	1400 x 1200 mm	1400 x 1200 mm	1400 x 1200 mm	1400 x 1200 mm
Length of threaded rods	M16 x 520 mm	M16 x 520 mm	M16 x 520 mm	M16 x 520 mm
Minimum order length	6 m	6 m	6 m	6 m
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)

Max. gust wind speed (tripod with supporting tube) see table on page 142.

HVI®Conductor in supporting tube (lateral outlet) with air-termination rod and tripod large

With interior sealing end and air-termination rod Al Ø22 /16 / 10 mm, length 2500 mm.

With tripod (Part No. 105 391) and threaded rods set (Part No. 105 397).

Part No.	819 473 <small>NEW</small>	819 483 <small>NEW</small>
Material of supporting tube	GRP / Al	GRP / Al
Length of supporting tube	4700 mm	4700 mm
Transport length	4700 mm	4700 mm
Diameter Ø conductor	20 mm	23 mm
Colour of conductor	black ●	grey ●
Material of conductor	Cu	Cu
Radius of tripod	1450 mm	1450 mm
Space required for tripod	2900 x 2600 mm	2900 x 2600 mm
Length of threaded rods	M16 x 650 mm	M16 x 650 mm
Minimum order length	6 m	6 m
PU	1 pc(s)	1 pc(s)



Max. gust wind speed (tripod with supporting tube) see table on page 142.

Due to the order-related production (customised conductor length) the conductor can not be taken back.

1 Air-termination Mast with HVI®Conductor

For a maximum free length of the whole air-termination system of 8.5 m.

To be fixed with three variable supports (Part No. 105 345).

Transport length 6000 mm


With one HVI®Conductor

With 1 x HVI Conductor installed inside, conductor length 10 m.

Any required additional length of the HVI Conductor has to be ordered separately (steps of 0.5 m).

Maximum total length of the HVI Conductor 12.5 m for lightning protection system class II.

Maximum total length of the HVI Conductor 19 m for lightning protection system class III.

Part No.	819 720
Total length of air-termination mast	10350 mm
Length of air-termination rod	2500 mm
Length of supporting tube	2050 mm
Length of mast pipe	6000 mm
Max. gust wind speed	139 km/h
PU	1 pc(s)


With two HVI®Conductors

With 2x HVI Conductor, conductor length 10.0 m, installed inside and outside.

Any required additional lengths of the HVI Conductors have to be ordered separately (twice – in steps of 0.5 m)

Maximum total length of the HVI Conductors 16.5 m for lightning protection system class II.

Maximum total length of the HVI Conductors 24 m for lightning protection system class III.

Part No.	819 750
Total length of air-termination mast	10350 mm
Length of air-termination rod	2500 mm
Length of supporting tube	2050 mm
Length of mast pipe	6000 mm
Max. gust wind speed	139 km/h
PU	1 pc(s)


Accessories for Air-termination Mast with HVI®Conductor
Variable Support for Air-termination Masts

Three supports per air-termination mast are to be mounted.

Clamping range of air-termination mast Ø60 mm.

Part No.	105 345
Material of support	St/tZn
Range of adjustment	250-350 mm
Fixing bores Ø	[4x] 12 x 25 mm
PU	1 pc(s)





2 HVI®Conductor

High-voltage-resistant, insulated down conductor for keeping the separation distance to electrically conductive parts according to IEC 62305-3.

For use up to an equivalent separation distance $s \leq 75$ cm (in air) or $s \leq 150$ cm (solid material).

HVI®Conductor (pre-assembled, installation inside of tube)

With one head piece and one connection element (loosely enclosed).

Minimum order length 6 m, conductor length to be indicated when ordering (in steps of 0.5 m).

Part No.	819 220	819 223
Material of conductor	Cu	Cu
Material of insulation	PE	PE
Material of coating	PVC	PVC
Colour of conductor	black ●	grey ●
Diameter Ø conductor	20 mm	23 mm
Minimum order length	6 m	6 m
PU	1 pc(s)	1 pc(s)

HVI®Conductor (pre-assembled, installation outside of tube)

With one head piece and one connection element (loosely enclosed).

Minimum order length 6 m, conductor length to be indicated when ordering (in steps of 0.5 m).

Part No.	819 226	819 227
Material of conductor	Cu	Cu
Material of insulation	PE	PE
Material of coating	PVC	PVC
Colour of conductor	black ●	grey ●
Diameter Ø conductor	20 mm	23 mm
Minimum order length	6 m	6 m
PU	1 pc(s)	1 pc(s)

HVI®long Conductor (on cable reel)

The HVI long Conductor for on-site assembly will be delivered in a length of 100 m on a disposable plywood reel (diameter approx. 800 mm, width approx. 485 mm) incl. one Allen key.

Part No.	819 135	819 136
Material of conductor	Cu	Cu
Material of insulation	PE	PE
Material of coating	PVC	PVC
Colour of conductor	black ●	grey ●
Diameter Ø conductor	20 mm	23 mm
PU	100 m	100 m

HVI®long Conductor (cut to length)

HVI long Conductor cut to length for on-site assembly. Conductor will be delivered on coil (max. 70 m).

Conductor length to be indicate when ordering (0.5 m steps).

Part No.	819 131 ^{NEW}	819 132 ^{NEW}
Material of conductor	Cu	Cu
Material of insulation	PE	PE
Material of coating	PVC	PVC
Colour of conductor	black ●	grey ●
Diameter Ø conductor	20 mm	23 mm
Minimum order length	6 m	6 m
PU	1 pc(s)	1 pc(s)

NEW



2 Connection Elements for HVI®long Conductor



Connection kit for HVI®long Conductor Ø20 mm inside of supporting tube

Connection elements for sealing the HVI long Conductor at both ends, for implementing the sealing end of the conductor in the supporting tube (head piece) and connection element for other parts of the external lightning protection system or earth-termination system (incl. two heat-shrinkable sleeves).

These connection elements may be used with HVI long supporting tubes.

Part No.	819 145
Material	StSt
Connection	bolt Ø10 mm, L 50 mm
Diameter Ø connection element	23 mm
PU	1 pc(s)



Connection kit for HVI®long Conductor Ø20 mm outside of supporting tube

Connection elements for sealing the HVI long Conductor at both ends, for implementing the sealing end of the conductor outside of the supporting tube (head piece for connection plate) and connection element for connecting other parts of the external lightning protection system or earth-termination system (incl. two heat-shrinkable sleeves and four cable ties).

These connection elements may only be used with the fixing kit (Part No. 819 294) at HVI long supporting tubes.

Part No.	819 146
Material	StSt
Connection	bolt Ø10 mm, L 50 mm
Diameter Ø connection element	23 mm
PU	1 pc(s)



Connection element (head piece) for HVI®long Conductor Ø20 mm outside of supporting tube

Connection element for sealing the HVI long Conductor, for implementing the sealing end of the conductor outside at the supporting tube (head piece for connection plate). Incl. one heat-shrinkable sleeve and two cable ties.

Part No.	819 197 ^{NEW}
Material	StSt
Connection	thread M12
Diameter Ø connection element	23 mm
PU	1 pc(s)



Connection element for HVI®long Conductor Ø20 mm

Connection element for sealing the HVI long Conductor, for implementing the sealing end of the conductor for other parts of the external lightning protection or earth-termination system. Incl. one heat-shrinkable sleeve and two cable ties.

Part No.	819 199 ^{NEW}
Material	StSt
Connection	bolt Ø10 mm, L 50 mm
Diameter Ø connection element	23 mm
PU	1 pc(s)



Connection kit for HVI®long Conductor Ø23 mm inside of supporting tube

Connection elements for sealing the HVI long Conductor at both ends, for implementing the sealing end of the conductor inside the supporting tube (head piece) and connection element for other parts of the external lightning protection or earth-termination system (incl. four heat-shrinkable sleeves).

These connection elements may only be used with HVI long supporting tubes.

Part No.	819 147
Material	StSt
Connection	bolt Ø10 mm, L 50 mm
Diameter Ø connection element	23 mm
PU	1 pc(s)





Connection kit for HVI®long Conductor Ø23 mm outside of supporting tube

Connection elements for sealing the HVI long Conductor at both ends, for implementing the sealing end of the conductor outside the supporting tube (head piece for connection plate) and connection element for other parts of the external lightning protection or earth-termination system (incl. four heat-shrinkable sleeves and four cable ties).

These connection elements may only be used with the fixing kit (Part No. 819 294) and with HVI supporting tubes.

Part No.	819 148
Material	StSt
Connection	bolt Ø10 mm, L 50 mm
Diameter Ø connection element	23 mm
PU	1 pc(s)



NEW

Connection element (head piece) for HVI®long Conductor Ø23 mm outside of supporting tube

Connection element for sealing the HVI long Conductor, for implementing the sealing end of the conductor outside of the supporting tube (head piece for connection plate). Incl. two heat-shrinkable sleeves and two cable ties.

Part No.	819 196 ^{NEW}
Material	StSt
Connection	thread M12
Diameter Ø connection element	23 mm
PU	1 pc(s)



NEW

Connection element for HVI®long Conductor Ø23 mm

Connection element for sealing the HVI long Conductor, for implementing the sealing end of the conductor for other parts of the external lightning protection or earth termination system. Incl. two heat-shrinkable sleeves and two cable ties.

Part No.	819 198 ^{NEW}
Material	StSt
Connection	bolt Ø10 mm, L 50 mm
Diameter Ø connection element	23 mm
PU	1 pc(s)



Fixing kit for HVI®long Conductor Ø20 mm

Fixing kit for installing the HVI long Conductor at HVI long supporting tubes, consisting of connection plate (for four conductors, incl. two serrated lock nuts) and fixing ring with four slotted conductor holders (D 20 mm) for the sealing end (incl. two cable ties).

Part No.	819 294
Material	StSt
Connection plate support	square hole 13 mm
Conductor holder	4 x 20 mm
PU	1 pc(s)

EB Connection element for HVI®long Conductor

For discharging the electric field of the HVI long Conductor in the sealing end range. Special slotted design for electrically contacting of the semi-conductive sheath.



Part No.	410 229
Material	StSt
Clamping range Ø	20 mm
Connection bore Ø	11 mm
PU	1 pc(s)



NEW

Connection plate

Connection plate (for four conductors, incl. two serrated lock nuts) for installing the HVI long Conductor at the supporting tube D 50 mm (e.g. Part No. 105 330, 105 331, 105 332, 105 333).

Part No.	819 288 ^{NEW}
Material	StSt
Connection plate support	square hole 13
PU	1 pc(s)

3 Supporting Tubes for HVI®long Conductor



With air-termination rod

Supporting tube with interior sealing end and EB spring element.
Air-termination rod StSt, Ø10 mm, length 1000 mm.

Part No.	105 330	105 332	105 314	105 316
Material of supporting tube	GRP / Al	GRP / Al	GRP / StSt	GRP / StSt
Length of supporting tube	3200 mm	4700 mm	3200 mm	4700 mm
Diameter Ø outside	50 mm	50 mm	50 mm	50 mm
Transport length	3200 mm	4700 mm	3200 mm	4700 mm
Length of insulating clearance	1535 mm	1535 mm	1535 mm	1535 mm
Max. free length with air-termination rod (wall mounting)	3500 mm	3500 mm	3500 mm	3500 mm
Max. gust wind speed (wall mounting, 1x HVI inside)	237 km/h	237 km/h	234 km/h	234 km/h
Max. gust wind speed (wall mounting, 1x HVI outside)	225 km/h	225 km/h	229 km/h	229 km/h
Max. gust wind speed (wall mounting, 4x HVI outside)	197 km/h	197 km/h	200 km/h	200 km/h
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)

With air-termination rod

Supporting tube with interior sealing end and EB spring element.
Air-termination rod Ø22/16/10 mm, length 2500 mm.

Part No.	105 331	105 333	105 315	105 317
Material of air-termination rod	Al	Al	StSt	StSt
Material of supporting tube	GRP / Al	GRP / Al	GRP / StSt	GRP / StSt
Length of supporting tube	3200 mm	4700 mm	3200 mm	4700 mm
Diameter Ø outside	50 mm	50 mm	50 mm	50 mm
Transport length	3200 mm	4700 mm	3200 mm	4700 mm
Length of insulating clearance	1535 mm	1535 mm	1535 mm	1535 mm
Max. free length with air-termination rod (wall mounting)	5000 mm	5000 mm	5000 mm	5000 mm
Max. gust wind speed (wall mounting, 1x HVI inside)	190 km/h	190 km/h	188 km/h	188 km/h
Max. gust wind speed (wall mounting, 1x HVI outside)	175 km/h	175 km/h	173 km/h	173 km/h
Max. gust wind speed (wall mounting, 4x HVI outside)	163 km/h	163 km/h	159 km/h	159 km/h
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)

With air-termination rod and lateral outlet

Supporting tube with interior sealing end and EB spring element.
Air-termination rod StSt, Ø10 mm, length 1000 mm.

Part No.	105 325	105 327	105 336	105 338
Material of supporting tube	GRP / Al	GRP / Al	GRP / StSt	GRP / StSt
Length of supporting tube	3200 mm	4700 mm	3200 mm	4700 mm
Diameter Ø outside	50 mm	50 mm	50 mm	50 mm
Transport length	3200 mm	4700 mm	3200 mm	4700 mm
Length of insulating clearance	1535 mm	1535 mm	1535 mm	1535 mm
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)

With air-termination rod and lateral outlet

Supporting tube with interior sealing end and EB spring element.
Air-termination rod Ø22/16/10 mm, length 2500 mm.

Part No.	105 326	105 328	105 337	105 339
Material of air-termination rod	Al	Al	StSt	StSt
Material of supporting tube	GRP / Al	GRP / Al	GRP / StSt	GRP / StSt
Length of supporting tube	3200 mm	4700 mm	3200 mm	4700 mm
Diameter Ø outside	50 mm	50 mm	50 mm	50 mm
Transport length	3200 mm	4700 mm	3200 mm	4700 mm
Length of insulating clearance	1535 mm	1535 mm	1535 mm	1535 mm
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)

Max. gust wind speed (tripod with supporting tube) see table on page 142.



4 Tripod for Supporting Tubes without Lateral Outlet

Special design for HVI Conductor installed inside / outside of the supporting tube, with double cleat for connection of 2x Rd 8-10 mm. For keeping the bending radius of the HVI Conductor at the tripod, two concrete bases are positioned underneath and one above the brace. Adjustable to the roof inclination up to max. 10°. The stackable concrete base (Part No. 102 010) and the support plate (Part No. 102 050) have to be ordered separately.

Tripod small

Suitable for the HVI Conductor installed inside of the supporting tube.



Part No.	105 351 <small>NEW</small>
Material of tripod	St/tZn
Radius	620 mm
Quantity of concrete bases	3-12 blocks 17 kg each
Space required for tripod	1300 x 1450 mm
PU	1 pc(s)

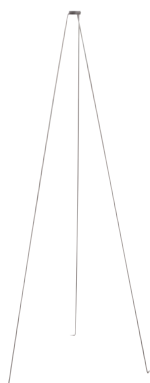
Tripod large

Suitable for the HVI Conductor installed outside of the supporting tube.



Part No.	105 201 <small>NEW</small>
Material of tripod	St/tZn
Radius	1435 mm
Quantity of concrete bases	3-12 blocks 17 kg each
Space required for tripod	2530 x 2850 mm
PU	1 pc(s)

Accessories for Tripod for Supporting Tubes without Lateral Outlet



Bracing

Bracing, 3-fold with clamp for tubes D 50 mm for fastening at the tripod (Part No. 105 201). Bracing suitable for supporting tubes with a length of 4700 mm (e.g. Part No. 105 332, 105 316, 105 333, 105 317).

Part No.	105 601
Material	StSt
Brace length	2910 mm
Ø clamp	50 mm
PU	1 pc(s)

Concrete Base

For wedge mounting, stackable, for air-termination rods Ø16 mm, chamfered or tapered, DEHNiso spacers Ø16 mm or conductor holder (Part No. 253 279).



Part No.	102 010
Weight	17 kg
Support	wedge mounting Ø16 mm
Diameter Ø	337 mm
Material	concrete (C45/55)
Material of wedge / adapter	StSt
PU	54 pc(s)

Support Plate

For protecting the roofing sheets under the concrete base. For concrete bases (Part No. 102 010, 102 002).



Part No.	102 050
Diameter Ø outside	370 mm
Diameter Ø inside	360 mm
Material	EVA
Colour	black ●
PU	1 pc(s)

4 Tripods for Supporting Tubes with Lateral Outlet



Special design for HVI Conductor installed inside the supporting tube, with lateral outlet and double cleat for connection of 2x Rd 8-10 mm. Adjustable to the roof inclination up to max. 5°

The stackable concrete base (Part No. 102 010) and the support plate (Part No. 102 050) as well as the threaded rod sets (Part No. 105 396-105 398 or Part No. 105 496-105 498) have to be ordered separately.

Tripod small

Part No.	105 390
Material	StSt
Radius	600 mm
Space required for tripod	1400 x 1200 mm
PU	1 pc(s)



Tripod large

Part No.	105 391
Material	StSt
Radius	1450 mm
Space required for tripod	2900 x 2500 mm
PU	1 pc(s)



HVI®Conductor

Four-legged support small

Part No.	105 490
Material	StSt
Radius	600 mm
Space required for tripod	1200 x 1200 mm
PU	1 pc(s)



Four-legged support large

Part No.	105 491
Material	StSt
Radius	1450 mm
Space required for tripod	2400 x 2400 mm
PU	1 pc(s)



Accessories for Tripods for Supporting Tubes with Lateral Outlet

Threaded Rod Sets for Tripod

Three threaded rods with base plate 44 x 4 mm and 3x nut with spring washer each.

Part No.	105 396	105 397	105 398
For tripod	Part No. 105 390	Part No. 105 390 / 105 391	Part No. 105 391
Quantity of concrete blocks	1 to 2	1 to 3	3 to 4
Material	StSt	StSt	StSt
Length (l1)	M16 x 340 mm	M16 x 520 mm	M16 x 650 mm
PU	1 pc(s)	1 pc(s)	1 pc(s)



Threaded Rod Sets for Four-legged Support

Four threaded rods with base plate 44 x 4 mm and 3x nut with spring washer each.

Part No.	105 496	105 497	105 498
For four-legged support	Part No. 105 490	Part No. 105 490 / 105 491	Part No. 105 491
Quantity of concrete blocks	1 to 2	1 to 3	3 to 4
Material	StSt	StSt	StSt
Length (l1)	M16 x 340 mm	M16 x 520 mm	M16 x 650 mm
PU	1 pc(s)	1 pc(s)	1 pc(s)



Accessories for Tripods for Supporting Tubes with Lateral Outlet

Concrete Base

Concrete base without wedge, for the erection of tripods.



Part No.	102 012
Weight	17 kg
Support	Ø16 mm mm
Diameter Ø	337 mm
Material	concrete (C45/55)
PU	27 pc(s)

Support Plate

For protecting the roofing sheets under the concrete base.
For concrete bases (Part No. 102 010, 102 002).



Part No.	102 050
Diameter Ø outside	370 mm
Diameter Ø inside	360 mm
Material	EVA
Colour	black ●
PU	1 pc(s)

5 Fixing Elements for Supporting Tubes

Fixing Clamp with Tensioning Strap

For fixing the supporting tubes at construction elements e.g. antenna masts.



Part No.	105 360
Material of clip	StSt
Clamping range of supporting tube	50 mm
Clamping range of pipe Ø	50-300 mm
Material of tensioning strap	StSt
Dimension of strap (w x d)	25 x 0.3 mm
PU	1 pc(s)

Fixing Clamp with Tensioning Strap

With additional spacer for adjusting the fasteners of sector antennas at the mast.



Part No.	105 361
Material of clip	StSt
Clamping range of supporting tube	50 mm
Clamping range of pipe Ø	50-300 mm
Material of tensioning strap	StSt
Dimension of strap (w x d)	25 x 0.3 mm
Length of spacer	30 mm
PU	1 pc(s)

Fixing Clamp with Tensioning Strap

With additional long spacer for adjusting the fasteners of sector antennas at the mast.



Part No.	105 362
Material of clip	StSt
Clamping range of supporting tube	50 mm
Clamping range of pipe Ø	50-300 mm
Material of tensioning strap	StSt
Dimension of strap (w x d)	25 x 0.3 mm
Length of spacer	95 mm
PU	1 pc(s)

Fixing Bracket

For fixing the supporting tubes at the structure to be protected or on the wall.

Part No.	105 340
Material	StSt
Clamping range of supporting tube	50 mm
Wall / corner distance	80 mm
Dimension of fixing	320 mm
Fixing	[8x] Ø5.1 / [4x] 11 x 20 mm
PU	1 pc(s)

**Fixing Bracket**

For fixing the supporting tubes at the structure to be protected or on the wall.

Part No.	105 341
Material	StSt
Clamping range of supporting tube	50 mm
Wall / corner distance	80 mm
Dimension of fixing	152 mm
Fixing	[8x] Ø5.1 / [4x] 11 x 20 mm
PU	1 pc(s)

**Fixing Bracket**

Wall mounting bracket for vertical mounting.

For fastening of the supporting tubes or air-termination rods D40 / D50.

Part No.	105 342
Material of bracket	StSt
Fixing	[8x] Ø5.1 / [4x] 7 x 10 / [2x] 11 x 20 mm
Clamping range of supporting tube	40-50 mm
Wall / corner distance	46 mm
Dimension of fixing	170 mm
PU	1 pc(s)

**Fixing Bracket**

Wall mounting bracket with adjustment range between 150-200 mm.

For fastening of supporting tubes or air-termination rods D40 / D50 with double cleat for connection of 2x Rd 8-10 mm.

Part No.	105 344
Material of bracket	StSt
Clamping range of supporting tube	40-50 mm
Wall / corner distance	150-200 mm
Dimension of plate	120 x 120 x 4 mm
Fixing	[4x] 12 x 26 mm
Standard	EN 62561-1
PU	1 pc(s)

**Fixing Bracket**

Wall mounting bracket with adjustment range between 400-700 mm.

For fastening of the supporting tubes or air-termination rods D40 / D50.

Part No.	105 343
Material of bracket	St/tZn / StSt
Clamping range of supporting tube	40-50 mm
Wall / corner distance	400-700 mm
Dimension of plate	120 x 120 x 4 mm
Fixing	[4x] 12 x 25 mm
PU	1 pc(s)



Accessories for Fixing Elements for Supporting Tubes

**Railing Clamp**

For pipes.

Part No.	105 354
Material	StSt
Clamping range of pipe Ø	48-60 mm (1 1/2-2")
Clamping range of supporting tube	40-50 mm
PU	5 pc(s)

**Railing Clamp**

For pipes.

Part No.	105 355
Material	StSt
Clamping range of pipe Ø	70-90 mm (2 1/4-3")
Clamping range of supporting tube	40-50 mm
PU	5 pc(s)

**Railing Clamps**

For square hollow profiles.

Part No.	105 356	105 376
Material	StSt	StSt
Clamping range of square profile	20 x 20 bis 50 x 50 mm	60 x 120 mm
Clamping range of supporting tube	40-50 mm	40-50 mm
PU	5 pc(s)	5 pc(s)

**5 Spacers for Omnidirectional Antennas**

Spacer for DEHNiso Combi supporting tubes with inside and / or outside installed HVI Conductor mounted on the antenna mast.



Part No.	105 363	105 364	105 365
Material of support / square profile	St/tZn	St/tZn	St/tZn
Clamping range (Ø mast)	55-100 mm	100-150 mm	150-190 mm
Clamping range of supporting tube	50 mm	50 mm	50 mm
Length of spacer	1000 mm	1000 mm	1000 mm
Dimension (w1 x h1 x d1)	140 x 120 x 55 mm	190 x 140 x 60 mm	230 x 180 x 70 mm
PU	1 pc(s)	1 pc(s)	1 pc(s)

6 Accessories for HVI®Conductor and HVI®long Conductor

Roof Conductor Holder for Flat Roofs

For fixing round and strip conductors on flat roofs with single conductor holder Type FB.

Part No.	253 015
Conductor leading	loose
Material of conductor holder	plastic
Conductor holder support Rd	8 mm
Block	concrete (C35/45)
Weight	1 kg
PU	10 pc(s)



Adapter for Installation of the HVI®light Conductor on Flat Roofs

With roof conductor holder Type FB (Part No. 253 015) for snapping on.

Part No.	253 026
Material	plastic
Colour	black ●
Conductor holder support Rd	20 mm
PU	50 pc(s)



Adapter for Installation of the HVI®light Conductor / HVI®Conductor on Flat Roofs

With roof conductor holder Type FB (Part No. 253 015), for snapping on.

Part No.	253 027
Material	plastic
Colour	black ●
Conductor holder support Rd	23 mm
PU	50 pc(s)



Roof Conductor Holder

For flat roofs, weight approx. 4.7 kg.

Conductor holder, concrete block and base plate, to install the HVI light Conductor, HVI Conductor on flat roofs.

Part No.	253 229 ^{NEW}
Material of conductor holder	StSt
Conductor holder support Rd	20 / 23 mm
Total weight	approx. 4.7 kg
PU	1 pc(s)



Roof Conductor Holder

For flat roofs, weight approx. 8.6 kg.

Conductor holder, concrete block and base plate, for installing the HVI light Conductor, HVI Conductor on flat roofs.

Part No.	253 239 ^{NEW}
Material of conductor holder	StSt
Conductor holder support Rd	20 / 23 mm
Total weight	approx. 8.6 kg
PU	1 pc(s)



NEW

Conductor Holder

Conductor holder with slotted cleat for HVI light Conductor, HVI Conductor for fastening in the base plate (Part No. 253 300) with concrete block (Part No. 253 301).

Part No.	253 289 ^{NEW}
Material	StSt
Conductor holder support Rd	20 / 23 mm
Height of conductor holder	87 mm
Bolt	Ø10 mm (push-fit)
PU	24 pc(s)

Concrete Block

For stabilising the support plate.



Part No.	253 301
Material	concrete (C35/45)
Weight	4.6 kg
Dimension	180 x 180 x 70 mm
PU	24 pc(s)

Support Plate

Support plate with adapter (lock bush) for the spacer bar (Part No. 253 315, 253 325) as well as conductor holder (Part No. 253 289) and for protection of the roofing sheets under the concrete block (Part No. 253 301).



Part No.	253 300
Diameter Ø	300 mm
Diameter Ø of socket	10 mm
Height	60 mm
Material	plastic
Colour	grey ●
PU	24 pc(s)

Conductor Holder

Conductor holder with slotted cleat for HVI light Conductor, HVI Conductor for fastening in the concrete base with wedge (Part No. 102 075).



Part No.	253 279
Material	StSt
Conductor holder support Rd	20 / 23 mm
Height of conductor holder	125 mm
Bolt	Ø16 mm (wedge-fit)
PU	25 pc(s)

Concrete Base

For wedge mounting, for air-termination rods Ø10, length 1000 mm or DEHNiso spacers Ø16 mm.



Part No.	102 075
Total weight	8.5 kg
Diameter Ø	240 mm
Material	concrete (C45/55)
Material of wedge / adapter	StSt
PU	120 pc(s)

Support Plate

For protecting the roofing sheets under the concrete base.
For concrete bases (Part No. 102 075, 102 003).



Part No.	102 060
Diameter Ø outside	280 mm
Diameter Ø inside	270 mm
Material	EVA
Colour	black ●
PU	1 pc(s)

EB Clamp

For connecting the special sheath of the HVI Conductor to the equipotential bonding.

Part No.	405 020
Material of clamp	St/tZn
Clamping range Ø	20 mm
Terminal cross-section	4-95 mm ²
PU	25 pc(s)



Spacer with EB Element

For implementing the sealing end of the HVI Conductor.

With MV clamp for connection to the equipotential bonding Rd 16 mm / Rd 8-10 mm.

Concrete base (Part No. 102 010, weight 17 kg) and **support plate** (Part No. 102 050) have to be ordered separately.

Part No.	105 275 ^{NEW}
Material of spacer	Al
Length of spacer	705 mm
Conductor holder support Rd	20 mm
Material of conductor holder	StSt
PU	1 pc(s)

NEW



Concrete Base

For wedge mounting, stackable, for air-termination rods Ø16 mm, chamfered or tapered, DEHNiso spacers Ø16 mm or conductor holder (Part No. 253 279).

Part No.	102 010
Weight	17 kg
Support	wedge mounting Ø16 mm
Diameter Ø	337 mm
Material	concrete (C45/55)
Material of wedge / adapter	StSt
PU	54 pc(s)



Support Plate

For protecting the roofing sheets under the concrete base.

For concrete bases (Part No. 102 010, 102 002).

Part No.	102 050
Diameter Ø outside	370 mm
Diameter Ø inside	360 mm
Material	EVA
Colour	black ●
PU	1 pc(s)



Roof Conductor Holder

With preformed bending points for angling and hooking at the tile and for screwing to the batten, for installing the HVI Conductor on saddle roofs.

Part No.	202 829 ^{NEW}
Material of roof conductor holder	StSt
Material of conductor holder	StSt
Conductor holder support Rd	20 / 23 mm
Length of brace	205 mm
PU	1 pc(s)

NEW



Conductor Holder with Tensioning Strap

With conductor holder made of PA.

Part No.	275 330	275 333
Material of conductor holder	PA	PA
Conductor holder support Rd	20 mm	23 mm
Tensioning range Ø pipe	50-300 mm	50-300 mm
PU	1 pc(s)	1 pc(s)





Conductor Holder with Tensioning Strap

With metal conductor holder.

Part No.	275 320
Material of conductor holder	NIRO
Conductor holder support Rd	20-23 mm
Tensioning range Ø pipe	50-300 mm
PU	1 pc(s)



Conductor Holder for Tensioning Strap Fixing

For fixing the HVI Conductor at pipes e.g. with pipe clamp (Part No. 106 323).

Part No.	275 319 ^{NEW}
Material of conductor holder	StSt
Conductor holder support Rd	20-23 mm
PU	10 pc(s)



Pipe Clamp

For fixing (tensioning) of conductor holders (e.g. 275 359) at different pipes.

Part No.	106 323
Material of head / strap	StSt
Clamping range Ø	50-300 mm
Dimension of strap	1100 x 25 x 0.3 mm
Material of screw	StSt
PU	10 pc(s)



Separate Grip Head

For combination with endless tensioning strap (Part No. 540 901) in case of larger pipe diameters, e.g. for adapter with fixing bush.

Part No.	106 324
Material of head	StSt
For strap (w x d)	25 x 0.3 mm
Screw	✚ M8 x 20 mm
Material of screw	StSt
PU	20 pc(s)



Tensioning Strap

Part No.	540 901
Material	StSt
Strap dimension (w x d)	25 x 0.3 mm
Length	100 m
PU	1 pc(s)

Conductor Holders

With thread.

For wall mounting with two-screw cleat (not for use in the sealing end range).



Part No.	275 250 ^{NEW}	275 251 ^{NEW}
Material of conductor holder	StSt	StSt
Conductor holder support Rd	20 / 23 mm	20 / 23 mm
Thread	M8	M6
PU	25 pc(s)	25 pc(s)

Conductor Holder

With plastic base.

For wall mounting with two-screw cleat (not for use in the sealing end range).



Part No.	275 259 ^{NEW}
Material of conductor holder	StSt
Conductor holder support Rd	20 / 23 mm
Thread	M8
PU	25 pc(s)

Conductor Holder

With slot hole.

For wall mounting with two-screw cleat (not for use in the sealing end range).

Part No.	275 252 <small>NEW</small>
Material of conductor holder	StSt
Conductor holder support Rd	20 / 23 mm
Fixing bore	5.5 x 10 mm
PU	25 pc(s)

NEW

Conductor Holders for HVI®Conductor

For wall mounting and for mounting in the sealing end range.

Part No.	275 220	275 225
Material of conductor holder	PA	PA
Conductor holder support Rd	20 mm	23 mm
Female thread	M8	M8
Fixing bore	6.5 mm	6.5 mm
Screw	☛ M6 x 16 mm	☛ M6 x 16 mm
PU	25 pc(s)	25 pc(s)


Sign

Front in English

"Attention! Separated Lightning Protection with HVI conductor system"

Back in French

"Attention! Protection contre la foudre séparée avec un conducteur HVI"

Part No.	480 597
Material	plastic
Dimension (l x w x d)	300 x 210 x 1 mm
Fixing	[4x] Ø6.5 mm
Bore distance	270 / 180 mm
PU	1 pc(s)


7 Conductor Holder for HVI®Conductor in Ex Areas

The HVI Conductor is suitable for use in explosion hazardous areas of Ex zone 1 (gases, vapours, mists) as well as Ex zone 21 (dusts). The special installation conditions safely prevent electric sparks to neighbouring metal parts when lightning current flows through the HVI Conductor.

The HVI Conductor has to be installed in explosion hazardous areas in accordance with the installation instructions.


HVI®Ex W70 holder

For fixing at metal construction parts (façades) in Ex zones 1 and 21.

Part No.	275 440
Material	StSt
Conductor holder support Rd	20 mm
Wall distance	70 mm
Fixing	[4x] Ø5.1 / [2x] 7 x 10 mm
PU	10 pc(s)



HVI®Ex W200 holder

For fixing at metal construction parts (façades) in Ex zones 1 and 21.



Part No.	275 441
Material	StSt
Conductor holder support Rd	20 mm
Wall distance	200 mm
Fixing	[4x] Ø5.1 / [2x] 7 x 10 mm
PU	10 pc(s)

HVI®Ex busbar 500

For HVI Conductor installation with conductor holder HVI-Ex W70 holder (Part No. 275 440) at a non-conductive structure, e.g. stone, wood.



Part No.	275 498
Material of brace	StSt
Fixing	[4x] Ø5.5 / [2x] 7 x 10 mm
Dimension (l x w x d)	450 x 30 x 3 mm
PU	10 pc(s)

HVI®Ex P200 holder

For fixing at pipes e.g. with pipe clamp (Part No. 106 323) in Ex zones 1 and 21.



Part No.	275 442
Material	StSt
Conductor holder support Rd	20 mm
Wall distance	200 mm
Clamping range of tube	50-300 mm
PU	10 pc(s)

Accessories for Conductor Holder for HVI®Conductor in Ex Areas**Pipe Clamp**

For fixing (tensioning) the HVI Ex P200 holder (Part No. 275 442) at pipes.



Part No.	106 323
Material of head / strap	StSt
Clamping range Ø	50-300 mm
Dimension of strap	1100 x 25 x 0.3 mm
Screw	⚙ M8 x 20 mm
Material of screw	StSt
PU	10 pc(s)

Separate Grip Head

For combination with endless tensioning strap (Part No. 540 901) in case of larger pipe diameters, e.g. for adapter with fixing bush.



Part No.	106 324
Material of head	StSt
For strap (w x d)	25 x 0.3 mm
Screw	⚙ M8 x 20 mm
Material of screw	StSt
PU	20 pc(s)

Tensioning Strap

Part No.	540 901
Material	StSt
Strap dimension (w x d)	25 x 0.3 mm
Length	100 m
PU	1 pc(s)

8 Connecting Components 200 kA (10/350 µs)

For use in protection class I and II of the lightning protection system (class of LPS I, II).
Clamps are tested with a 200 kA (10/350 µs) lightning impulse current, based on EN 62561-1.



UNI disconnecting clamp for two round conductors

Part No.	459 200 <small>NEW</small>
Material	StSt
Clamping range Rd / Rd	10 / 10 mm
Clamping range Rd / FI	10 / 30 mm
PU	1 pc(s)

NEW



UNI disconnecting clamp for earth entry rods

Part No.	459 219 <small>NEW</small>
Material	StSt
Clamping range Rd / Rd	8-10 / 16 mm
PU	1 pc(s)

NEW



Clamping piece

Part No.	380 209 <small>NEW</small>
Material	StSt
Clamping range FI	30 x 4 mm
PU	1 pc(s)

NEW



KS connector

Part No.	301 209 <small>NEW</small>
Material	StSt
Clamping range Rd	10 mm
PU	1 pc(s)

NEW



MV clamp for round conductors

Part No.	390 209 <small>NEW</small>
Material	StSt
Clamping range Rd / Rd	8-10 mm
PU	1 pc(s)

NEW



MV clamp for air-termination rods

Part No.	392 209 <small>NEW</small>
Material	StSt
Clamping range Rd / Rd	8-10 / 16 mm
PU	1 pc(s)

NEW



	
DECLARATION OF MANUFACTURER	
Product:	UNI Disconnecting Clamp 200 kA
Product designation:	Part No. 459200 Part No. 459219
Type:	UTS 200 200/10/20 2P kA UTS 200 200/10/20 2P kA
Manufacturer:	DEHN - V. GÖBEL GmbH & Co. KG ELEKTROTECHNISCHES FABRIK Helm-Dehn-Strasse 1 52218 Neuenkirchen, Germany
Application:	
The UNI disconnecting clamps are used as lightning current carrying, separable connections from air-termination (for air rods) to conductors (especially from down conductors to the earth entrance, as per IEC 62305-2 (EN 62305-2) and DIN EN 62305-2 (EN 62305-2)).	
We warrant confirm that the UNI disconnecting clamps are suitable for use in Ex zone 2 (ign. resp. int.) and Ex zone 22 (dust).	
The UNI disconnecting clamps have no potential source of ignition (components) of their own and are thus not subject to the European directive 94/EC.	
Therefore approval according to the European directive 94/EC is legally impossible and not required from an explosion protection point of view.	
Neuenkirchen, 26.11.2014	 R. G. O. Director R. & O.



9 Stripping Tool for HVI®light Conductors / HVI®Conductors

Tool for stripping the grey sheath and the semi-conductive sheath and the PE insulation of the HVI light Conductor, HVI Conductor (outer diameter 20 mm).

- Tool consists of a handle and various exchangeable cutting heads
- Stripping length of HVI light Conductor, HVI Conductor is adjustable in steps of 0.2 mm (lock points) by the set screw in the handle and is shown on the handle scale

Handling

Apply the cutting head at the conductor end and turn clockwise with light pressure for cutting / stripping.
Exchange of the cutting head without tool due to the bayonet coupling.

HVI®strip 20

For HVI light Conductor and HVI Conductor (handle + cutting head).



Part No.	597 220
Diameter Ø conductor	20 mm
Material of moulded part	plastic
Material of blade	StSt
PU	1 pc(s)

HVI®head 20

For HVI light Conductor and HVI Conductor (cutting head).



Part No.	597 120
Diameter Ø conductor	20 mm
Material of moulded part	plastic
Material of blade	StSt
PU	1 pc(s)

Accessories for Stripping Tool for HVI®light Conductors / HVI®Conductors

HVI®head holder

Adapter with bayonet coupling for attaching the HVI head cutting head (pre-set stripping length 35 mm).
The adapter may be used in usual three-jaw chuck e.g. of cordless screwdrivers.



Part No.	597 139
Material	plastic / Ms
PU	1 pc(s)

9 Stripping Tool for HVI®Conductors

Tool for stripping the additional grey sheath of the HVI light Conductor and HVI Conductor. DEHNhelix consists of a handle and an exchangeable bracket (depending on the conductor diameter).



DEHNhelix

Part No.	597 230
Diameter Ø conductor	20-27 mm
Material of moulded part	plastic
Material of blade	StSt
PU	1 pc(s)



9 Cable Shears for HVI®Conductors

Cable shears for easily cutting of the HVI light Conductor, HVI Conductor (outer diameter 20 / 23 mm) and HVI power Conductor (outer diameter 27 mm) and of the CUI Conductor.

The special design of the cable shears also allows for a precise cutting of stranded conductors for attaching the connection elements easily.



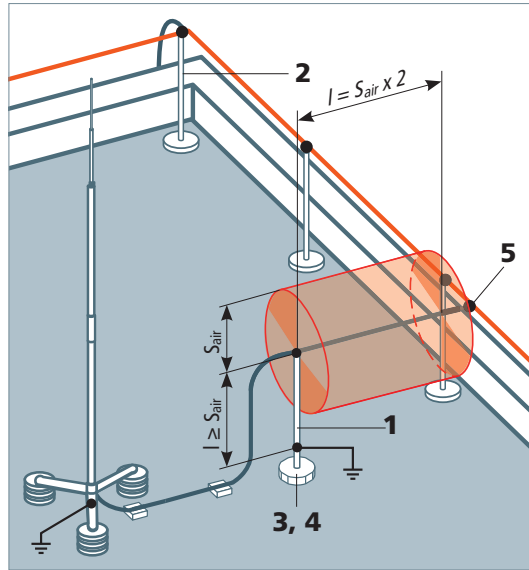
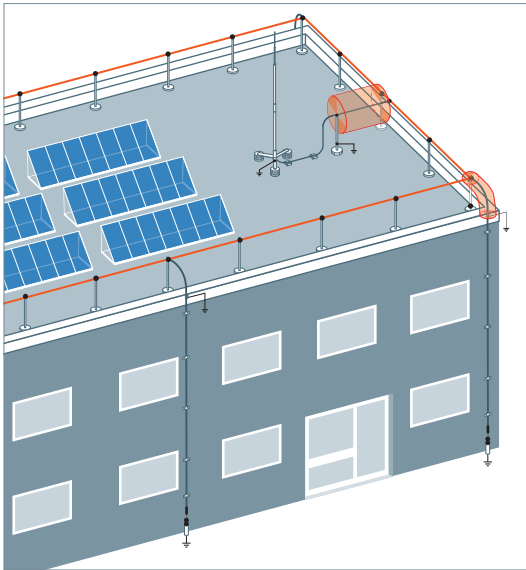
HVI®cutter

Part No.	597 032
Diameter Ø conductor	up to 32 mm
Material of blades	tool steel (CR-Moly (SCM440))
Material of handles	carbon steel (SS400)
Length	600 mm
PU	1 pc(s)

10 Sealing End Range, Connection to „Isolated Ring Conductor“



If several parts of an installation are to be protected, it is not advisable to route the HVI Conductor from each air-termination system to the earth-termination system. The HVI Conductors from the air-termination system can be connected to e.g. an „isolated ring conductor“. From this isolated ring conductor, several down conductors can be routed to the earth-termination system. The „isolated ring conductor“ has to be installed on spacers and concrete bases e.g. on the roof level. The calculated separation distance „s“ must be observed.



Single Parts for Sealing End Range, Connection to „Isolated Ring Conductor“

Spacer with EB Element

For implementing the sealing end of the HVI Conductor.

With MV clamp for connection to the equipotential bonding Rd 16 mm / Rd 8-10 mm.

Concrete base (Part No. 102 010, weight 17 kg) and support plate (Part No. 102 050) have to be ordered separately.

Part No.	105 275 <small>NEW</small>
PU	1 pc(s)

NEW



1

DEHNiso Spacers with MMV Clamp

For crossing points, on installation in concrete base (Part No. 102 075), fixed conductor leading.

Part No.	106 150
PU	1 pc(s)



2

Concrete Base

For wedge mounting, stackable, for air-termination rods Ø16 mm, chamfered or tapered, DEHNiso spacers Ø16 mm or conductor holder (Part No. 253 279).

Part No.	102 010
PU	54 pc(s)



3

Support Plate

For protecting the roofing sheets under the concrete base.

For concrete bases (Part No. 102 010, 102 002).

Part No.	102 050
PU	1 pc(s)



4

MV Clamp

With hexagon screw, spring washer and thread in the base part.

Lightning current carrying capability 200 kA (10/350 µs).

Part No.	390 209 <small>NEW</small>
PU	1 pc(s)

NEW

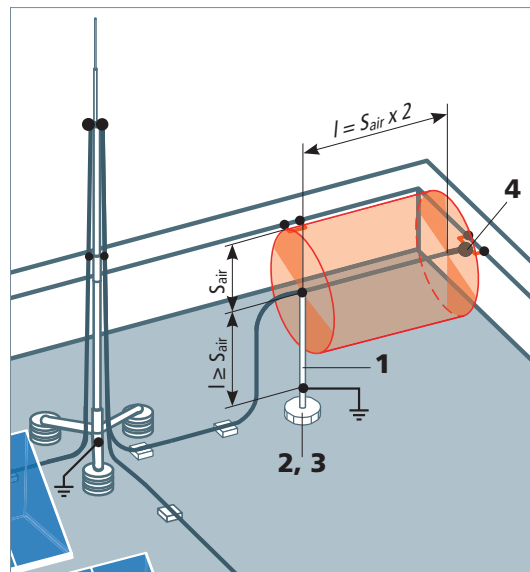
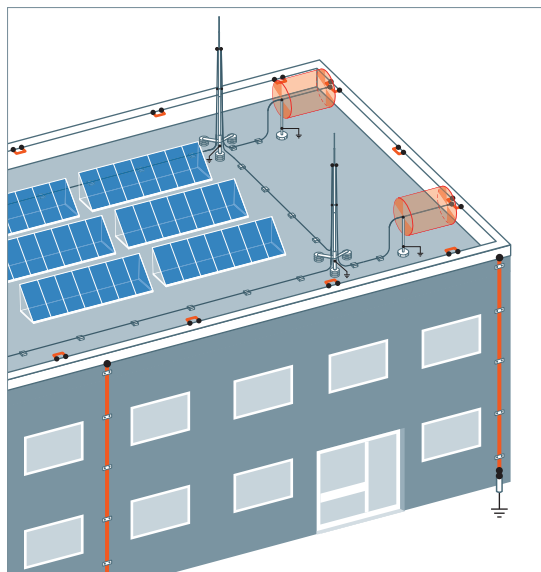


5



10 Sealing End Range, Connection to „Capping of Roof Parapet“

If several parts of an installation are to be protected, it is not advisable to route the HVI Conductor from each air-termination system to the earth-termination system. The HVI Conductors from the air-termination system can be connected to the capping of the roof parapet. From this capping of the roof parapet, several down conductors can be routed to the earth-termination system.



Single Parts for Sealing End Range, Connection to „Capping of Roof Parapet“

NEW



1

Spacer with EB Element

For implementing the sealing end of the HVI Conductor.

With MV clamp for connection to the equipotential bonding Rd 16 mm / Rd 8-10 mm.

Concrete base (Part No. 102 010, weight 17 kg) and support plate (Part No. 102 050) have to be ordered separately.

Part No.	105 275 NEW
PU	1 pc(s)

2



Concrete Base

For wedge mounting, stackable, for air-termination rods Ø16 mm, chamfered or tapered, DEHNiso spacers Ø16 mm or conductor holder (Part No. 253 279).

Part No.	102 010
PU	54 pc(s)

3



Support Plate

For protecting the roofing sheets under the concrete base.

For concrete bases (Part No. 102 010, 102 002).

Part No.	102 050
PU	1 pc(s)

NEW



4



KS Connector

With screw and nut M10.

For connecting the HVI power Conductor with the metal capping of the roof parapet.

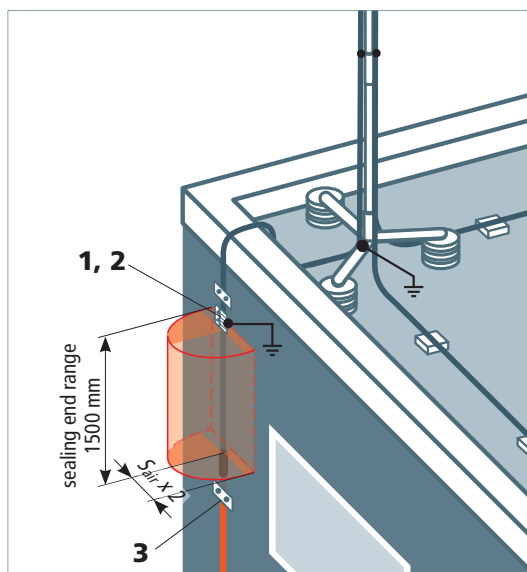
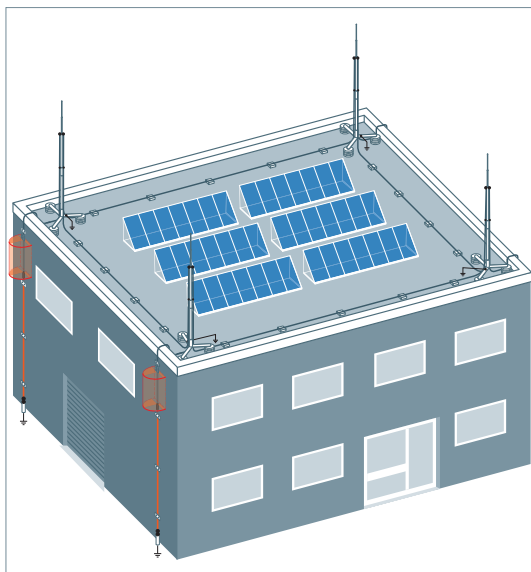
Lightning current carrying capability 200 kA (10/350 µs).

Part No.	301 209 NEW
PU	1 pc(s)

10 Sealing End Range on a Building's Structure

If HVI Conductors are installed on a building's structure, the calculated separation distance „s“ in the sealing end range from the metal parts in the building's structure must be maintained. The sealing end ranges from the EB connection element to the connection of the earth connection element.

If the HVI Conductor is directly connected with an earth entry rod / earth-termination system an EB element is not necessary. The sealing end range remains unconsidered.



Single Parts for Sealing End Range on a Building's Structure

EB Connection element for HVI®long Conductor

For discharging the electric field of the HVI long Conductor in the sealing end range. Special slotted design for electrically contacting of the semi-conductive sheath.

Part No.	410 229
PU	1 pc(s)



KS Connector

Part No.	301 019
PU	100 pc(s)



Disconnecting Clamp

Disconnecting clamp with spring washer to connect the HVI power Conductor with the earth entry rod. Lightning current carrying capability 200 kA (10/350 μs).

Part No.	459 200
PU	1 pc(s)



The HVI power Conductor is the most powerful variant of the high-voltage-resistant, insulated down conductors (HVI Conductors). Compared with the standard HVI Conductor it allows to maintain an equivalent separation distance of 0.9 m in air and 1.8 m in solid material. It shall be pointed out in particular that the HVI power Conductor and the corresponding components are tested for a lightning current carrying capability of up to 200 kA (10/350 µs). Therefore this type of conductor may be used for all classes of LPS (I-V).

This conductor is installed preferably on buildings such as hospitals, computing centres or silos where due to the building dimensions (height) wide separation distances are to be maintained. Also the conductor can be routed over a longer distance down to the earth-termination system. The conductor is installed inside of the supporting tube. The required functional equipotential bonding for the sealing end is automatically provided by the interior EB spring element. Connection of the supporting tube with the functional equipotential bonding of the building is not necessary.

Pre-assembled HVI®power Conductor

The pre-assembled HVI power Conductor is delivered with one head piece and one connection element (loosely included). Minimum order length is 6 m, additional conductor lengths in steps of 0.5 m. Conductor lengths to be indicated when ordering.

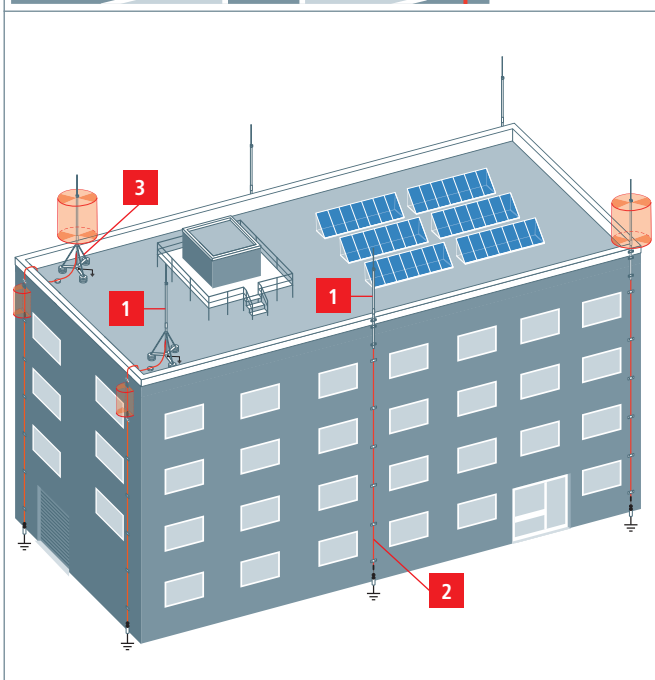
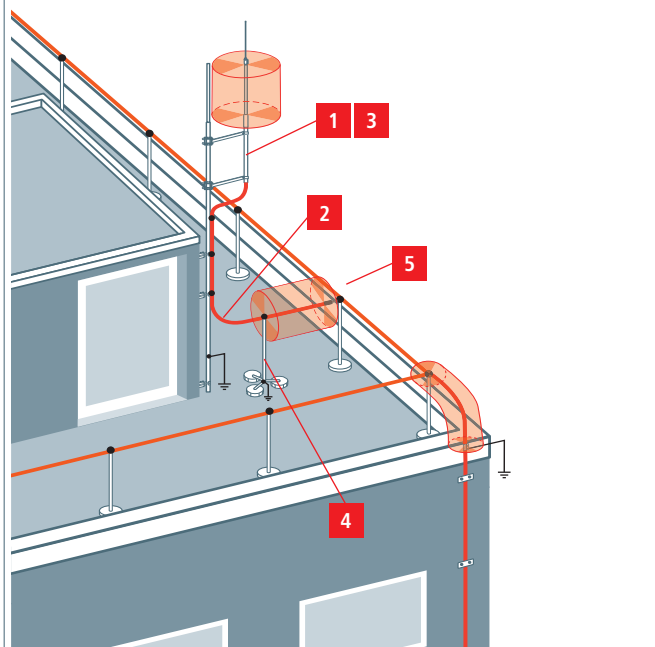
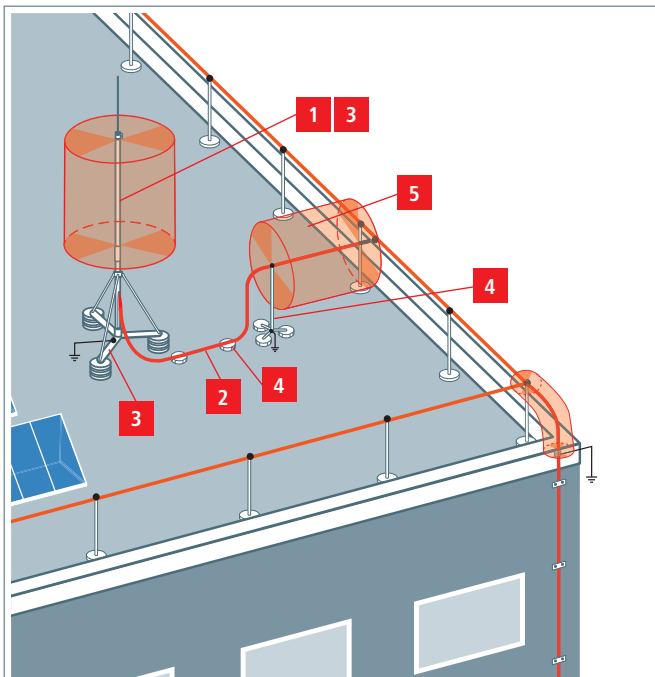
HVI®power long Conductor

The HVI power long conductor for on-site assembly will be delivered in a length of 100 m on a disposable plywood reel (diameter approx. 900 mm, width approx. 485 mm) incl. one Allen key.

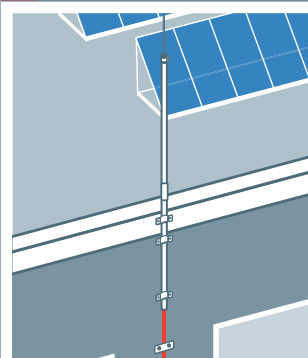
- High-voltage-resistant, insulated HVI power Conductor to maintain the separation distance from electrically conductive parts according to EN 62305-3
- Equivalent separation distance $s < 0.9$ m (in air) or < 1.8 m (solid material)
- The HVI power Conductor meets the requirements according to EN 62561-2



Technical data	HVI®power	HVI®power long
Structure	stranded	stranded
Cross-section of interior conductor (Cu)	25 mm ²	25 mm ²
Colour	black	black
Outer diameter	27 mm	27 mm
Equivalent separation distance (air)	≤ 90 cm	≤ 90 cm
Equivalent separation distance (solid material)	≤ 180 cm	≤ 180 cm
Minimum bending radius (OD = outer diameter)	10 x AO, 270 mm black	10 x AO, 270 mm black
Operating temperature	-50 °C ... +70 °C	-50 °C ... +70 °C
Temperature for installation	-5 °C ... +40 °C	-5 °C ... +40 °C
Tensile strength	1200 N	1200 N
UV stability / weather resistance	yes	yes
Tested with I _{imp} (10/350 µs)	200 kA	200 kA
For use in class of LPS (at k _c = 1)	I, II, III, IV	I, II, III, IV
Installation in Ex zone 1 and 21	—	—
Minimum order quantity	> 6 m	100 m
Cable weight / 100 m	—	~ 73 kg



1 Supporting Tube with HVI®power Conductor



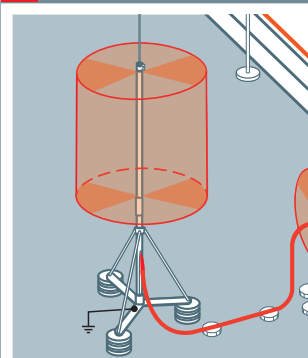
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2 HVI®power / HVI®power long Conductor and Accessories



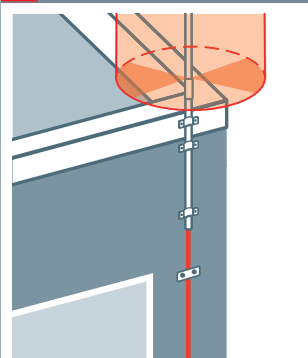
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3 Supporting Tube, Tripod for HVI®power long Conductor



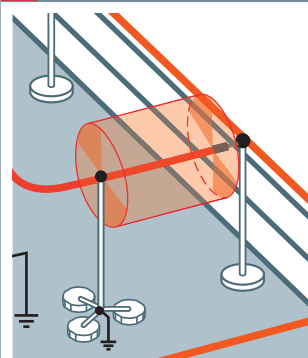
Page 191-194

4 Fixing Elements, Conductor Holders and Accessories



Page 194-200

5 Sealing End Range



Page 201-203



1 Supporting Tube with HVI®power Conductor

Aesthetically appealing installation of the HVI power Conductor inside of the supporting tube with with a small wind exposed surface area. Applicable up to an equivalent separation distance $s \leq 90$ cm (in air) or $s \leq 180$ cm (solid building material). Conductor length to be indicated when ordering (in steps of 0.5 m).

NEW



HVI®power Conductor in the supporting tube with air-termination rod

Supporting tube with interior sealing end and EB spring element.
Air-termination rod StSt, Ø10 mm, length 1000 mm.

Part No.	819 430 ^{NEW}
Material of supporting tube	GRP / StSt
Length of supporting tube	3500 mm
Transport length	3500 mm
Diameter Ø conductor	27 mm
Colour of conductor	black ●
Material of conductor	Cu
Minimum order length	6 m
Max. free length with air-termination rod (wall mounting)	3500 mm
Max. speed of wind gusts (wall mounting, 1x HVI power inside)	235 km/h
PU	1 pc(s)

HVI®power Conductor in the supporting tube with air-termination rod

Supporting tube with interior sealing end and EB spring element.
Air-termination rod StSt, Ø22 / 16 / 10 mm, length 2500 mm.

Part No.	819 431 ^{NEW}	819 433 ^{NEW}
Material of supporting tube	GRP / StSt	GRP / StSt
Length of supporting tube	3500 mm	5000 mm
Transport length	3500 mm	5000 mm
Diameter Ø conductor	27 mm	27 mm
Colour of conductor	black ●	black ●
Material of conductor	Cu	Cu
Minimum order length	6 m	6 m
Max. free length with air-termination rod (wall mounting)	5000 mm	5000 mm
Max. speed of wind gusts (wall mounting, 1x HVI power inside)	169 km/h	169 km/h
PU	1 pc(s)	1 pc(s)

Due to the order related manufacturing (customised conductor length) the conductor can not be taken back.
Max. gust wind speed (supporting tube with tripod) see table on page 142.

2 HVI®power Conductor



High-voltage-resistant, insulated down conductor for maintaining the separation distance to electrically conductive parts according to IEC/EN 62305-3.

For use up to an equivalent separation distance $s \leq 90$ cm (in air) or $s \leq 180$ cm (solid material).

HVI®power Conductor (pre-assembled)

With one head piece and one connection element (loosely enclosed). Minimum order length 6 m, conductor length to be indicated when ordering (in steps of 0.5 m).

Part No.	819 160
Material of conductor	Cu
Material of insulation	PE
Material of sheath	PE
Colour of conductor	black ●
Diameter Ø conductor	27 mm
Minimum order length	6 m
PU	1 pc(s)

HVI®power long Conductor (on reel)

The HVI power long Conductor for on-site assembly is delivered in a length of 100 m on a disposable plywood reel (diameter approx. 900 mm, width approx. 485 mm) including one Allen key.

Part No.	819 137
Material of conductor	Cu
Material of insulation and sheath	PE
Colour of conductor	black ●
Diameter Ø conductor	27 mm
PU	100 m



2 Connection Elements for HVI®power Conductor / HVI®power long Conductor

Connection set for HVI®power long Conductor

Connection elements for sealing the HVI power long Conductor at both ends, to implement the sealing end of the conductor in the supporting tube (head piece) and connection element for other parts of the external lightning protection system or earth-termination system (including two heat-shrinkable sleeves).

Part No.	819 142
Material	StSt
Connection	bolt Ø10 mm, L 40 mm
Diameter Ø outside	30 mm
Screw	threaded bolt M6 x 8 mm
PU	1 pc(s)



EB connection element for HVI®power Conductor / HVI®power long Conductor

For discharging the electric field of the HVI power Conductor (pre-assembled / on reel) in the sealing end range. Special slotted design for electrical contacting of the semi-conductive sheath.

Part No.	410 239
Material	StSt
Clamping range Ø	27 mm
Connection bore Ø	11 mm
Screw	● M10 x 20 mm
PU	1 pc(s)



3 Supporting Tubes for HVI®power Conductor / HVI®power long Conductor

With air-termination rod

Supporting tube with interior sealing end and EB spring element. Air-termination rod StSt, Ø10 mm, length 1000 mm.

Part No.	105 320	105 322
Material of supporting tube	GRP / StSt	GRP / StSt
Length of supporting tube	3500 mm	5000 mm
Diameter Ø outside	50 mm	50 mm
Transport length	3500 mm	5000 mm
Length of insulating clearance	1800 mm	1800 mm
Max. free length with air-termination rod (wall mounting)	3500 mm	3500 mm
Max. speed of wind gusts (wall mounting, 1x HVI power inside)	235 km/h	235 km/h
PU	1 pc(s)	1 pc(s)



With air-termination rod

Supporting tube with interior sealing end and EB spring element. Air-termination rod StSt, Ø22 / 16 / 10 mm, length 2500 mm.

Part No.	105 321	105 323
Material of supporting tube	GRP / StSt	GRP / StSt
Length of supporting tube	3500 mm	5000 mm
Diameter Ø outside	50 mm	50 mm
Transport length	3500 mm	5000 mm
Length of insulating clearance	1800 mm	1800 mm
Max. free length with air-termination rod (wall mounting)	5000 mm	5000 mm
Max. speed of wind gusts (wall mounting, 1x HVI power inside)	169 km/h	169 km/h
PU	1 pc(s)	1 pc(s)



With air-termination rod and lateral outlet

Supporting tube with interior sealing end and EB spring element. Air-termination rod StSt, Ø10 mm, length 1000 mm.

Part No.	105 392	105 394
Material of supporting tube	GRP / StSt	GRP / StSt
Length of supporting tube	3500 mm	5000 mm
Diameter Ø outside	50 mm	50 mm
Transport length	3500 mm	5000 mm
Length of insulating clearance	1800 mm	1800 mm
PU	1 pc(s)	1 pc(s)



Max. gust wind speed (supporting tube with tripod) see table on page 142.

**With air-termination rod and lateral outlet**

Supporting tube with interior sealing end and EB spring element.
Air-termination rod StSt, Ø22 / 16 / 10 mm, length 2500 mm.

Part No.	105 393	105 395
Material of supporting tube	GRP / StSt	GRP / StSt
Length of supporting tube	3500 mm	5000 mm
Diameter Ø outside	50 mm	50 mm
Transport length	3500 mm	5000 mm
Length of insulating clearance	1800 mm	1800 mm
PU	1 pc(s)	1 pc(s)

Max. gust wind speed (supporting tube with tripod) see table on page 142.

**3 Tripod for Supporting Tubes without Lateral Outlet**

Special design for the HVI power Conductor installed inside of the supporting tube, with double cleat for the connection of 2x Rd 8-10 mm. For maintaining the bending radius of the HVI power Conductor at the bottom of the tripod three concrete blocks are positioned underneath and one above the brace.

Adjustable to the roof inclination up to max. 10°.

The stackable concrete base (Part No. 102 010, 102 012) and the support plate (Part No. 102 050) have to be ordered separately.

Tripod small

For the HVI power Conductor installed inside of the supporting tube.



Part No.	105 351 ^{NEW}
Material of tripod	St/tZn
Radius	620 mm
Quantity of concrete bases	3-12 blocks 17 kg each
Space required for tripod	1300 x 1450 mm
PU	1 pc(s)

Accessories for Tripod for Supporting Tubes without Lateral Outlet**Concrete Base**

For wedge mounting, stackable, for air-termination rods Ø16 mm, chamfered or tapered, DEHNiso spacers Ø16 mm or conductor holder (Part No. 253 279).



Part No.	102 010
Weight	17 kg
Support	wedge mounting Ø16 mm
Diameter Ø	337 mm
Material	concrete (C45/55)
Material of wedge / adapter	StSt
PU	54 pc(s)

Concrete Base

Concrete base without wedge, for the erection of tripods.



Part No.	102 012
Weight	17 kg
Support	Ø16 mm mm
Diameter Ø	337 mm
Material	concrete (C45/55)
PU	27 pc(s)

Support Plate

For protecting the roofing sheets under the concrete base.

For concrete bases (Part No. 102 010, 102 002).



Part No.	102 050
Diameter Ø outside	370 mm
Diameter Ø inside	360 mm
Material	EVA
Colour	black ●
PU	1 pc(s)

3 Tripods for Supporting Tubes with Lateral Outlet



Special design for HVI Conductor installed inside the supporting tube, with lateral outlet and double cleat for connection of 2x Rd 8-10 mm. Adjustable to the roof inclination up to max. 5°

The stackable concrete base (Part No. 102 010) and the support plate (Part No. 102 050) as well as the threaded rod sets (Part No. 105 396-105 398 or Part No. 105 496-105 498) have to be ordered separately.

Tripod small

Part No.	105 390
Material	StSt
Radius	600 mm
Space required for tripod	1400 x 1200 mm
PU	1 pc(s)



Tripod large

Part No.	105 391
Material	StSt
Radius	1450 mm
Space required for tripod	2900 x 2500 mm
PU	1 pc(s)



Four-legged support small

Part No.	105 490
Material	StSt
Radius	600 mm
Space required for tripod	1200 x 1200 mm
PU	1 pc(s)



Four-legged support large

Part No.	105 491
Material	StSt
Radius	1450 mm
Space required for tripod	2400 x 2400 mm
PU	1 pc(s)



Accessories for Tripods for Supporting Tubes with Lateral Outlet

Threaded Rod Sets for Tripod

Three threaded rods with base plate 44 x 4 mm and 3x nut with spring washer each.

Part No.	105 396 ^{NEW}	105 397 ^{NEW}	105 398 ^{NEW}
For tripod	Part No. 105 390	Part No. 105 390 / 105 391	Part No. 105 391
Quantity of concrete blocks	1 to 2	1 to 3	3 to 4
Material	StSt	StSt	StSt
Length (l1)	M16 x 340 mm	M16 x 520 mm	M16 x 650 mm
PU	1 pc(s)	1 pc(s)	1 pc(s)

NEW



Threaded Rod Sets for Four-legged Support

Four threaded rods with base plate 44 x 4 mm and 3x nut with spring washer each.

Part No.	105 496 ^{NEW}	105 497 ^{NEW}	105 498 ^{NEW}
For four-legged support	Part No. 105 490	Part No. 105 490 / 105 491	Part No. 105 491
Quantity of concrete blocks	1 to 2	1 to 3	3 to 4
Material	StSt	StSt	StSt
Length (l1)	M16 x 340 mm	M16 x 520 mm	M16 x 650 mm
PU	1 pc(s)	1 pc(s)	1 pc(s)

NEW



Concrete Base

Concrete base without wedge, for the erection of tripods.



Part No.	102 012
Weight	17 kg
Support	Ø16 mm mm
Diameter Ø	337 mm
Material	concrete (C45/55)
PU	27 pc(s)

Support Plate

For protecting the roofing sheets under the concrete base. For concrete bases (Part No. 102 010, 102 002).



Part No.	102 050
Diameter Ø outside	370 mm
Diameter Ø inside	360 mm
Material	EVA
Colour	black ●
PU	1 pc(s)

4 Fixing Elements for Supporting Tubes

Fixing Clamp with Tensioning Strap

For fixing the supporting tubes at construction elements e.g. antenna masts.



Part No.	105 360
Material of clip	StSt
Clamping range of supporting tube	50 mm
Clamping range of pipe Ø	50-300 mm
Material of tensioning strap	StSt
Dimension of strap (w x d)	25 x 0.3 mm
PU	1 pc(s)

Fixing Clamp with Tensioning Strap

With additional spacer for adjusting the fasteners of sector antennas at the mast.



Part No.	105 361
Material of clip	StSt
Clamping range of supporting tube	50 mm
Clamping range of pipe Ø	50-300 mm
Material of tensioning strap	StSt
Dimension of strap (w x d)	25 x 0.3 mm
Length of spacer	30 mm
PU	1 pc(s)

Fixing Clamp with Tensioning Strap

With additional long spacer for adjusting the fasteners of sector antennas at the mast.



Part No.	105 362
Material of clip	StSt
Clamping range of supporting tube	50 mm
Clamping range of pipe Ø	50-300 mm
Material of tensioning strap	StSt
Dimension of strap (w x d)	25 x 0.3 mm
Length of spacer	95 mm
PU	1 pc(s)

Fixing Bracket

For fixing the supporting tubes at the structure to be protected or on the wall.



Part No.	105 340
Material	StSt
Clamping range of supporting tube	50 mm
Wall / corner distance	80 mm
Dimension of fixing	320 mm
Fixing	[8x] Ø5.1 / [4x] 11 x 20 mm
PU	1 pc(s)

Fixing Bracket

For fixing the supporting tubes at the structure to be protected or on the wall.

Part No.	105 341
Material	StSt
Clamping range of supporting tube	50 mm
Wall / corner distance	80 mm
Dimension of fixing	152 mm
Fixing	[8x] Ø5.1 / [4x] 11 x 20 mm
PU	1 pc(s)



Fixing Bracket

Wall mounting bracket for vertical mounting.

For fastening of the supporting tubes or air-termination rods D40 / D50.

Part No.	105 342
Material of bracket	StSt
Fixing	[8x] Ø5.1 / [4x] 7 x 10 / [2x] 11 x 20 mm
Clamping range of supporting tube	40-50 mm
Wall / corner distance	46 mm
Dimension of fixing	170 mm
PU	1 pc(s)

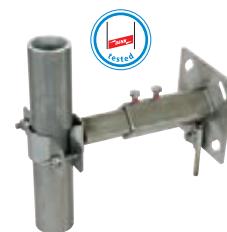


Fixing Bracket

Wall mounting bracket with adjustment range between 150-200 mm.

For fastening of supporting tubes or air-termination rods D40 / D50 with double cleat for connection of 2x Rd 8-10 mm.

Part No.	105 344
Material of bracket	StSt
Clamping range of supporting tube	40-50 mm
Wall / corner distance	150-200 mm
Dimension of plate	120 x 120 x 4 mm
Fixing	[4x] 12 x 26 mm
Standard	EN 62561-1
PU	1 pc(s)



Fixing Bracket

Wall mounting bracket with adjustment range between 400-700 mm.

For fastening of the supporting tubes or air-termination rods D40 / D50.

Part No.	105 343
Material of bracket	St/tZn / StSt
Clamping range of supporting tube	40-50 mm
Wall / corner distance	400-700 mm
Dimension of plate	120 x 120 x 4 mm
Fixing	[4x] 12 x 25 mm
PU	1 pc(s)



Railing Clamp

For pipes.

Part No.	105 354	105 355
Material	StSt	StSt
Clamping range of pipe Ø	48-60 mm (1 1/2-2")	70-90 mm (2 1/4-3")
Clamping range of supporting tube	40-50 mm	40-50 mm
PU	5 pc(s)	5 pc(s)



Railing Clamps

For square hollow profiles.

Part No.	105 356	105 376
Material	StSt	StSt
Clamping range of square profile	20 x 20 bis 50 x 50 mm	60 x 120 mm
Clamping range of supporting tube	40-50 mm	40-50 mm
PU	5 pc(s)	5 pc(s)





4 Spacers for Omnidirectional Antennas

Spacer for DEHNiso Combi supporting tubes with inside and / or outside installed HVI Conductor mounted at the antenna mast.



Part No.	105 363	105 364	105 365
Material of support / square profile	St/tZn	St/tZn	St/tZn
Clamping range (Ø mast)	55-100 mm	100-150 mm	150-190 mm
Clamping range of supporting tube	50 mm	50 mm	50 mm
Length of spacer	1000 mm	1000 mm	1000 mm
Dimension (w1 x h1 x d1)	140 x 120 x 55 mm	190 x 140 x 60 mm	230 x 180 x 70 mm
PU	1 pc(s)	1 pc(s)	1 pc(s)

4 Accessories for HVI®power Conductor / HVI®power long Conductor

Roof Conductor Holder

For flat roofs, weight approx. 4.7 kg.

Conductor holder, concrete block and support plate to install the HVI power Conductor on flat roofs.



Part No.	253 333
Material of conductor holder	StSt
Conductor holder support Rd	27 mm
Total weight	approx. 4.7 kg
PU	24 pc(s)

Roof Conductor Holder

For flat roofs, weight approx. 8.6 kg.

Conductor holder, concrete block and support plate to install the HVI power Conductor on flat roofs.



Part No.	253 334
Material of conductor holder	StSt
Conductor holder support Rd	27 mm
Total weight	approx. 8.6 kg
PU	1 pc(s)

Conductor Holder

With slotted cleat for HVI power Conductor to be fixed in the concrete block (Part No. 253 301) and support plate (Part No. 253 300).



NEW

Part No.	253 330 ^{NEW}
Material	StSt
Conductor holder support Rd	27 mm
Height of conductor holder	approx. 87 mm
PU	24 pc(s)

Concrete Block

For stabilising the support plate.



Part No.	253 301
Material	concrete (C35/45)
Weight	4.6 kg
Dimension	180 x 180 x 70 mm
PU	24 pc(s)

Support Plate

Support plate with adapter (lock bush) for the spacer bar (Part No. 253 315, 253 325) as well as conductor holder (Part No. 253 289) and for protection of the roofing sheets under the concrete block (Part No. 253 301).



Part No.	253 300
Diameter Ø	300 mm
Diameter Ø of socket	10 mm
Height	60 mm
Material	plastic
Colour	grey ●
PU	24 pc(s)

Conductor Holder

With slotted cleat for HVI power Conductor to be fixed in the concrete block with wedge (Part No. 102 075).

Part No.	253 331 <small>NEW</small>
Material	StSt
Conductor holder support Rd	27 mm
Height of conductor holder	approx. 125 mm
PU	25 pc(s)



Concrete Base

For wedge mounting, for air-termination rods Ø10, length 1000 mm or DEHNiso spacers Ø16 mm.

Part No.	102 075
Total weight	8.5 kg
Diameter Ø	240 mm
Material	concrete (C45/55)
Material of wedge / adapter	StSt
PU	120 pc(s)



Support Plate

For protecting the roofing sheets under the concrete base. For concrete bases (Part No. 102 075, 102 003).

Part No.	102 060
Diameter Ø outside	280 mm
Diameter Ø inside	270 mm
Material	EVA
Colour	black ●
PU	1 pc(s)



HVI®power
Conductor

Variable Tripod with EB Element

Tripod (hinged) with variable spacer to implement the sealing end of the HVI power Conductor.

With double cleat for the connection of 2x Rd 8-10 mm.

Adjustable to the roof inclination up to max. 10°.

The **three concrete bases** (Part No. 102 010, weight 17 kg) and the **support plates** (Part No. 102 050) have to be ordered separately.

Part No.	105 279 <small>NEW</small>
Material of tripod	StSt
Radius	320 mm
Quantity of concrete blocks	3 blocks of 17 kg each
Conductor holder support Rd	27 mm
Adjustment range of spacer	610-1100 mm
PU	1 pc(s)



Concrete Base

For wedge mounting, stackable, for air-termination rods Ø16 mm, chamfered or tapered, DEHNiso spacers Ø16 mm or conductor holder (Part No. 253 279).

Part No.	102 010
Weight	17 kg
Support	wedge mounting Ø16 mm
Diameter Ø	337 mm
Material	concrete (C45/55)
Material of wedge / adapter	StSt
PU	54 pc(s)



Support Plate

For protecting the roofing sheets under the concrete base. For concrete bases (Part No. 102 010, 102 002).

Part No.	102 050
Diameter Ø outside	370 mm
Diameter Ø inside	360 mm
Material	EVA
Colour	black ●
PU	1 pc(s)



Conductor Holder

With thread.

For wall mounting with two-screw cleat (not for use in the sealing end range).



Part No.	275 240	275 241
Material of conductor holder	StSt	StSt
Conductor holder support Rd	27 mm	27 mm
Thread	M8	M6
PU	25 pc(s)	25 pc(s)

Conductor Holder

With plastic base.

For wall mounting, with two-screw cleat (not for use in the sealing end range).



Part No.	275 249
Material of conductor holder	StSt
Conductor holder support Rd	27 mm
Thread	M8
PU	25 pc(s)

Conductor Holder

With slot hole. For wall mounting, with two-screw cleat (not for use in the sealing end range).



Part No.	275 242
Material of conductor holder	StSt
Conductor holder support Rd	27 mm
Fixing bore	5.5 x 10 mm
PU	25 pc(s)

Conductor Holder with Tensioning Strap

For fastening the HVI power Conductor e.g. at pipes.



Part No.	275 339 ^{NEW}
Material of conductor holder	StSt
Conductor holder support Rd	27 mm
Tensioning range Ø pipe	50-300 mm
PU	1 pc(s)

Conductor Holder for Tensioning Strap Fixing

For fixing the HVI power Conductor at pipes e.g. with pipe clamp (Part No. 106 323).



Part No.	275 359 ^{NEW}
Material of conductor holder	StSt
Conductor holder support Rd	27 mm
PU	1 pc(s)

Pipe Clamp

For fixing (tensioning) of conductor holders (e.g. 275 359) at different pipes.



Part No.	106 323
Material of head / strap	StSt
Clamping range Ø	50-300 mm
Dimension of strap	1100 x 25 x 0.3 mm
Material of screw	StSt
PU	10 pc(s)

Separate Grip Head

For combination with endless tensioning strap (Part No. 540 901) in case of larger pipe diameters, e.g. for adapter with fixing bush.



Part No.	106 324
Material of head	StSt
For strap (w x d)	25 x 0.3 mm
Screw	M8 x 20 mm
Material of screw	StSt
PU	20 pc(s)

Tensioning Strap

Part No.	540 901
Material	StSt
Strap dimension (w x d)	25 x 0.3 mm
Length	100 m
PU	1 pc(s)


Roof Conductor Holder

With preformed bending points for hooking at tiles and screwing at battens to install the HVI power Conductor on saddle roofs.

Part No.	202 857
Material of roof conductor holder	StSt
Material of conductor holder	StSt
Conductor holder support Rd	27 mm
Length of brace	205 mm
PU	25 pc(s)


4 Connecting Components 200 kA (10/350 µs)

For use in protection class I and II of the lightning protection system (class of LPS I, II).
Clamps are tested with a 200 kA (10/350 µs) lightning impulse current, based on EN 62561-1.


UNI Disconnecting Clamp for Two Round Conductors

Part No.	459 200 <small>NEW</small>
Material	StSt
Clamping range Rd / Rd	10 / 10 mm
Clamping range Rd / FI	10 / 30 mm
PU	1 pc(s)


UNI Disconnecting Clamp for Earth Entry Rods

Part No.	459 219 <small>NEW</small>
Material	StSt
Clamping range Rd / Rd	8-10 / 16 mm
PU	1 pc(s)


Clamping Piece

Part No.	380 209 <small>NEW</small>
Material	StSt
Clamping range FI	30 x 4 mm
PU	1 pc(s)


KS Connector

Part No.	301 209 <small>NEW</small>
Material	StSt
Clamping range Rd	10 mm
PU	1 pc(s)


MV Clamp for Round Conductors

Part No.	390 209 <small>NEW</small>
Material	StSt
Clamping range Rd / Rd	8-10 mm
PU	1 pc(s)


MV Clamp for Air-termination Rods

Part No.	392 209 <small>NEW</small>
Material	StSt
Clamping range Rd / Rd	8-10 / 16 mm
PU	1 pc(s)





4 Stripping Tool for HVI®power Conductors

Tool for stripping the semi-conductive sheath and the PE insulation of the HVI power Conductor (outer diameter 27 mm)

- Tool consisting of handle and various exchangeable cutting heads
- Stripping length of the HVI power Conductor is adjustable in steps of 0.2 mm (lock points) by the set screw in the handle and is shown on the handle scale

Handling

Apply the cutting head at the conductor end and turn clockwise with light pressure for cutting / stripping.
Exchange of the cutting head without tool due to the bayonet coupling.

HVI®strip 27

For the HVI power Conductor.



Part No.	597 227
Diameter Ø conductor	27 mm
Material of moulded part	plastic / Al
Material of blade	StSt
PU	1 pc(s)

HVI®head 27

For the HVI power Conductor.



Part No.	597 127
Diameter Ø conductor	27 mm
Material of moulded part	Al
Material of blade	StSt
PU	1 pc(s)

Accessories for Stripping Tool for HVI®power Conductors

HVI®head holder

Adapter with bayonet coupling for attaching the HVI head cutting head (pre-set stripping length 35 mm).
The adapter may be used in usual three-jaw chuck e.g. of cordless screwdrivers.



Part No.	597 139
Material	plastic / Ms
PU	1 pc(s)

Spare Blades for HVI®head 27

1 set = 4 blades



Part No.	597 102
Material	StSt
PU	1 Sa



4 Cable Shears for HVI®Conductors

Cable shears for easily cutting of the HVI light Conductor, HVI Conductor (outer diameter 20 / 23 mm) and HVI power Conductor (outer diameter 27 mm) and of the CUI Conductor.

The special design of the cable shears also allows for a precise cutting of stranded conductors for attaching the connection elements easily.

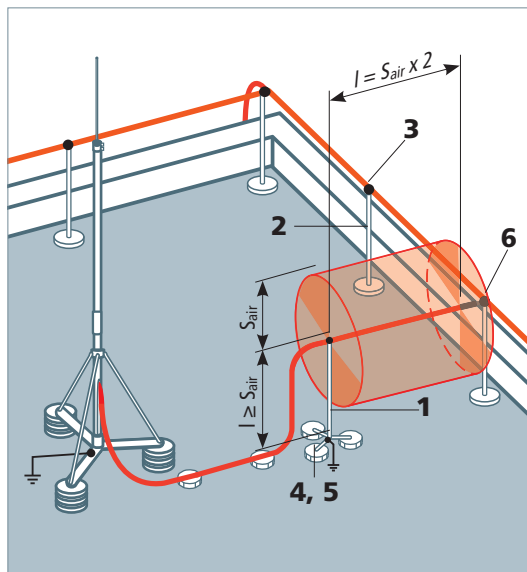
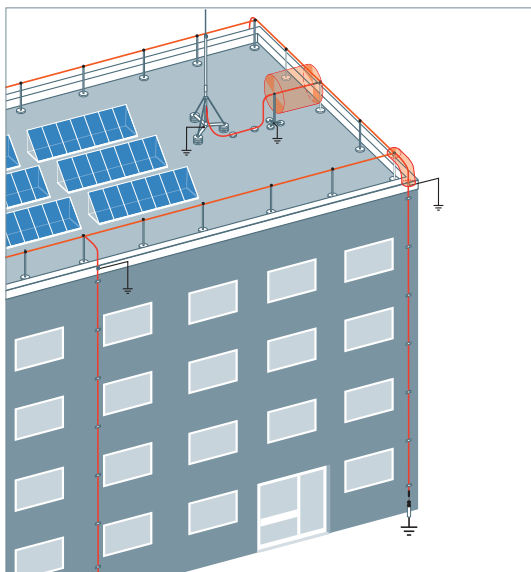
HVI®cutter



Part No.	597 032
Diameter Ø conductor	up to 32 mm
Material of blades	tool steel (CR-Moly (SCM440))
Material of handles	carbon steel (SS400)
Length	600 mm
PU	1 pc(s)

5 Sealing End Range, Connection to „Isolated Ring Conductor“

If several parts of an installation are to be protected, it is not advisable to route the HVI power Conductor from each air-termination system to the earth-termination system. The HVI power Conductors from the air-termination system can be connected to e.g. an „isolated ring conductor“. From this isolated ring conductor, several down conductors can be routed to the earth-termination system. The „isolated ring conductor“ has to be installed on spacers and concrete bases e.g. on the roof level. The calculated separation distance „s“ must be observed.



Single Parts for Sealing End Range, Connection to „Isolated Ring Conductor“

Variable Tripod with EB Element

Tripod (hinged) with variable spacer to implement the sealing end of the HVI power Conductor.

With double cleat for the connection of 2x Rd 8-10 mm.

Adjustable to the roof inclination up to max. 10°.

The **three concrete bases** (Part No. 102 010, weight 17 kg) and the **support plates** (Part No. 102 050) have to be ordered separately.

Part No.	105 279 <small>NEW</small>
PU	1 pc(s)

DEHNiso Spacer

E.g. for air-termination rod Part No. 101 001, air-termination rod with MV clamp Part No. 105 071 (for crossover points) or MV clamp for overspanning Part No. 105 079.

Part No.	106 217	106 220
PU	10 pc(s)	10 pc(s)

MV Clamp for Spanning

For screwing in.

Part No.	105 079
PU	1 pc(s)

Concrete Base

For wedge mounting, stackable, for air-termination rods Ø16 mm, chamfered or tapered, DEHNiso spacers Ø16 mm or conductor holder (Part No. 253 279).

Part No.	102 010
PU	54 pc(s)

Support Plate

For protecting the roofing sheets under the concrete base. For concrete bases (Part No. 102 010, 102 002).

Part No.	102 050
PU	1 pc(s)

MV Clamp

With hexagon screw, spring washer and thread in the base part.

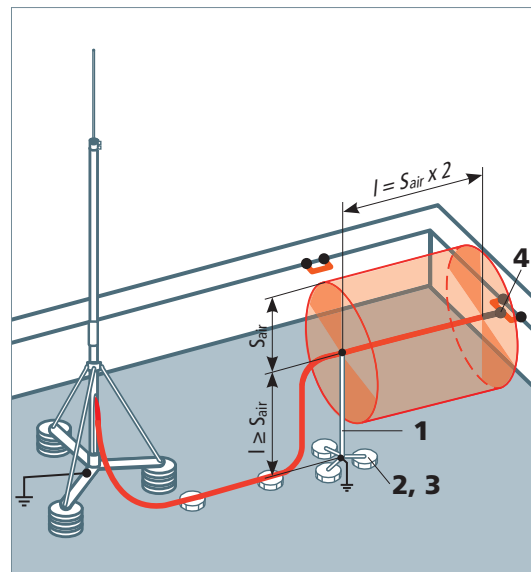
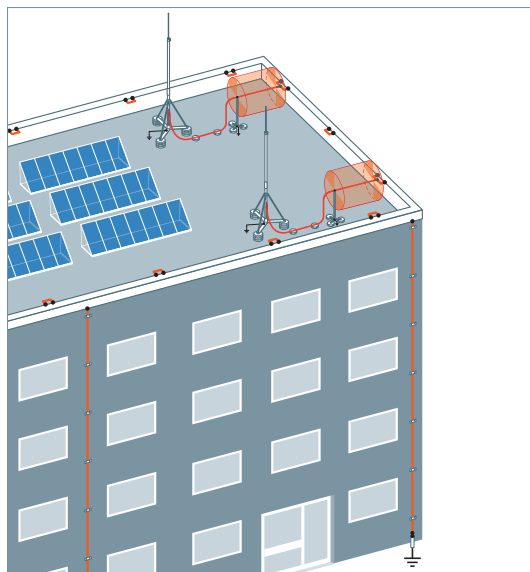
Lightning current carrying capability 200 kA (10/350 µs).

Part No.	390 209 <small>NEW</small>
PU	1 pc(s)



5 Sealing End Range, Connection to „Capping of Roof Parapet“

If several parts of an installation are to be protected, it is not advisable to route the HVI power Conductor from each air-termination system to the earth-termination system. The HVI power Conductors from the air-termination system can be connected to the capping of the roof parapet. From this capping of the roof parapet, several down conductors can be routed to the earth-termination system.



Single Parts for Sealing End Range, Connection to „Capping of Roof Parapet“

NEW

1



Variable Tripod with EB Element

Tripod (hinged) with variable spacer to implement the sealing end of the HVI power Conductor.

With double cleat for the connection of 2x Rd 8-10 mm.

Adjustable to the roof inclination up to max. 10°.

The three concrete bases (Part No. 102 010, weight 17 kg) and the support plates (Part No. 102 050) have to be ordered separately.

Part No.

105 279 **NEW**

PU

1 pc(s)

2



Concrete Base

For wedge mounting, stackable, for air-termination rods Ø16 mm, chamfered or tapered, DEHNiso spacers Ø16 mm or conductor holder (Part No. 253 279).

Part No.

102 010

PU

54 pc(s)

3



Support Plate

For protecting the roofing sheets under the concrete base.

For concrete bases (Part No. 102 010, 102 002).

Part No.

102 050

PU

1 pc(s)

NEW



4

KS Connector

With screw and nut M10.

Lightning current carrying capability 200 kA (10/350 µs).

Part No.

301 209 **NEW**

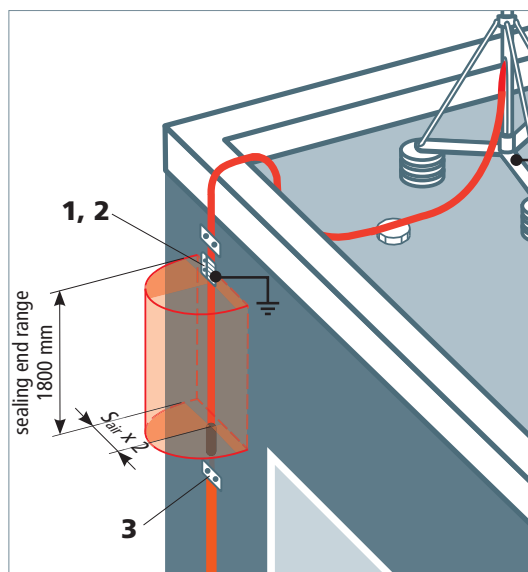
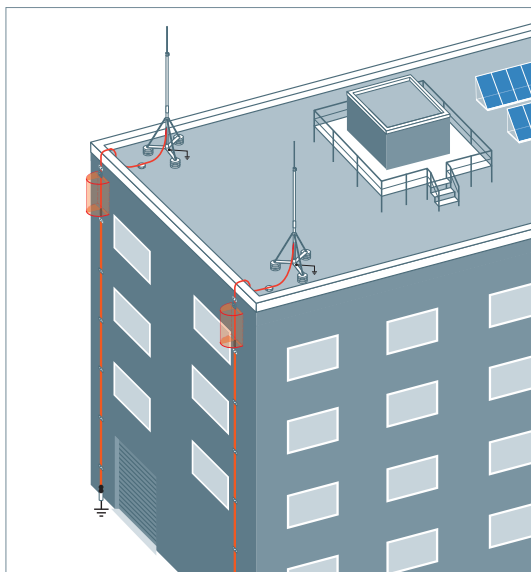
PU

1 pc(s)

5 Sealing End Range on a Building's Structure

If HVI power Conductors are installed on a building's structure, the calculated separation distance „s” in the sealing end range from the metal parts in the building's structure must be maintained. The sealing end ranges from the EB connection element to the connection of the earth connection element.

If the HVI power Conductor is directly connected with an earth entry rod / earth-termination system an EB element is not necessary. The sealing end range remains unconsidered.



Single Parts for Sealing End Range on a Building's Structure

EB Connection Element for HVI®power / HVI®power long Conductor

EB connection element for discharging the electric field of the HVI power Conductor (pre-assembled / on reel) in the sealing end range. Special slotted design for electrical contacting of the semi-conductive sheath.

Part No.	410 239
PU	1 pc(s)



KS Connector

Part No.	301 019
PU	100 pc(s)



Disconnecting Clamp

Disconnecting clamp with spring washer to connect the HVI power Conductor with the earth entry rod. Lightning current carrying capability 200 kA (10/350 μs).

Part No.	459 200
PU	1 pc(s)



IEC/EN 62305-3 points out that in special cases outside of a building the touch voltage may be extremely dangerous near the down-conductors, although there is a lightning lightning protection system in accordance with the state of standardisation.

This applies for example to entrance or sheltering areas of buildings with a high visitor frequency, such as theatres, cinemas, shopping centres etc., where bare/uninsulated down-conductors and lightning protection earth electrodes are in close proximity.

For especially exposed (lightning endangered) buildings or structures, e.g. shelters, which are open to anybody, measures against inadmissibly high touch voltages may become necessary also.

Touch voltage is defined as the voltage affecting somebody standing on the ground in a distance of approx. 1 m from the down conductor and who touches the down conductor. In such a case the current flows from the hand into the body down to the feet (see **Figure 1**).

The hazardous area for persons outside of a building is defined as an area of 3 m around the down conductor and from ground level up to a height of approx. 3 m.

According to IEC/EN 62305-3 Subclause E.4.2.4.2, the area to be protected against touch voltage corresponds to the height of a person with raised arm plus the separation distance s (see **Figure 2**).

Additionally, the step voltage in the surrounding of the building/down conductor has to be taken into account.

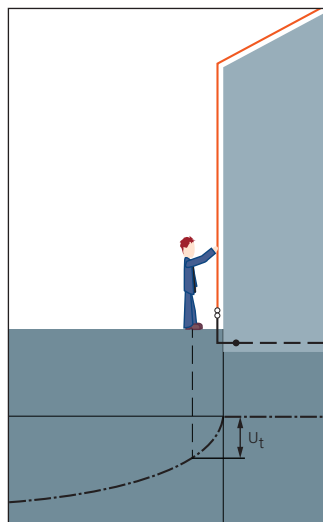


Figure 1: Schema diagramm – touch voltage U_t

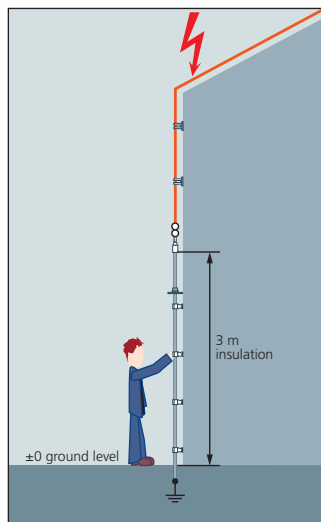


Figure 2: Protective measures

Effective protection measures against injuries due to touch voltage are defined according to the standard as follows:

- Installation of an insulated (coated) down conductor providing a surge withstand capability of 100 kV at 1.2/50 μ s, e.g. an at least 3 mm thick cross-linked polyethylene;
- physical restrictions and/or warning signs to minimise the possibility of down conductors being touched.

The CUI conductor (CU copper Insulated) has an inner copper conductor with a diameter of 8 mm and a high-voltage-resistant insulation (see **Figure 3**).



Figure 3: Design of a CUI conductor

Requirements:

- Surge withstand capability of 100 kV (1.2/50 μ s)
- Prevention of creepage sparkover even at rain.

The surge withstand capability of 100 kV (1.2/50 μ s) is achieved by a special cross-linked polyethylene insulation (XLPE). Unless additional measures are taken, high impulse voltages cause sparkovers at insulating surfaces. This effect is known as creeping discharge. If the creeping discharge inception voltage is exceeded, a surface discharge will be initiated, which can easily spark over a distance of several metres to earthed parts.

In order to avoid arising creeping discharges even at rain, the CUI conductor additionally has a shield which keeps the conductor dry. This shield on the conductor and the drops after the rain test is shown in **Figure 4**.

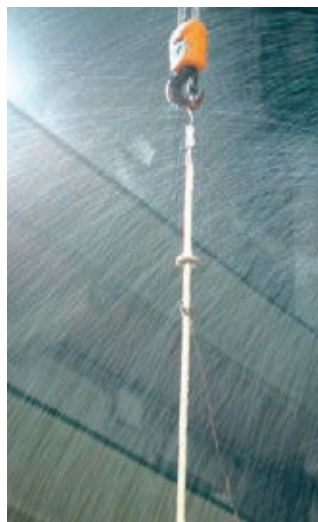


Figure 4: Rain test



Application in the entrance area

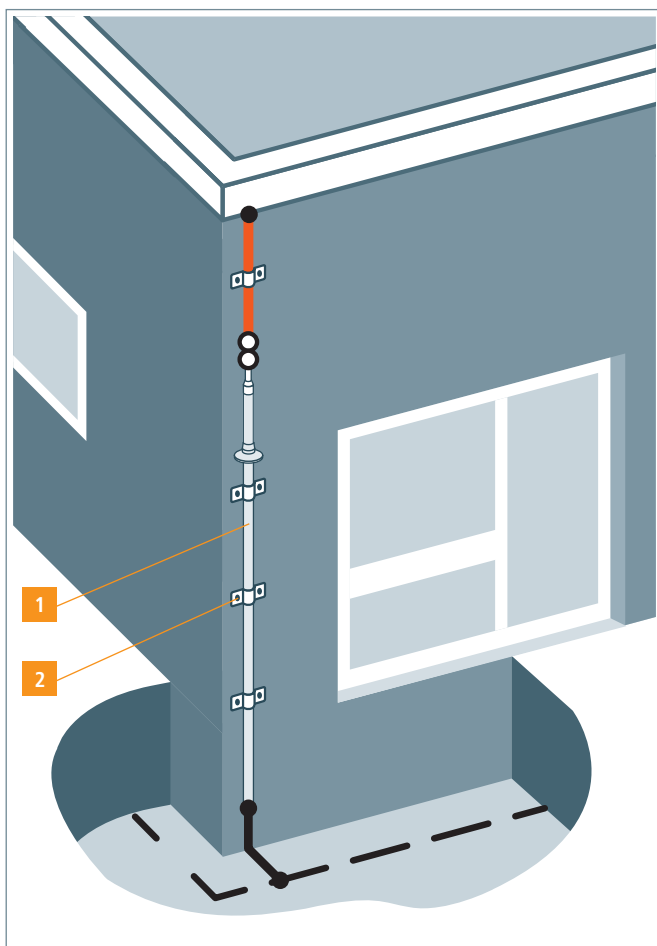
Development of the CUI conductor is based on the "rain test" according to IEC 60-1 Subclause 9. At this test a defined quantity of water is sprayed on the conductor in an angle of approx. 45° (see **Figure 4**).

Protection against step voltage

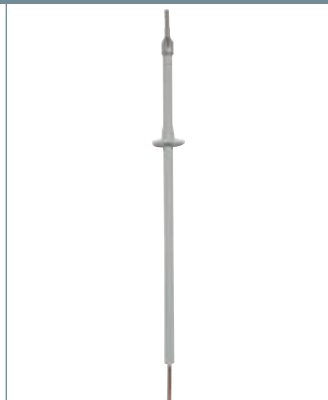
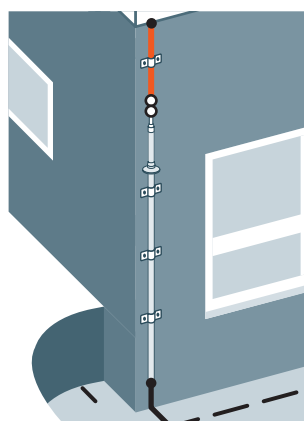
In IEC 62305-3 not only the risk of touch voltage but also the risk of step voltage is pointed out. The risk for living beings can be reduced by protective measures. In addition to an increasing of the resistance of the upper ground layer (ground insulation, e.g. by asphalt), applying of barriers or warning signs, also a meshed earth-termination system can be installed. This earth-termination system is installed in addition to the existing earth-termination system as a so-called potential control grid in the area around a down conductor.

In the German ABB leaflet „Blitzschutz von Schutzhütten“ ("Lightning Protection for Shelters") a mesh size of < 25 x 25 cm is recommended for the potential control grid. The grid shall be preferably installed in a low depth of maximum 25 cm under the surface. The material should be stainless steel StSt V4A (e.g. material No. 1.4571). The metal grid has to be connected with the earth-termination system every 4 m (at least at all corners).

Protection against Touch Voltage

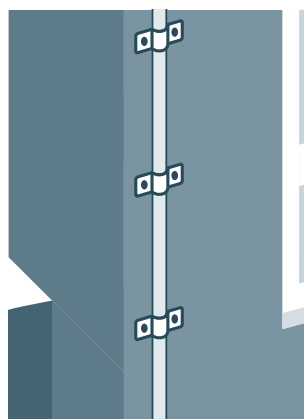


1 CUI Conductor



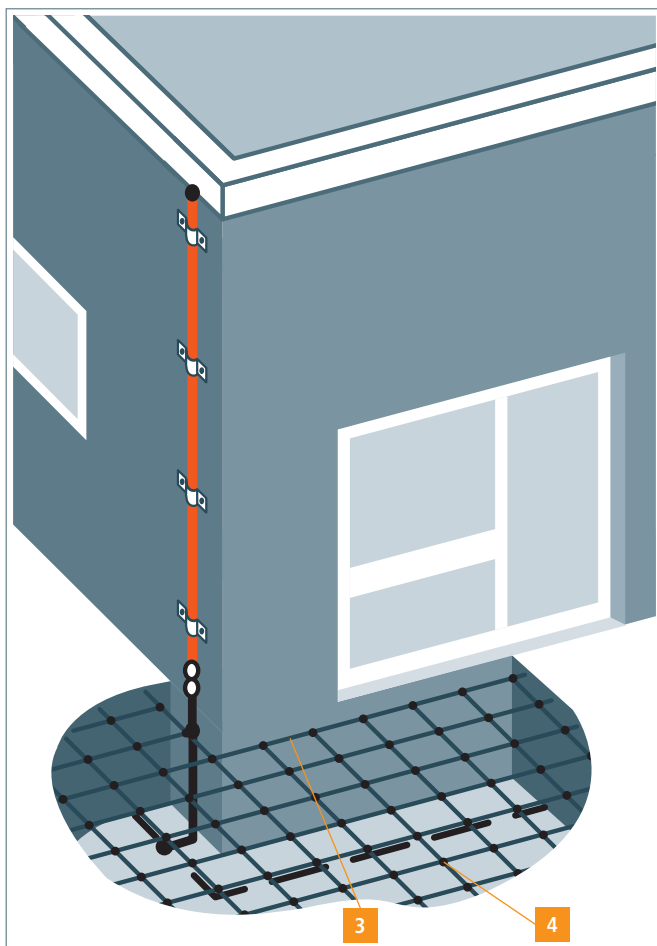
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2 Conductor Holders, Accessories

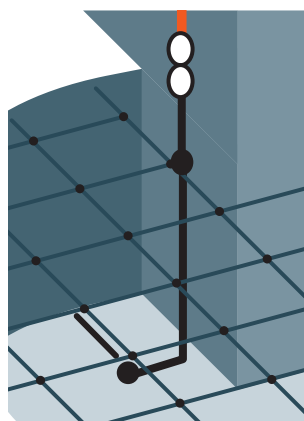


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Protection against Step Voltage

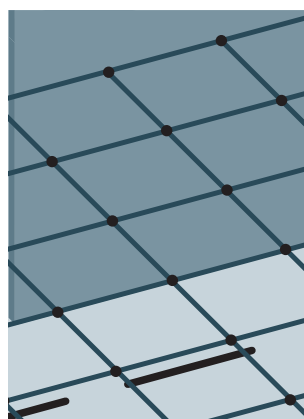


3 Wire



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4 Clamps, Connectors



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1 CUI Conductor

Touch voltage at down conductors can be avoided by the CUI conductor.

The dangerous area of touch and step voltages for living beings is defined as an area of approx. 3 m around the down conductor, from ground level up to a height of approx. 3 m.

The CUI conductor has a copper core and a high-voltage-resistant insulation.

These conductors shall meet the requirements of a:

- Surge withstand capability of 100 kV (1.2/50 µs)
- Prevention of creeping flashover even at rain

Part No.	830 208	830 218
Material of conductor	Cu	Cu
Material of insulation	XLPE	XLPE
Diameter Ø conductor	20 mm	20 mm
Standard	EN 62551-2	EN 62551-2
Colour of conductor	light grey ●	light grey ●
Cross-section of core	50 mm ²	50 mm ²
Total length	3500 mm	5000 mm
PU	1 pc(s)	1 pc(s)



2 Conductor Holders for CUI Conductor

For installing the CUI conductor on walls or façades.

Height 19 mm



Part No.	275 220
Material of conductor holder	PA
Conductor holder support Rd	20 mm
Fixing	Ø6.5 mm
PU	25 pc(s)

Height 10 mm



Part No.	275 229
Material of conductor holder	StSt
Conductor holder support Rd	20 mm
Fixing	6.5 x 16 mm
PU	50 pc(s)

Two-screw cleat for direct wall mounting

Due to the special kind of installation (without distance) the conductor can not be used as climbing aid and is therefore especially suitable for schools or kindergarten facilities.



Part No.	275 129
Material of conductor holder	StSt
Conductor holder support Rd	20 mm
Fixing	[2x] 6.5 x 8 mm
PU	10 pc(s)

2 Stripping Tool for CUI-Conductors



Tool for stripping the XLPE insulated CUI Conductor (outer diameter 20 mm).

- Tool consists of a handle and an exchangeable cutting head
- Stripping length of the CUI Conductor is adjustable in steps of 0.2 mm (lock points) by the setting knob in the handle and shown on the handle scale

Handling

Apply the cutting head at the conductor end and turn clockwise with light pressure for cutting / stripping.

CUI-strip 20

Part No.	597 320
Diameter Ø conductor	20 mm
Material of moulded part	plastic
Material of blade	StSt
PU	1 pc(s)



CUI-head 20

Toolless exchange of the cutting head due to the bayonet coupling.

Part No.	597 020
Diameter Ø conductor	20 mm
Material of moulded part	plastic
Material of blade	StSt
PU	1 pc(s)



Information Sign

Lightning Voltage

Front in German

„ACHTUNG! Blitzspannung

Bei Gewitter Bereich räumen / nicht betreten“

Back in English

„ATTENTION! Lightning voltage

Clear / do not enter this area during thunderstorms“

Part No.	480 698
Material	Al
Dimension (l x w x d)	297 x 210 x 0,7 mm
Fixing	[4x] Ø6.5 mm
PU	1 pc(s)



3 4 Potential Control

Stainless Steel Wire

Stainless steel wire (Rd 10 mm) for use in soil has to be made of StSt (V4A) with a molybdenum proportion of > 2 %, e.g. 1.457, according to EN 62561-2, IEC 62305-3 and DIN VDE 0151.

Part No.	860 010	860 020	860 050
Diameter Ø conductor	10 mm	10 mm	10 mm
Cross-section	78 mm²	78 mm²	78 mm²
Material	StSt (V4A)	StSt (V4A)	StSt (V4A)
Material No.	1.4571 / 1.4404	1.4571 / 1.4404	1.4571 / 1.4404
Standard	EN 62561-2	EN 62561-2	EN 62561-2
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	2.9 kA	2.9 kA	2.9 kA
Conductor length	80 m	20 m	50 m
Coil weight	approx. 50 kg	approx. 12 kg	approx. 31 kg
PU	1 m	19 m	50 m



Connection Lug straightened

For the connection of down conductors with the earth-termination system; made of corrosion-resistant stainless steel StSt (V4A).



Part No.	860 115
Material	StSt (V4A)
Material No.	1.4571 / 1.4404
Length	1500 mm
Dimension	Ø10 mm
Cross-section	78 mm ²
Standard	EN 62561-2
PU	5 pc(s)

MV Clamp

Multipurpose connecting clamp (Mehrzweck Verbindungs-Klemme) for universal use as cross, T and parallel clamp; two-piece.



Part No.	390 079
Material of clamp	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401
Clamping range Rd	8-10 mm
Standard	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	4.7 kA
PU	50 pc(s)

SV Clamp

Diagonal connecting clamp (Schräg-Verbinder-Klemme) for cross and T connections with anti-rotation screws.



Part No.	308 329
Material of clamp	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401
Clamping range Rd / Rd	7-10 / 7-10 mm
Clamping range Rd / FI	7-10 / 30-40 mm
Clamping range FI / FI	30-40 / 30-40 mm
Standard	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	14.0 kA
PU	25 pc(s)

UNI Disconnecting Clamp

For connecting the down conductors with the earth entry rods.



Part No.	459 129
Material	StSt
Clamping range Rd / Rd	8-10 / 8-10 mm
Distance of screws	40 mm
Standard	EN 62561-1
PU	50 pc(s)

Conductor Holder DEHNhold

Conductor holder for fixing of round conductors with slotted cleat, fixed conductor leading.



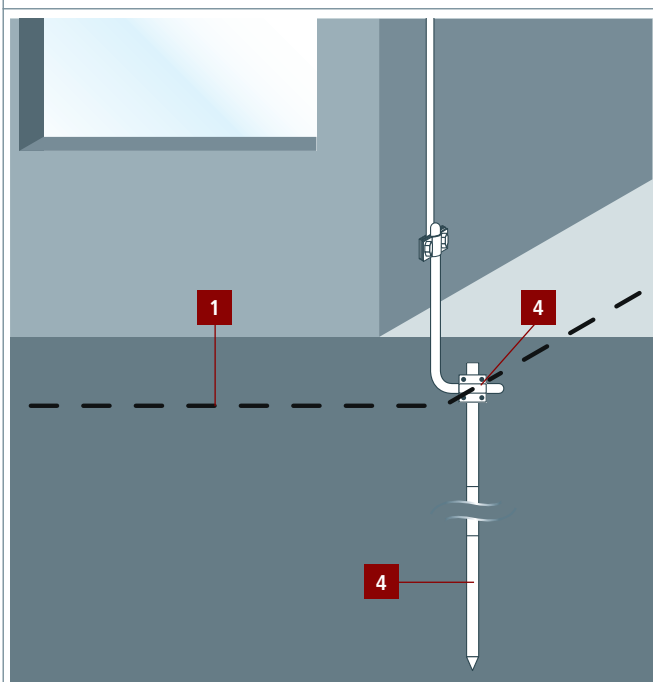
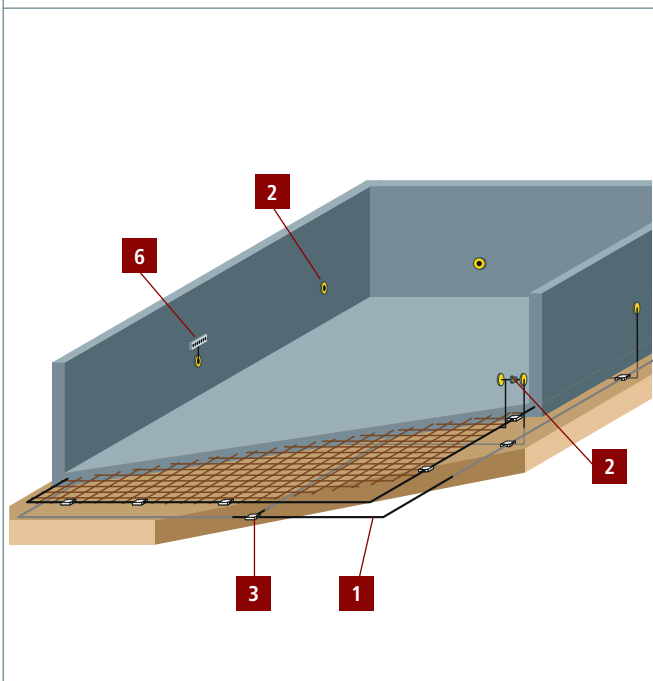
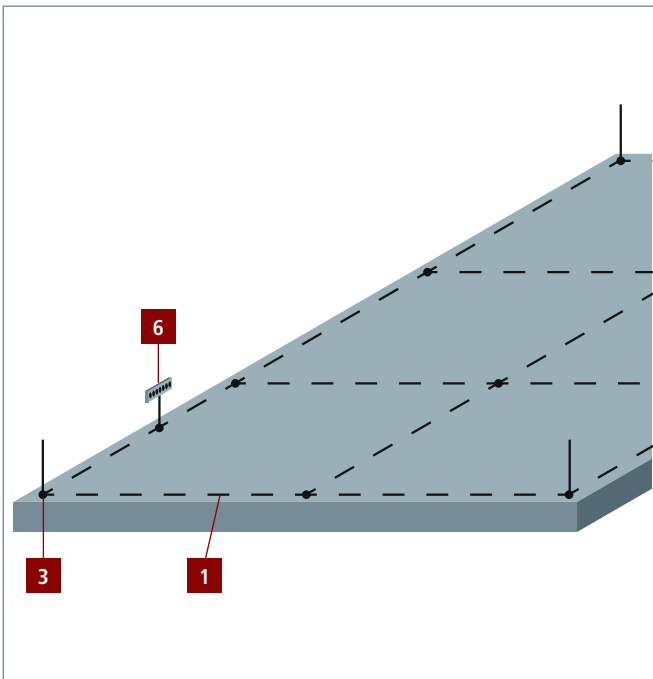
Part No.	274 160
Material of conductor holder	StSt
Conductor holder support Rd	8-10 mm
Conductor holder support FI	20 mm
Height of conductor holder	20 mm
Thread of conductor holder	M8
Screw	⌀5 x 50 mm
Standard	EN 62561-4
PU	50 pc(s)

Anti-corrosion Tapes

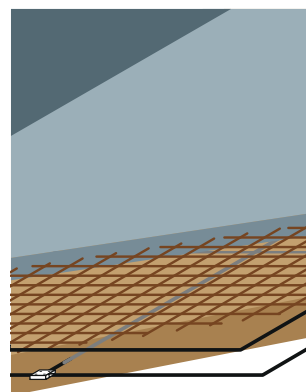
For coating aboveground and underground connections. For use in soil according to DIN 30672. Reels, length 10 m, UV-stabilised.



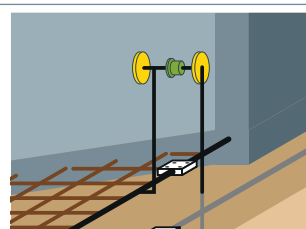
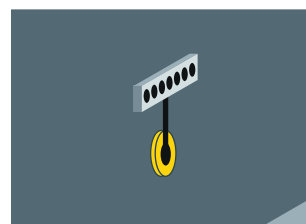
Part No.	556 125	556 130
Width of tape	50 mm	100 mm
Material	petrolatum	petrolatum
PU	24 pc(s)	12 pc(s)



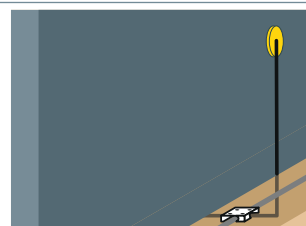
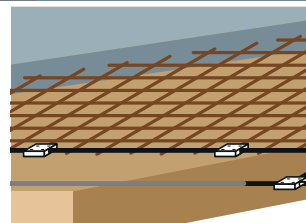
1 Round Wires, Strips, Cables, Rods



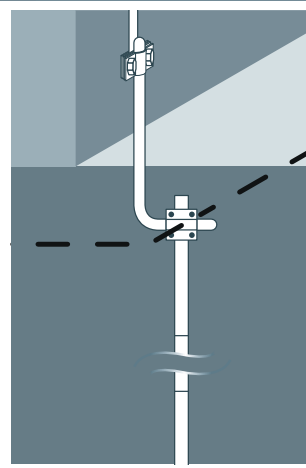
2 Fixed Earthing Terminals, Wall Bushings



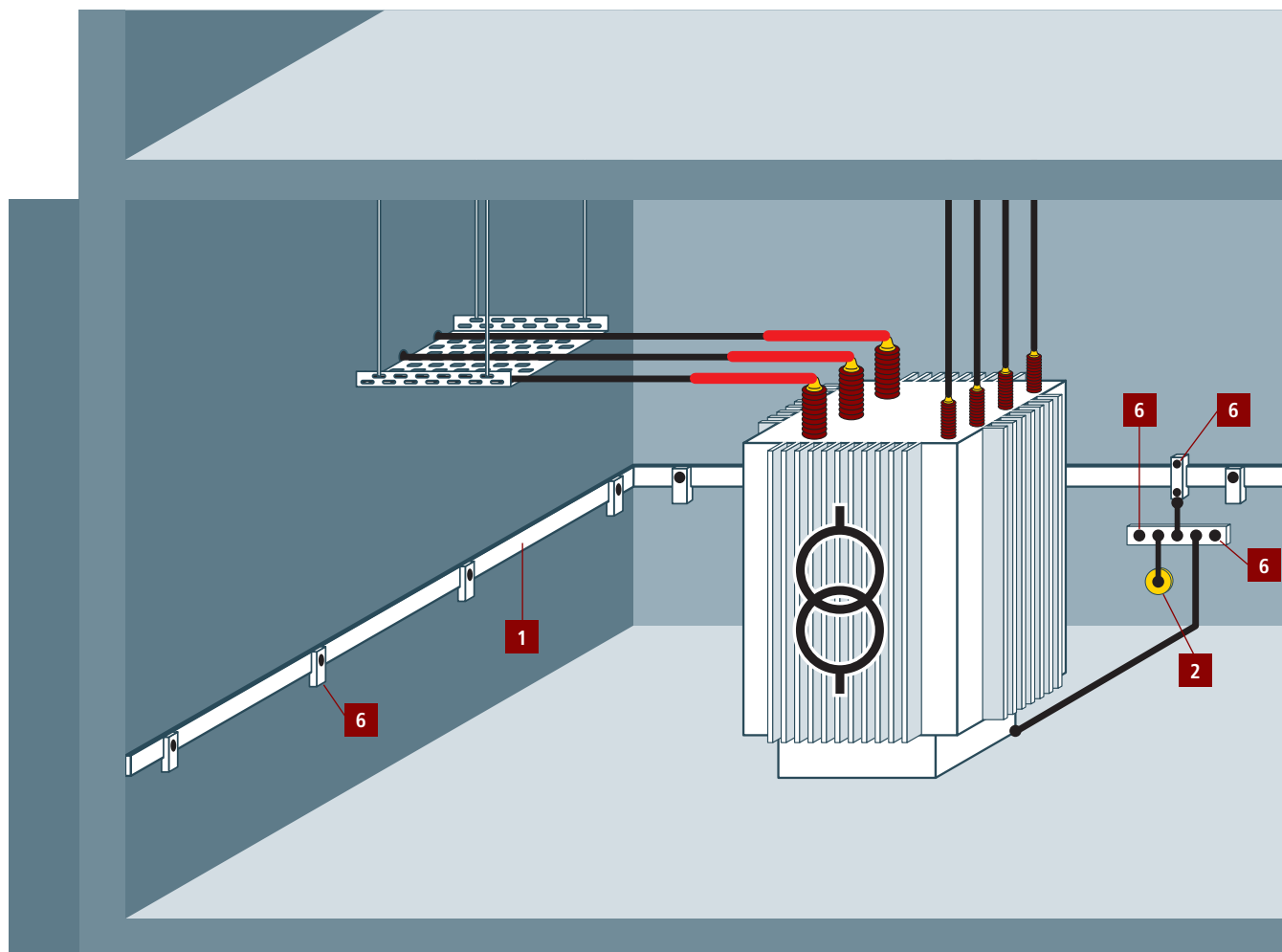
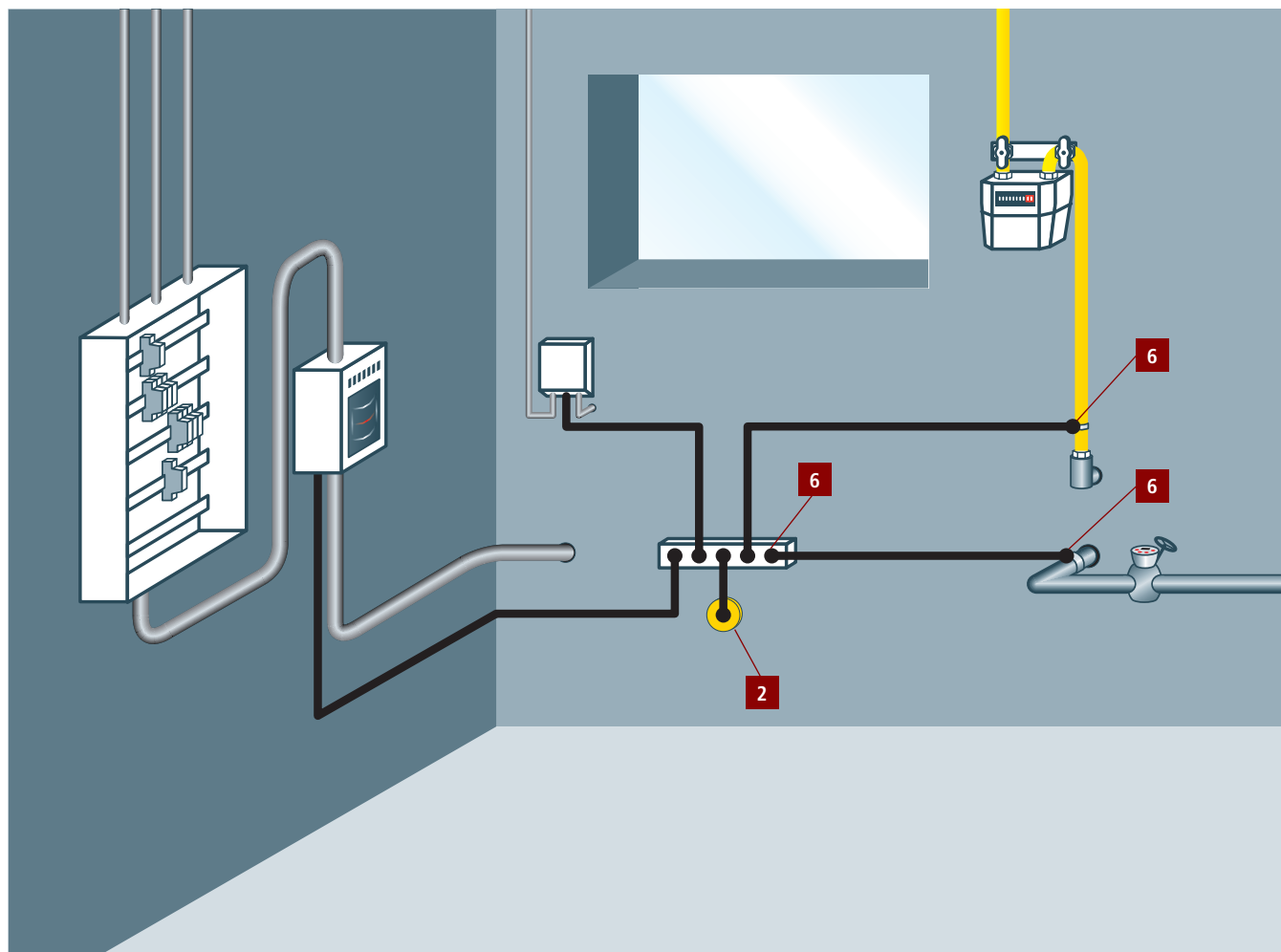
3 Clamps, Connectors

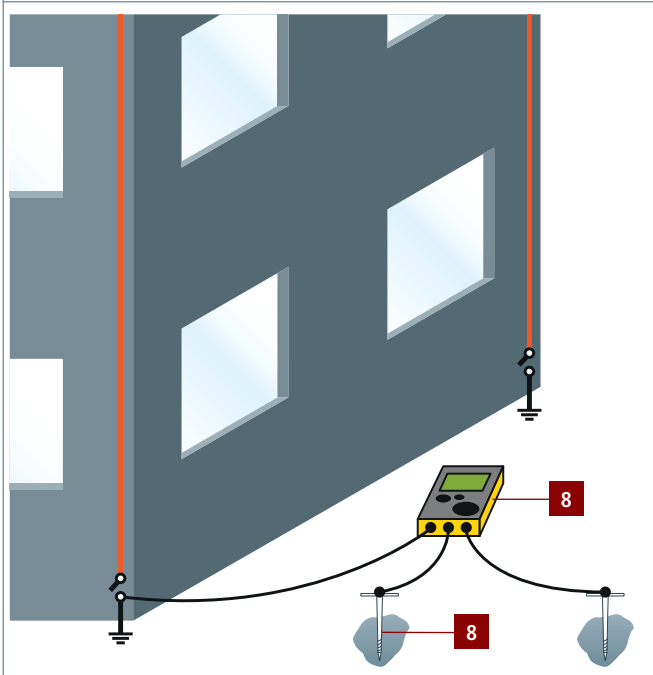
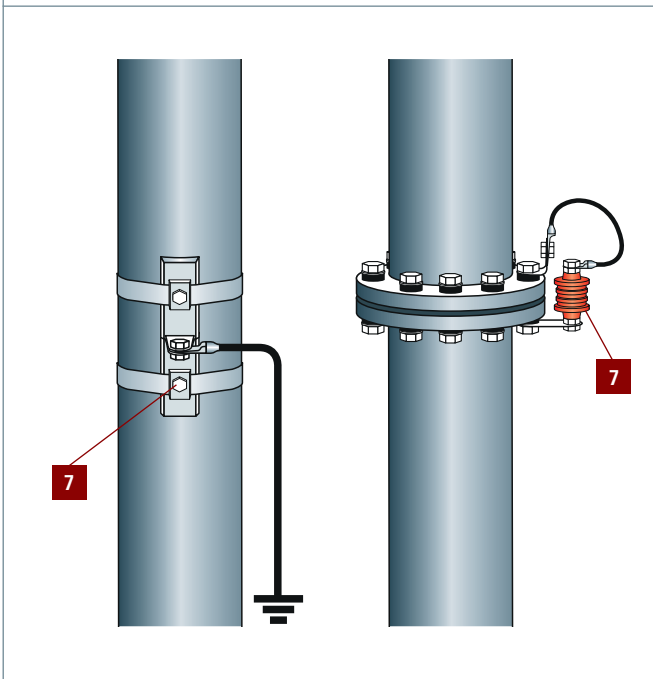


4 Earth Rods

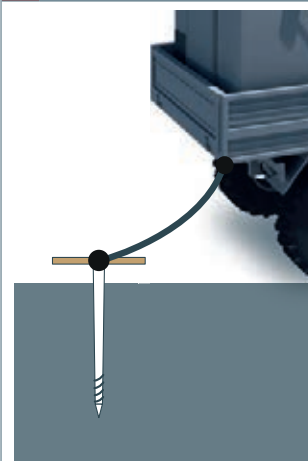


Earthing / Equipotential Bonding

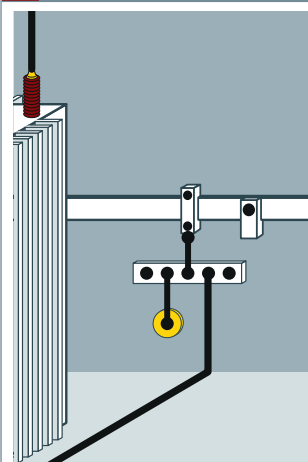




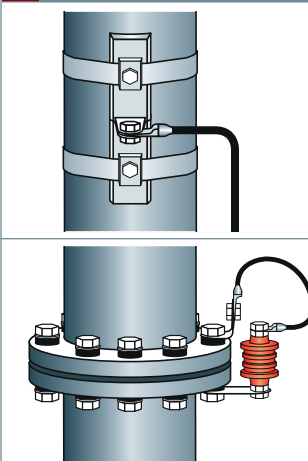
5 Earthing Material for Telecommunications



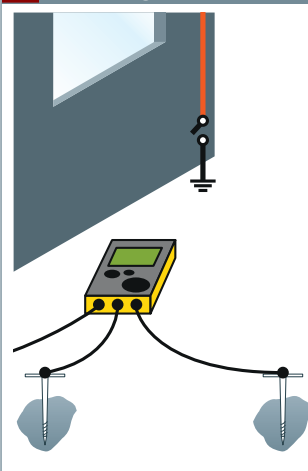
6 Equipotential Bonding



7 Equipotential Bonding for Ex Areas



8 Measuring Devices, Tools, Accessories



DEHN protects.



Round Wires

According to EN 62561-2, for use in lightning protection and earth-termination systems.

Stainless steel wire

Stainless steel wire (Rd 10 mm) for use in soil has to be made of StSt (V4A) with a molybdenum proportion of > 2 %, e.g. 1.4571, in accordance with EN 62561-2 and IEC/EN 62305-3.

General technical data:				
Standard	EN 62561-2			
Part No.	860 908	860 920	860 950 ^{NEW}	860 910
Diameter Ø conductor	8 mm	10 mm	10 mm	10 mm
Cross section	50 mm ²	78 mm ²	78 mm ²	78 mm ²
Material	StSt	StSt	StSt	StSt
Material No.	1.4301 / 1.4303	1.4301 / 1.4303	1.4301 / 1.4303	1.4301 / 1.4303
ASTM / AISI:	—	—	—	—
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	—	—	—	—
Coil weight	approx. 50 kg	approx. 12 kg	approx. 31 kg	approx. 50 kg
PU	125 m	20 m	50 m	80 m
Part No.	860 008	860 010	860 020	860 050 ^{NEW}
Diameter Ø conductor	8 mm	10 mm	10 mm	10 mm
Cross section	50 mm ²	78 mm ²	78 mm ²	78 mm ²
Material	StSt (V4A)	StSt (V4A)	StSt (V4A)	StSt (V4A)
Material No.	1.4571 / 1.4404	1.4571 / 1.4404	1.4571 / 1.4404	1.4571 / 1.4404
ASTM / AISI:	316Ti / 316L	316Ti / 316L	316Ti / 316L	316Ti / 316L
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	—	2.9 kA	2.9 kA	2.9 kA
Coil weight	approx. 50 kg	approx. 50 kg	approx. 12 kg	approx. 31 kg
PU	125 m	80 m	20 m	50 m



Steel wire

With zinc coating ≥ 50 µm average (approx. 350 g/m²).

Part No.	800 008	800 010	800 310
Diameter Ø conductor	8 mm	10 mm	10 mm
Cross section	50 mm ²	78 mm ²	78 mm ²
Material	St/tZn	St/tZn	St/tZn
Standard	EN 62561-2	EN 62561-2	EN 62561-2
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	—	5.5 kA	5.5 kA
Coil weight	approx. 50 kg	approx. 50 kg	approx. 18.5 kg
PU	127 m	81 m	30 m



Steel wire with plastic sheath

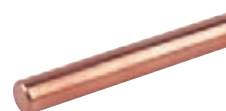
With plastic sheath as additional mechanical protection / corrosion protection e.g. at connections to the lightning protection system. Suitable for installation on, in and under plaster, mortar or concrete.

Part No.	800 108	800 110
Diameter Ø conductor	8 mm	10 mm
Cross section	50 mm ²	78 mm ²
Material	St/tZn	St/tZn
Standard	EN 62561-2	EN 62561-2
Diameter Ø outside	11 mm	13 mm
Material of sheath	plastic	plastic
Sheath thickness	1.5 mm	1.5 mm
Coil weight	approx. 33 kg	approx. 34 kg
PU	75 m	50 m



Copper wire

Part No.	830 008	830 108	830 038
Diameter Ø conductor	8 mm	8 mm	8 mm
Cross section	50 mm ²	50 mm ²	50 mm ²
Material	Cu	Cu	Cu
Characteristics	soft F20	soft F20	semi-rigid F25
Standard	EN 62561-2	EN 62561-2	EN 62561-2
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	9.8 kA	9.8 kA	9.8 kA
Coil weight	approx. 45 kg	approx. 9 kg	approx. 45 kg
PU	100 m	20 m	100 m



DEHNalu wire**General technical data:**

Standard	EN 62561-2
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Part No.	840 008	840 108	840 018
Diameter Ø conductor	8 mm	8 mm	8 mm
Cross section	50 mm ²	50 mm ²	50 mm ²
Material	AlMgSi	AlMgSi	AlMgSi
Characteristics	semi-rigid	semi-rigid	torsionally soft
Coil weight	approx. 20 kg	approx. 3 kg	approx. 20 kg
PU	148 m	21 m	148 m

Part No.	840 028	840 010
Diameter Ø conductor	8 mm	10 mm
Cross section	50 mm ²	78 mm ²
Material	AlMgSi	Al
Characteristics	torsionally soft	torsionally soft
Coil weight	approx. 3 kg	approx. 21 kg
PU	21 m	100 m

Note: Al and AlMgSi must not be installed directly (without distance) on, in, or under plaster, mortar or concrete, and not in soil.

DEHNalu wire with plastic sheath

Wire with plastic sheath (halogen-free, frost-resistant and UV stabilised) as additional mechanical protection / corrosion protection e.g. for installation behind facades.

Part No.	840 118	840 128 ^{NEW}
Diameter Ø conductor	8 mm	8 mm
Cross section	50 mm ²	50 mm ²
Material	AlMgSi	Al
Characteristics	soft	soft
Standard	EN 62561-2	EN 62561-2
Diameter Ø outside	11 mm	11 mm
Material of sheath	plastic	plastic
Sheath thickness	1.5 mm	1.5 mm
Coil weight	approx. 20 kg	approx. 20 kg
PU	100 m	100 m

DEHNCupal wire

New composite material. Lighter than copper.

For use above ground as air-termination and down conductor, or for equipotential bonding.

Part No.	833 008
Diameter Ø conductor	8 mm
Cross section	50 mm ²
Material	Al / Cu
Characteristics	torsionally soft
Standard	EN 62561-2
Cu sheath	min. 0.26 mm
Coil weight	approx. 20 kg
PU	110 m

Note: DEHNCupal wire can be twisted or straightened with the wire straightening devices.

Conductor materials will be delivered in original coil weights only.

More conductor materials and components as specified in the standard series EN 62561-2 upon request.

Strips

According to EN 62561-2, for use in earth-termination and lightning protection systems as well as for ring equipotential bonding

Steel strip

Zinc coating $\geq 70 \mu\text{m}$ average (approx. 500 g/m²).

General technical data:				
Material	St/tZn			
Standard	EN 62561-2			
Part No.	810 225	810 335	852 335	
Width	20 mm	30 mm	30 mm	
Thickness	2.5 mm	3.5 mm	3.5 mm	
Cross section	50 mm ²	105 mm ²	105 mm ²	
Short-circuit current (50 Hz) (1 s; $\leq 300^\circ\text{C}$)	—	7.3 kA	7.3 kA	
Coil weight	approx. 40 kg	approx. 42 kg	approx. 21 kg	
PU	100 m	50 m	25 m	
Part No.	810 304	810 404	810 405	
Width	30 mm	40 mm	40 mm	
Thickness	4 mm	4 mm	5 mm	
Cross section	120 mm ²	160 mm ²	200 mm ²	
Short-circuit current (50 Hz) (1 s; $\leq 300^\circ\text{C}$)	8.4 kA	11.2 kA	14 kA	
Coil weight	approx. 50 kg	approx. 50 kg	approx. 50 kg	
PU	52 m	40 m	30 m	



Copper strip

Part No.	831 225
Width	20 mm
Thickness	2.5 mm
Cross section	50 mm ²
Material	Cu
Standard	EN 62561-2
Short-circuit current (50 Hz) (1 s; $\leq 300^\circ\text{C}$)	9.8 kA
Coil weight	approx. 45 kg
PU	100 m



Stainless steel strip

Stainless steel strip for use in soil has to be made of StSt (V4A) with a molybdenum proportion of $> 2\%$, e.g. 1.4571, 1.4404, according to EN 62561-2, IEC/EN 62305-3 and DIN VDE 0151.

Part No.	860 925	860 900	860 325	860 335
Width	30 mm	30 mm	30 mm	30 mm
Thickness	3.5 mm	3.5 mm	3.5 mm	3.5 mm
Cross section	105 mm ²	105 mm ²	105 mm ²	105 mm ²
Material	StSt	StSt	StSt (V4A)	StSt (V4A)
Material No.	1.4301 / 1.4303	1.4301 / 1.4303	1.4571 / 1.4404	1.4571 / 1.4404
ASTM / AISI:	—	—	316Ti / 316L	316Ti / 316L
Standard	EN 62561-2	EN 62561-2	EN 62561-2	EN 62561-2
Short-circuit current (50 Hz) (1 s; $\leq 300^\circ\text{C}$)	—	—	3.9 kA	3.9 kA
Coil weight	approx. 21 kg	approx. 49 kg	approx. 21 kg	approx. 49 kg
PU	25 m	60 m	25 m	60 m



Other dimensions and materials upon request.

Cables

For use in lightning protection and earth-termination systems.

Aluminium cable

E.g. for spanning in case of isolated air-termination systems (DEHNiso Combi).

Part No.	840 050
Cross section	50 mm ²
Cable structure qty x Ø wire	19 x 1.8 mm
Material	Al
Standard	EN 62561-2
Diameter Ø outside	9 mm
Coil weight	approx. 13.5 kg
PU	100 m

Note: Al must not be installed directly (without distance) on, in or under plaster, mortar or concrete, and not in soil.

Steel cable

E.g. for equipotential bonding.

Part No.	801 050
Cross section	42 mm ²
Cable structure qty x Ø wire	[6x] 19 x 0.65 mm
Material	St/gal Zn
Diameter Ø outside	10 mm
Coil weight	approx. 33 kg
PU	100 m

Stainless steel cable

E.g. for equipotential bonding.

Part No.	850 008	850 010
Cross section	27 mm ²	42 mm ²
Cable structure qty x Ø wire	[7x] 19 x ca. 0.59 mm	[7x] 19 x ca. 0.68 mm
Material	StSt (V4A)	StSt (V4A)
Material No.	1.4571 / 1.4404	1.4571 / 1.4404
ASTM / AISI:	316Ti / 316L	316Ti / 316L
Diameter Ø outside	8 mm	10 mm
Coil weight	approx. 23.5 kg	approx. 39.5 kg
PU	100 m	100 m

Copper cable

General technical data:

Material	Cu
Standard	EN 62561-2

Part No.	832 739	832 740	832 192
Cross section	50 mm ²	50 mm ²	70 mm ²
Cable structure qty x Ø wire	19 x 1.8 mm	19 x 1.8 mm	19 x 2.1 mm
Diameter Ø outside	9 mm	9 mm	10.5 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	9.8 kA	9.8 kA	13.7 kA
Coil weight	approx. 22 kg	approx. 44 kg	approx. 30 kg
PU	50 m	100 m	50 m

Part No.	832 193	832 095	832 120
Cross section	70 mm ²	95 mm ²	120 mm ²
Cable structure qty x Ø wire	19 x 2.1 mm	19 x 2.5 mm	19 x 2.8 mm
Diameter Ø outside	10.5 mm	12.5 mm	14.5 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	13.7 kA	18.5 kA	23.4 kA
Coil weight	approx. 60 kg	approx. 42 kg	approx. 53 kg
PU	100 m	50 m	50 m

Round Wires, Strips, Cables, Rods

Copper cable tinned

General technical data:			
Material	Cu/gal Sn		
Standard	EN 62561-2		
Part No.	832 839	832 202	832 292
Cross section	50 mm ²	70 mm ²	70 mm ²
Cable structure qty x Ø wire	19 x 1.8 mm	19 x 2.1 mm	19 x 2.1 mm
Diameter Ø outside	9 mm	10.5 mm	10.5 mm
Short-circuit current (50 Hz) (1 s; ≤ 150 °C)	7.2 kA	10.1 kA	10.1 kA
Coil weight	approx. 44 kg	approx. 30 kg	approx. 60 kg
PU	100 m	50 m	100 m
Part No.	832 295	832 320	
Cross section	95 mm ²	120 mm ²	
Cable structure qty x Ø wire	19 x 2.5 mm	19 x 2.8 mm	
Diameter Ø outside	12.5 mm	14.5 mm	
Short-circuit current (50 Hz) (1 s; ≤ 150 °C)	13.8 kA	17.3 kA	
Coil weight	approx. 42 kg	approx. 53 kg	
PU	50 m	50 m	



Other dimensions and materials upon request.

Earth Entry Rods – Kit

Complete with disconnecting sleeve and connection clamps (KS screws).

Type St/tZn

With disconnecting sleeve (Part No. 450 000) and KS screws (Part No. 300 000).

Part No.	480 150
Material	St/tZn
Standard	EN 62561-(1+2)
Length	1500 mm
Connection KS screw Rd	7-10 mm
Connection sleeve Rd / Rd	7-10 / 16 mm
PU	1 pc(s)



Type Cu

With disconnecting sleeve (Part No. 450 007) and KS screws (Part No. 300 007).

Part No.	480 157
Material	Cu
Standard	EN 62561-(1+2)
Length	1500 mm
Connection KS screw Rd	6-10 mm
Connection sleeve Rd / Rd	7-10 / 16 mm
PU	1 pc(s)



Earth Entry Rods

For connection of down conductors to the earth-termination system.

Chamfered

General technical data:			
Standard	EN 62561-2		
Diameter Ø	16 mm		
Part No.	483 150	483 200	104 903
Material	St/tZn	St/tZn	StSt (V4A)
Material No.	—	—	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	—	—	316Ti / 316L / 316
Length (l1)	1500 mm	2000 mm	1000 mm
PU	10 pc(s)	10 pc(s)	10 pc(s)
Part No.	104 905	104 906	
Material	StSt (V4A)	StSt (V4A)	
Material No.	1.4571 / 1.4404 / 1.4401	1.4571 / 1.4404 / 1.4401	
ASTM / AISI:	316Ti / 316L / 316	316Ti / 316L / 316	
Length (l1)	1500 mm	2000 mm	
PU	10 pc(s)	10 pc(s)	

With forged flat lug

Bore Ø11 mm, bore distance 22 mm.

Part No.	101 150
Material	St/tZn
Standard	EN 62561-2
Diameter Ø	16 mm
Length (l1)	1500 mm
Bore distance	22 mm
PU	10 pc(s)

Tapered

Notched conductor Ø10 mm, partly insulated (length approx. 700 mm).

Part No.	480 018	480 019	480 020	480 021
Material	St/tZn	St/tZn	St/tZn	St/tZn
Standard	EN 62561-2	EN 62561-2	EN 62561-2	EN 62561-2
Diameter Ø	16 / 10 mm	16 / 10 mm	16 / 10 mm	16 / 10 mm
Length (l1)	1500 mm	1750 mm	2000 mm	2500 mm
Partial length Ø16 mm (l2)	1000 mm	750 mm	1000 mm	1500 mm
Partial length Ø10 mm (l3)	500 mm	1000 mm	1000 mm	1000 mm
PU	10 pc(s)	10 pc(s)	10 pc(s)	10 pc(s)

Connection Lugs Straightened / Angled

For the connection of down conductors with the earth-termination system; made of corrosion-resistant stainless steel StSt (V4A).

Round wires

Part No.	860 110	860 115	860 130
Material	StSt (V4A)	StSt (V4A)	StSt (V4A)
Material No.	1.4571 / 1.4404	1.4571 / 1.4404	1.4571 / 1.4404
ASTM / AISI:	316Ti / 316L	316Ti / 316L	316Ti / 316L
Length (l1)	1000 mm	1500 mm	3000 mm
Dimension	Ø10 mm	Ø10 mm	Ø10 mm
Cross section	78 mm ²	78 mm ²	78 mm ²
Standard	EN 62561-2	EN 62561-2	EN 62561-2
PU	5 pc(s)	5 pc(s)	5 pc(s)

Flat strips

Part No.	860 215	860 230
Material	StSt (V4A)	StSt (V4A)
Material No.	1.4571 / 1.4404	1.4571 / 1.4404
ASTM / AISI:	316Ti / 316L	316Ti / 316L
Length (l1)	1500 mm	3000 mm
Dimension	30 x 3.5 mm	30 x 3.5 mm
Cross section	105 mm ²	105 mm ²
Standard	EN 62561-2	EN 62561-2
PU	5 pc(s)	5 pc(s)



Flat strips with slotted holes

Slot-to-slot gap 500 mm.

Part No.	860 425 ^{NEW}	860 430 ^{NEW}
Material	StSt	StSt (V4A)
Material No.	1.4301	1.4571 / 1.4404
ASTM / AISI:	—	316Ti / 316L
Length (l1)	3000 mm	3000 mm
Dimension	30 x 3.5 mm	30 x 3.5 mm
Fixing	[6x] 6.5 x 12 mm	[6x] 6.5 x 12 mm
Bore distance	500 mm	500 mm
Cross section	105 mm ²	105 mm ²
Standard	EN 62561-2	EN 62561-2
PU	5 pc(s)	5 pc(s)



Flat strips angled

For direct wall mounting (without distance) with bores for countersunk head screws.

Part No.	860 315	860 330
Material	StSt (V4A)	StSt (V4A)
Material No.	1.4571 / 1.4404	1.4571 / 1.4404
ASTM / AISI:	316Ti / 316L	316Ti / 316L
Length (l1)	1500 mm	3000 mm
Dimension	30 x 3.5 mm	30 x 3.5 mm
Connection	isolating clamp or clamping screw connector	isolating clamp or clamping screw connector
Fixing	[3x] Ø6.5 mm	[6x] Ø6.5 mm
Bore distance	500 mm	500 mm
Cross section	105 mm ²	105 mm ²
Standard	EN 62561-2	EN 62561-2
PU	5 pc(s)	5 pc(s)



Other dimensions available upon request.

Protective Cap for Terminal Lugs

For attaching to round wires or strips as striking marker (as required according to DIN 18014) and accident prevention during the construction phase.

Part No.	478 099
Material	PVC
Diameter Ø	70 mm
Attach to Fl	30 x 3.5 mm
Attach to Rd	10 mm
Colour	green ● / yellow ●
PU	20 pc(s)





DEHN protects.

Fixed Earthing Terminals



For installation into concrete as corrosion-free connection to the earth-termination system for protective equipotential bonding and / or functional equipotential bonding of the down conductor e.g. to the reinforcement of buildings. For the double thread M10 and M12 mind the following minimum lengths of the screws:

35 mm of M10 (thread length 40 mm)

15 mm of M12 (thread length 20 mm)

Type M

With terminal axis (l = 180 mm, Ø10 mm).

Part No.	478 011	478 019
Connection thread	M10 / M12	M10 / M12
Material of plate	StSt (V4A)	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316	316Ti / 316L / 316
Material of axis	St/tZn	StSt
Connection plate Ø	80 mm	80 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	6.5 kA	3.9 kA
Standard	EN 62561-1	EN 62561-1
PU	10 pc(s)	10 pc(s)



Type M without connection axis

Part No.	478 012
Connection thread	M10 / M12
Material of plate	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316
Connection plate Ø	80 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	9.3 kA (with copper cable lug)
Standard	EN 62561-1
PU	10 pc(s)



Type M press-fitted

Terminal axis (l = 180 mm, Ø10 mm).

Part No.	478 041	478 049
Connection thread	M10 / M12	M10 / M12
Material of plate	StSt (V4A)	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316	316Ti / 316L / 316
Material of axis	St/tZn	StSt
Connection plate Ø	80 mm	80 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	3.7 kA	3.3 kA
Standard	EN 62561-1	EN 62561-1
PU	10 pc(s)	10 pc(s)



Part No. 478 049 with UL approval.

Type M press-fitted with additional water barrier

Against penetration of water along the axis into the wall (tested with 5 bar compressed air according to EN 62561-5 and 1 bar pressure water).

Part No.	478 051
Connection thread	M10 / M12
Material of plate	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316
Material of axis	St/tZn
Connection plate Ø	80 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	3.7 kA
Material of water barrier	PVC
Standard	EN 62561-1
PU	1 pc(s)





Type M with MV clamp

For round conductors 8-10 mm, only needs little space in the shuttering.

Part No.	478 112
Connection thread	M10 / M12
Material of plate	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316
Connection plate Ø	80 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	9.3 kA
Standard	EN 62561-1
PU	10 pc(s)

Type K

With plastic ring and connection axis (l = 180 mm, Ø10 mm).

Part No.	478 200
Connection thread	M10 / M12
Material of plate	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316
Material of axis	St/tZn
Connection plate Ø	46 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	6.5 kA
Standard	EN 62561-1
PU	10 pc(s)

Fixed Earthing Terminal M16

With connection thread M16 for higher current loadings (50 Hz), e.g. for connecting the ring equipotential bonding system with the earth-termination systems of power installation with nominal a.c. voltages over 1 kV (transformer earthing).

Part No.	478 027
Connection thread	M16
Material of plate	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316
Material of cable	Cu/gal Sn
Cross section of connecting cable	70 mm²
Length of connecting cable	400 mm
Diameter Ø connecting cable	10.5 mm
Connection plate Ø	80 mm
Standard	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	11 kA
PU	1 pc(s)

Connecting Clamps for Fixed Earthing Terminals and Reinforcement

For connecting the reinforcement with clamping frame. For round conductors or fixed earthing terminals and concurrent fixing in the formwork. Arrangement: (II) = parallel (+) = cross

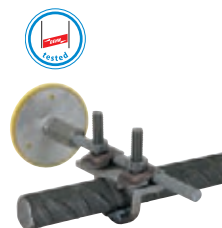


For small diameters

Part No.	308 035
Material	St/bare
Clamping range Rd / Rd	(+//II) 6-22 / 6-10 mm
Clamping range Rd / Fl	(+) 6-22 / 40 mm
Screw	■● M10 x 60 mm
Standard	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	1.0 kA
PU	25 pc(s)

U-clamp for large diameters

Part No.	308 046
Material	St/bare
Clamping range Rd / Rd	(+/-II) 16-48 / 6-10 mm
Clamping range Rd / FI	(II) 16-48 / 30-40 mm
Screw	stirrup bolt M10 x 48 mm
Standard	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	6.5 kA
PU	25 pc(s)



End Pieces

For screwing to the fixed earthing terminal to connect e.g. an equipotential bonding bar or construction elements such as steel girders etc.

Basic design

Universally usable for connections M10 and M12, e.g. at the fixed earthing terminal.

For connection of Rd e.g. with KS connector (Part No. 301 019), or for connection of FI with screws and nuts M10 or M12.

Part No.	390 499
Material	StSt
Bore Ø	10.5 / 12.5 mm
PU	50 pc(s)



Design with square holes

Dimension 11x11 mm, for connection of Rd e.g. with KS connector (Part No. 301 019) or for connection of FI with screws and nuts M10.

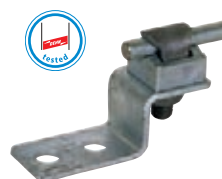
Part No.	390 479
Material	StSt
Distance of bores	30 mm
Bore Ø	13 mm
PU	50 pc(s)



Design with bores and KS connector

With bores Ø11 mm.

Part No.	363 010
Material	St/tZn
Distance of bores	22 mm
Bore Ø	11 mm
Clamping range Rd	7-10 mm
Standard	EN 62561-1
PU	50 pc(s)



Design with bores

With bores Ø11 mm.

Part No.	363 000
Material	St/tZn
Distance of bores	22 mm
Bore Ø	11 mm
PU	50 pc(s)



Connection Clamps with Threaded Bolt

For connection of round and flat conductors to fixed earthing terminals with thread M10 / M12 (e.g. Part Nos. 478 011, 478 200). Clamps with thread M10 are also suitable for installation on the back side of the fixed earthing terminal (without terminal axis) e.g. to connect flat strip.



Heavy design M10

Part No.	478 141
Material of clamp	St/tZn
Clamping range Rd / Fl	7-10 / 30-40 mm
Dimension	70 x 70 x 3 mm
Standard	EN 62561-1
PU	10 pc(s)



Heavy design M12

Part No.	478 149
Material of clamp	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316
Clamping range Rd / Fl	7-10 / 30-40 mm
Dimension	70 x 70 x 3 mm
Standard	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	3.3 kA
PU	10 pc(s)



Light design M10

Part No.	478 129
Material of clamp	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316
Clamping range Rd / Fl	8-10 / 30 mm
Dimension	58 x 30 x 2.5 mm
Standard	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	2.7 kA
PU	10 pc(s)

Threaded Adapter

For connection to fixed earthing terminals with thread M10, lock nut and spring washer, for use in case of perimeter insulation or thermal insulation composite systems.

NEW



Part No.	478 699 ^{NEW}
Material	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316
Female thread	M10 x 25 mm
Male thread	M10 x 80 mm
Total length	130 mm
Standard	EN 62561-1
PU	10 pc(s)

Earth Electrode and Wall Bushings

With MV clamp made of StSt (V4A) for round conductors 8-10 mm. For water pressure-tight ducting of the earthing conductor / equipotential bonding conductor through walls and brickwork with StSt threaded rod M10.

Type for subsequent installation through (bore Ø14 mm) or if necessary through the formwork spreader.
Test for water pressure-tightness up to 1 bar features an installation depth of 10 m in stagnant water.

Part No.	478 410	478 430	478 450
Length of bushing (l2)	100-300 mm	300-500 mm	500-700 mm
Length of threaded rod (l1)	308 mm	508 mm	708 mm
Sealings	Neopren	Neopren	Neopren
Sealing disc Ø	80 mm	80 mm	80 mm
Material of disc	StSt (V4A)	StSt (V4A)	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401	1.4571 / 1.4404 / 1.4401	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316	316Ti / 316L / 316	316Ti / 316L / 316
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	2.7 kA	2.7 kA	2.7 kA
Standard	EN 62561-1	EN 62561-1	EN 62561-1
PU	1 pc(s)	1 pc(s)	1 pc(s)



Fixed Earthing
Terminals
2

Water Pressure-tight Wall Bushings for White Tank

For installation in the formwork.

For water pressure-tight bushing of walls, e.g. for connecting the ring earth electrode with the equipotential bonding bar or the equipotential bonding conductor in the foundation.

Test for water pressure-tightness up to 1 bar features an installation depth of 10 m in stagnant water.

Tested with 5 bar compressed air in accordance with EN 62561-5

Part No.	478 530	478 540	478 550
Material of plate	StSt (V4A)	StSt (V4A)	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401	1.4571 / 1.4404 / 1.4401	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316	316Ti / 316L / 316	316Ti / 316L / 316
Material of axis	St/tZn	St/tZn	St/tZn
Wall thickness (l1)	220-300 mm	300-400 mm	400-500 mm
Terminal thread	M10 / 12	M10 / 12	M10 / 12
Terminal plate Ø	80 mm	80 mm	80 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	4.1 kA	4.1 kA	4.1 kA
Standard	EN 62561-(1+5)	EN 62561-(1+5)	EN 62561-(1+5)
PU	1 pc(s)	1 pc(s)	1 pc(s)



Sealing Collar for Connection Lug

Sealing collar for bushings at watertight foundation slabs / walls (e.g. white tank).

Water pressure-tight for pushing on round / flat conductors with StSt tensioning straps.

Test for water pressure-tightness up to 1 bar features an installation depth of 10 m in stagnant water, additionally tested with with 5 bar compressed air according to EN 62561-5.

For round conductors

Part No.	478 598 ^{NEW}
Material	thermoplast elastomer
Diameter Ø	105 mm
Bushing Rd	10 mm
Standard	EN 62561-5
PU	10 pc(s)



For flat conductors

Part No.	478 599 ^{NEW}
Material	thermoplast elastomer
Diameter Ø	119 mm
Bushing Fl	30 x 3.5 mm
Standard	EN 62561-5
PU	10 pc(s)



DEHN protects.



Connecting Clamps for Reinforcements

In accordance with the German standard DIN 18014: 2014-03 Fundamente – Planung, Ausführung und Dokumentation (Title English: Foundation earth electrode - Planning, execution and documentation), foundation earth electrodes have to be connected every two meters with the foundation plate. Among the various connection possibilities the clamping connection has turned out to be the most economic, as it can be realised fast and easily on site.

Among others also reinforcing steels shall be used as natural components of the down conductor system according to the current lightning protection standards. In the following a survey of the nominal and outer diameters as well as cross sections of the reinforcing steels DIN EN 10080: 2005.

For connecting concrete reinforcing mats or reinforcements with round and flat conductors.

Arrangement: (II) = parallel (+) = cross



The outer diameter including corrugation is approx. $d_A = 1.15 \times d_s$.

Nominal diameter d_s (mm)	6	8	10	12	14	16	20	25	28	32	40
Average outer diameter incl. corrugation d_A (mm)	7.1	9.4	11.8	14.2	16.5	18.9	23.6	29.5	33.1	37.8	47.2
Nominal cross section (mm ²)	28.3	50.3	78.5	113.1	154	201	314	491	616	804	1257

For T, cross and parallel connections

Part No.	308 025
Material	St/tZn
Clamping range Rd / Rd	(+) 6-10 / 6-10 mm
Clamping range Rd / Fl	(+) 6-10 / 30 mm
Clamping range Fl / Fl	(II) 30 / 30 mm
Screw	⚙ M10 x 25 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	9 kA
Standard	EN 62561-1
PU	50 pc(s)



For T, cross and parallel connections

Part No.	308 026
Material	St/tZn
Clamping range Rd / Fl	(+) 6-10 / 30 mm
Clamping range Fl / Fl	(+ / II) 30 / 30 mm
Screw	⚙ M10 x 25 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	13 kA
Standard	EN 62561-1
PU	25 pc(s)



For T and cross connections

Part No.	308 030
Material	St/bare
Clamping range Rd / Fl	(+) 6-22 / 40 mm
Screw	⚙ M10 x 40 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	1.0 kA
Standard	EN 62561-1
PU	25 pc(s)





For T, cross and parallel connections with clamping frame

For flexible connection of round conductors or for fixed earthing terminals and simultaneous fixing in the formwork.

Part No.	308 035
Material	St/bare
Clamping range Rd / Rd	(+//II) 6-22 / 6-10 mm
Clamping range Rd / FI	(+) 6-22 / 40 mm
Screw	M10 x 60 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	1.0 kA
Standard	EN 62561-1
PU	25 pc(s)

U-bolt clamp for large diameters



Part No.	308 045
Material	St/bare
Clamping range Rd / Rd	(II) 16-48 / 6-10 mm
Clamping range Rd / FI	(II) 16-48 / 30-40 mm
Screw	stirrup bolt M10 x 48 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	16 kA
Standard	EN 62561-1
PU	25 pc(s)

U-bolt clamp for large diameters with two additional clamping frames

For cross connections of round conductors (6-10 mm) or for the fixing and simultaneous connection of fixed earthing terminals.



Part No.	308 046
Material	St/bare
Clamping range Rd / Rd	(+//II) 16-48 / 6-10 mm
Clamping range Rd / FI	(II) 16-48 / 30-40 mm
Screw	stirrup bolt M10 x 48 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	11 kA
Standard	EN 62561-1
PU	25 pc(s)

MAXI MV clamps

For T, cross and parallel connections.



Part No.	308 041	308 040
Material	St/tZn	St/bare
Clamping range Rd / Rd	(+//II) 8-16 / 15-25 mm	(+//II) 8-16 / 15-25 mm
Screw	M12 x 65 mm	M12 x 65 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	6.2 kA	10.2 kA
Standard	EN 62561-1	EN 62561-1
UL certification	—	UL467B
Stock No.	5999-12-362-1557	—
PU	20 pc(s)	20 pc(s)

Connecting Clamps for Foundation Earth Electrodes

For connecting round and flat conductors in the concrete foundation.
For T, cross and parallel connections, no need of threading the conductors.

Arrangement:
(II) = parallel
(+) = crosswise



Part No.	308 120	308 129
Material	St/tZn	StSt
Clamping range Rd / FI	(+) 10 / 30 mm	(+) 10 / 30 mm
Clamping range FI / FI	(+//II) 30 / 30 mm	(+//II) 30 / 30 mm
Standard	EN 62561-1	EN 62561-1
PU	25 pc(s)	25 pc(s)

Connecting Clamps for Foundation Earth Electrodes and Reinforcements

For connecting round and flat conductors in the concrete foundation or the concrete reinforcing mats and the reinforcements with round and flat conductors.

Arrangement:

(II) = parallel (+) = cross

Connecting clamp with thrust bracket

For T, cross and parallel connections.

Part No.	308 031
Material	St/bare
Clamping range Rd / Rd	(+/II) 6-20 / 6-10 mm
Clamping range Rd / FI	(+/II) 6-20 / 30 x 3-4 mm
Clamping range FI / FI	(+/II) 30 x 3-4 / 30 x 3-4 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	8.4 kA
Standard	EN 62561-1
PU	25 pc(s)

Connecting clamp MAXI with thrust bracket

For T, cross and parallel connections.

Part No.	308 036
Material	St/bare
Clamping range Rd / Rd	(+/II) 20-32 / 6-10 mm
Clamping range Rd / FI	(+/II) 20-32 / 40 x 4-5 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	14.0 kA
Standard	EN 62561-1
PU	25 pc(s)

Connecting clamp without thrust bracket

For cross connections.

Part No.	308 032
Material	St/bare
Clamping range Rd / FI	(+) 6-20 / 30 x 3-4 mm
Clamping range FI / FI	(+) 30 x 3-4 / 30 x 3-4 mm
Standard	EN 62561-1
PU	25 pc(s)

Connecting clamp MAXI without thrust bracket

For cross connections.

Part No.	308 037
Material	St/bare
Clamping range Rd / FI	(+) 20-32 / 30 x 3-40 x 5 mm
Standard	EN 62561-1
PU	25 pc(s)



Wedge Connector

For T, cross and parallel connections for use in concrete foundations.

Part No.	308 001
Material	St/tZn
Clamping range Rd / FI	10 / 30 x 3.5-40 x 4 mm
Clamping range FI / FI	30 x 3.5-40 x 4 / 30 x 3.5-40 x 4 mm
PU	25 pc(s)



Expansion Strap for Foundation Earth Electrodes

For leading the foundation earth electrode through the expansion joints of extended foundations (several sections). It is not necessary to lead the earth electrode out of the base plate.



Part No.	308 150
Material of strap	StSt
Dimension of strap (l x w x d)	approx. 700 x 30 x (4 x 1) mm
Cross section	120 mm ²
Material of block	polystyrene
Dimension of block (l x w x d)	180 x 85 x 45 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	6 kA
Standard	EN 62561-2
PU	1 pc(s)

Spacers

For the installation of earthing conductors in the foundation slab.
With catch lug to avoid loosening of the conductor.



Angled and reinforced design

Part No.	290 001
Material	St/tZn
Support Fl	40 mm
Support Rd	8-10 mm
Length	300 mm
PU	25 pc(s)



Straight design

Part No.	290 002
Material	St/tZn
Support Fl	40 mm
Support Rd	8-10 mm
Length	280 mm
PU	50 pc(s)

Earth Rods



For implementing earth-termination systems for down conductors or transformer stations.

Features:

- No cross section thickening at the coupling point
- Self-locking coupling
- Corrosion resistance
- Easier storage and transport
- Universal application according to local soil conditions
- Constant resistance values
- Easy driving-in by vibration hammer

Type S

With lead ball in the coupling.

Part No.	620 150	619 157	625 150
Material	St/tZn	St / Cu	St/tZn
Rod length (l1)	1500 mm	1500 mm	1500 mm
Diameter Ø (d1)	20 mm	20 mm	25 mm
Cu layer	—	min. 0.3 mm	—
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	7.9 kA	7.9 kA	12.3 kA
Standard	EN 62561-2	—	EN 62561-2
PU	6 pc(s)	6 pc(s)	6 pc(s)



Type Z

With triple knurled pin (coupling with especially high tensile strength).

Part No.	620 101	620 151	625 101	625 151
Material	St/tZn	St/tZn	St/tZn	St/tZn
Rod length (l1)	1000 mm	1500 mm	1000 mm	1500 mm
Diameter Ø (d1)	20 mm	20 mm	25 mm	25 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	7.9 kA	7.9 kA	12.3 kA	12.3 kA
Standard	EN 62561-2	EN 62561-2	EN 62561-2	EN 62561-2
PU	6 pc(s)	6 pc(s)	6 pc(s)	6 pc(s)



Type AZ

With offset knurled pin.

Part No.	620 902
Material	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316
Rod length (l1)	1500 mm
Diameter Ø (d1)	20 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	4.2 kA
Standard	EN 62561-2
PU	6 pc(s)



Drive Spikes

For driving-in the first earth rod.

The drive spikes can be used for earth rods made of steel as well as StSt and they are also applicable for tubular earth rods.

Part No.	620 001	625 001
Material	MCI/tZn	MCI/tZn
Type	for earth rods Ø20 mm or tubular earth rods St/tZn Ø27 mm	for earth rods Ø25 mm or tubular earth rods StSt (V4A) Ø25 mm
PU	100 pc(s)	50 pc(s)





Tubular Earth Rods

Light design, for implementing earth-termination systems for down conductors.



Type Steel

Part No.	640 150
Material	St/tZn
Rod length	1500 mm
Diameter Ø	27 mm
Standard	EN 62561-2
PU	6 pc(s)



Type StSt

Part No.	649 150
Material	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316
Rod length	1500 mm
Diameter Ø	25 mm
Standard	EN 62561-2
PU	6 pc(s)

DEHNIT Earthing Method

For improving and stabilising the earth electrode resistance.

Highly swellable, powdery and extremely hydrophilic special clay provides a conductive earth electrode enclosure and has a positive effect on the earth electrode resistance.

More information at www.dehn-international.com/.



Part No.	573 000
Material	special clay
Mixing ratio	5 parts sand / 1 part DEHNIT / 0.5 parts water
PU	25 kg

Profiled Earth Rods

For the installation of earth-termination systems e.g. for antennas or construction site distribution boards.



Profile 50 x 50 x 3 mm

With connection lug and bores e.g. for KS connector.

Part No.	635 100	635 150	635 200	635 250
Material	St/tZn	St/tZn	St/tZn	St/tZn
Length (l)	1000 mm	1500 mm	2000 mm	2500 mm
Bores Ø	[2x] 11 / [1x] 13 mm	[2x] 11 / [1x] 13 mm	[2x] 11 / [1x] 13 mm	[2x] 11 / [1x] 13 mm
Standard	EN 62561-2	EN 62561-2	EN 62561-2	EN 62561-2
PU	5 pc(s)	5 pc(s)	5 pc(s)	3 pc(s)

Single-screw Connection Clamps

For connecting round conductors, flat strips or cables to earth rods.
For cross and parallel connection.

Part No.	630 120	630 129
Material	St/tZn	StSt (V4A)
Clamping range Rd / Fl	10 / -30 x 4 mm	10 / -30 x 4 mm
Clamping range of cable	70 mm ²	70 mm ²
Type for earth rods	Ø20 mm	Ø20 mm
Material No.	—	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	—	316Ti / 316L / 316
Standard	EN 62561-1	EN 62561-1
PU	25 pc(s)	25 pc(s)



Connection Brackets

For connecting round conductors, cables and flat strips to earth rods.

Diagonal design

Also for use with uncut earth conductors.

General technical data:	
Clamping range Rd / Fl	7-10 / -40 mm
Standard	EN 62561-1

Part No.	620 015	620 017	620 915
Material	St/tZn	Cu	StSt (V4A)
Clamping range (stranded / cable)	—	35-95 mm ²	35-95 mm ²
Type for earth rods	Ø20 mm	Ø20 mm	Ø20 mm
Material No.	—	—	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	—	—	316Ti / 316L / 316
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	21.0 kA	29.0 kA	7.3 kA
PU	20 pc(s)	20 pc(s)	20 pc(s)



Part No.	625 015	649 015
Material	St/tZn	StSt (V4A)
Clamping range (stranded / cable)	—	35-95 mm ²
Type for earth rods	Ø25 mm	Ø25 mm
Material No.	—	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	—	316Ti / 316L / 316
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	18 kA	8 kA
PU	20 pc(s)	20 pc(s)

Diagonal design – especially for tubular earth rods St/tZn

Also for use with uncut earth electrodes.

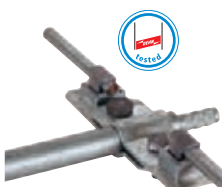
Part No.	640 015
Material	St/tZn
Clamping range Rd / Fl	7-10 / -40 mm
Type for earth rods	Ø27 mm
Standard	EN 62561-1
PU	20 pc(s)



One-sided connection with KS connector

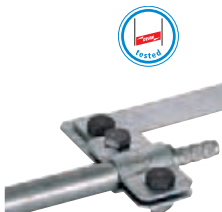
Part No.	620 011	625 011
Material	St/tZn	St/tZn
Clamping range Rd	7-10 mm	7-10 mm
Type for earth rods	Ø20 mm	Ø25 mm
Standard	EN 62561-1	EN 62561-1
PU	20 pc(s)	20 pc(s)





Both-sided connection with KS connectors (St/tZn)

Part No.	620 012	625 012
Material	St/tZn	St/tZn
Clamping range Rd	7-10 mm	7-10 mm
Type for earth rods	Ø20 mm	Ø25 mm
Standard	EN 62561-1	EN 62561-1
PU	10 pc(s)	10 pc(s)



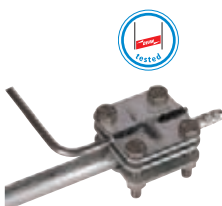
One-sided connection with screw M10

Part No.	620 021	625 021
Material	St/tZn	St/tZn
Clamping range Fl	-40 mm	-40 mm
Type for earth rods	Ø20 mm	Ø25 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	8.4 kA	8.4 kA
Standard	EN 62561-1	EN 62561-1
PU	20 pc(s)	20 pc(s)

Connection Clamps

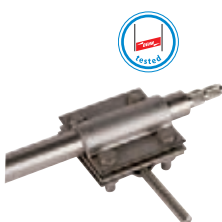
For cross and parallel connection of round conductors, flat strips or cables to earth rods.

For earth rods Ø20-30 mm



Part No.	610 010
Material	St/tZn
Clamping range Rd / Fl	8-12.5 / -40 mm
Clamping range (stranded / cable)	50-95 mm ²
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	18 kA
Standard	EN 62561-1
PU	20 pc(s)

For earth rods Ø20 mm



Part No.	610 020
Material	StSt (V4A)
Clamping range Rd / Fl	7-10 / -40 mm
Clamping range (stranded / cable)	35-70 mm ²
Material No.	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	8 kA
Standard	EN 62561-1
PU	25 pc(s)

Hammer Inserts for Earth Rods

For driving in earth rods by vibration hammer. For earth rods Types S + Z.

Ø20 mm (pin Ø12 mm Part No. 620...) or Ø25 mm (pin Ø15 mm Part No. 625...)

For Atlas Copco equipment several Types of supports can be used. Please note when placing your order.

Product	Type		Connection	Weight (without tool)	Blow count (per min.)	Blow power	Hammer Insert Part No.
	new	old					
Wacker Neuson	BH 55 petrol engine	BH 23 petrol engine	round Ø27x80 mm	24.0 kg	1300	55 J	620 009 625 009
	BH 65 petrol engine	BH 24 petrol engine		25.0 kg	1250	65 J	620 009 625 009
	BH 55rw petrol engine	BH 24 Low Vib petrol engine		25.0 kg	1350	55 J	620 009 625 009
	BHF 30 petrol engine (no longer available)			27.4 kg	1270	47 J	620 005 625 005
	EH 50 universal engine 230 V	EH 23 Low Vib universal engine 230 V		22.0 kg	1300	50 J	620 009 625 009
	EH 75 asynchronous engine 230 V	EH 25 asynchronous engine 230 V		25.0 kg	1300	70 J	620 009 625 009
	EH 22/400 electric engine 400 V (no longer available)			22.0 kg	1250	40 J	620 009 625 009
Atlas Copco	Cobra Combi petrol engine	Cobra 149 petrol engine	hexagon SW22x108 mm	25.0 kg	2700	24 J	620 007 625 007
	CP Red Hawk petrol engine	Cobra Standard petrol engine		23.0 kg	2600	24 J	620 007 625 007
	Cobra TT petrol engine		hexagon SW32x160 mm	25.0 kg	1620	40 J	620 010 625 010
	Cobra PRO petrol engine	Cobra MK1 petrol engine		25.0 kg	1440	60 J	620 010 625 010
Note: The details of the installation instructions Nr. 1014 for earth rods habe to be considered!							

Note: The details of the installation instructions Nr. 1014 for earth rods have to be considered!

Design for Wacker Neuson

Part No.	620 005	625 005
Type	BHF 30	BHF 30
Adapter	round Ø27 x 80 mm	round Ø27 x 80 mm
Material	St/bare	St/bare
Bore (d1 x l1)	13 x 50 mm	16 x 55 mm
Length	200 mm	200 mm
PU	1 pc(s)	1 pc(s)

Special hammer insert for earth rods d=20 mm, StSt for Wacker equipment Part No. 620 005/S Id. No. 046377 upon request.

Heavy design for Wacker Neuson

Part No.	620 009	625 009
Type	BH 55, BH 65, BH 55rw, EH 50, EH 75 and EH 22/400	BH 55, BH 65, BH 55rw, EH 50, EH 75 and EH 22/400
Adapter	round Ø27 x 80 mm	round Ø27 x 80 mm
Material	St/bare	St/bare
Bore (d1 x l1)	13 x 50 mm	16 x 55 mm
Length	260 mm	260 mm
PU	1 pc(s)	1 pc(s)

Design for Atlas Copco SW 22

Part No.	620 007	625 007
Type	Cobra Combi, CP Red Hawk (Cobra Standard)	Cobra Combi, CP Red Hawk (Cobra Standard)
Adapter	hexagon SW22 x 108 mm	hexagon SW22 x 108 mm
Material	St/bare	St/bare
Bore (d1 x l1)	13 x 50 mm	16 x 55 mm
Length	240 mm	240 mm
PU	1 pc(s)	1 pc(s)





Design for Atlas Copco SW 25

Part No.	620 008	625 008
Type	TEX 15 PE, 19 PE, 23 PE	TEX 15 PE, 19 PE, 23 PE
Adapter	hexagon SW25 x 108 mm	hexagon SW25 x 108 mm
Material	St/bare	St/bare
Bore (d1 x l1)	13 x 50 mm	16 x 55 mm
Length	240 mm	240 mm
PU	1 pc(s)	1 pc(s)



Design for Atlas Copco SW 28

Part No.	620 019	625 019
Type	TEX 28 HE, 27 H, 15 PE, 19 PE, 23 PE, 22 PS	TEX 28 HE, 27 H, 15 PE, 19 PE, 23 PE, 22 PS
Adapter	hexagon SW28 x 160 mm	hexagon SW28 x 160 mm
Material	St/bare	St/bare
Bore (d1 x l1)	13 x 50 mm	16 x 55 mm
Length	350 mm	350 mm
PU	1 pc(s)	1 pc(s)



Design for Bosch / Hilti

Part No.	620 029	625 029
Type	GSH 27 / TE 3000 AVR	GSH 27 / TE 3000 AVR
Adapter	hexagon SW28 (1 1/8")	hexagon SW28 (1 1/8")
Material	St/bare	St/bare
Bore (d1 x l1)	13 x 50 mm	16 x 55 mm
Length	250 mm	250 mm
PU	1 pc(s)	1 pc(s)

Design for other types of hammer available upon request.

Hammer Inserts for Tubular Earth Rods



For driving in tubular earth rods by vibration hammer.



Design for tubular earth rods Ø27 mm (St/tZn) Wacker Neuson

Part No.	649 005
Type	EH 22/400, EH 23/230, EH 24/042/200, BH 23 and BHF 30
Support	round Ø27 x 80 mm
Material	St/bare
Length	246 mm
PU	1 pc(s)



Design for tubular earth rods Ø27 mm (St/tZn) Atlas Copco

Part No.	649 007
Type	Cobra 149+248 and Cobra 120+130
Support	hexagon SW22 x 108 mm
Material	St/bare
Length	246 mm
PU	1 pc(s)

Earth Rods

Design for tubular earth rods Ø25 mm StSt (V4A) Wacker Neuson

Part No.	648 005
Type	EH 22/400, EH 23/230, EH 24/042/200, BH 23 and BHF 30
Support	round Ø27 x 80 mm
Material	St/bare
Length	246 mm
PU	1 pc(s)



Design for tubular earth rods Ø25 mm StSt (V4A) Atlas Copco

Part No.	648 007
Type	Cobra 149+248 and Cobra 120+130
Support	hexagon SW22 x 108 mm
Material	St/bare
Length	246 mm
PU	1 pc(s)



Design for other types of hammer upon request.

Driving Heads

For driving earth rods with a hammer.

Part No.	620 002	625 002
Type of earth rod	Types S + Z + AZ (Ø20 mm)	Types S + Z (Ø25 mm)
Material	St/bare	St/bare
PU	1 pc(s)	1 pc(s)



Hammer Frame

For driving in earth rods with a length of 1000 mm and 1500 mm by vibration hammer.

The hammer frame will be delivered with hammer guiding rider.

Part No.	600 003
Material	St/tZn
Height	2550 mm
PU	1 pc(s)





Hammer Support

For vibration hammers of the following manufacturers.



Design for Wacker Neuson

Part No.	600 035
Types	EH 23 Low Vib, EH 22/400, EH 25, BH 24 Low Vib, BH 23, BHF 30, BH 55, BH 65, BH 55 rw, EH 50, EH 75
Material	St/tZn
PU	1 pc(s)



Design for Atlas Copco

Part No.	600 029
Types	Cobra Combi, CP Red Hawk (Cobra Standard)
Material	St/tZn
PU	1 pc(s)



Design for Bosch

Part No.	600 050
Types	GSH 27
Material	St/tZn
PU	1 pc(s)

Earthing Cables with Cable Lugs open

Highly flexible copper conductor, frost-resistant, UV stabilised.
Packing in accordance with VG 96927-11.

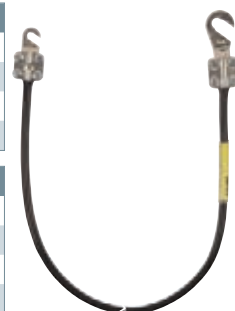
Cable lug, 2x open, 2x M8 / M10

General technical data:				
Cable cross section	10 mm ²			
Cable lug open	2x M8 / M10			
Colour	black ●			
Part No.	410 003	410 005	410 006	410 010
Cable length (l1)	0.35 m	0.55 m	0.65 m	1.05 m
Military Name	VG 96927 T011 A044	VG 96927 T011 A045	VG 96927 T011 A046	VG 96927 T011 A047
Stock No.	6150-12-156-9107	6150-12-156-8386	6150-12-156-9108	6150-12-156-8387
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)
Part No.	410 015	410 020	410 025	410 030
Cable length (l1)	1.55 m	2.05 m	2.55 m	3.05 m
Military Name	VG 96927 T011 A048	VG 96927 T011 A049	VG 96927 T011 A050	VG 96927 T011 A051
Stock No.	6150-12-156-9069	6150-12-156-9073	6150-12-156-9072	6150-12-156-9109
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)
Part No.	410 035	410 040	410 050	410 060
Cable length (l1)	3.55 m	4.05 m	5.05 m	6.05 m
Military Name	VG 96927 T011 A052	VG 96927 T011 A053	VG 96927 T011 A054	VG 96927 T011 A055
Stock No.	6150-12-156-9071	6150-12-156-9070	6150-12-156-6051	6150-12-156-9110
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)
Part No.	410 070	410 099	410 140	
Cable length (l1)	7.05 m	10.0 m	14.0 m	
Military Name	VG 96927 T011 A056	VG 96927 T011 A057	VG 96927 T011 A058	
Stock No.	6150-12-156-9111	6150-12-156-9112	6150-12-156-6207	
PU	1 pc(s)	1 pc(s)	1 pc(s)	
Part No.	410 150	410 199	410 299	
Cable length (l1)	15.0 m	20.0 m	30.0 m	
Military Name	VG 96927 T011 A059	VG 96927 T011 A060	VG 96927 T011 A061	
Stock No.	6150-12-161-4272	6150-12-156-9113	6150-12-156-9114	
PU	1 pc(s)	1 pc(s)	1 pc(s)	



Cable lug, 2x open, 1x M8 / M10 and 1x M5 / M6

General technical data:				
Cable cross section	10 mm ²			
Cable lug open	1x M8 / M10 1x M5 / M6			
Colour	black ●			
Part No.	410 603	410 605	410 610	410 615
Cable length (l1)	0.35 m	0.55 m	1.05 m	1.55 m
Military Name	—	—	—	VG 96927 T011 A123
Stock No.	—	—	—	6150-12-308-6928
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)
Part No.	410 620	410 625	410 630	
Cable length (l1)	2.05 m	2.55 m	3.05 m	
Military Name	—	—	—	
Stock No.	—	—	6150-12-353-5887	
PU	1 pc(s)	1 pc(s)	1 pc(s)	



Cable lug, 2x open, 2x M8 / M10

General technical data:	
Cable cross section	16 mm ²
Cable lug open	2x M8 / M10
Colour	black ●

Part No.	416 003	416 005	416 006	416 010
Cable length (l1)	0.35 m	0.55 m	0.65 m	1.05 m
Military Name	VG 96927 T011 A062	VG 96927 T011 A063	VG 96927 T011 A064	VG 96927 T011 A065
Stock No.	6150-12-156-9115	6150-12-156-9085	6150-12-156-9116	6150-12-156-9084
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)

Part No.	416 015	416 020	416 025	416 030
Cable length (l1)	1.55 m	2.05 m	2.55 m	3.05 m
Military Name	VG 96927 T011 A066	VG 96927 T011 A067	VG 96927 T011 A068	VG 96927 T011 A069
Stock No.	6150-12-156-9117	6150-12-156-9118	6150-12-156-9119	6150-12-156-9083
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)

Part No.	416 035	416 040	416 050	416 060
Cable length (l1)	3.55 m	4.05 m	5.05 m	6.05 m
Military Name	VG 96927 T011 A070	VG 96927 T011 A071	VG 96927 T011 A072	VG 96927 T011 A073
Stock No.	6150-12-156-6208	6150-12-156-8388	6150-12-156-9120	6150-12-156-9082
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)

Part No.	416 070	416 080	416 100	416 120
Cable length (l1)	7.05 m	8.05 m	10.05 m	12.05 m
Military Name	VG 96927 T011 A074	VG 96927 T011 A075	VG 96927 T011 A076	VG 96927 T011 A077
Stock No.	6150-12-156-9121	6150-12-188-4475	6150-12-156-9122	6150-12-188-4476
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)

Part No.	416 140	416 150	416 200
Cable length (l1)	14.05 m	15.05 m	20.05 m
Military Name	VG 96927 T011 A078	VG 96927 T011 A079	VG 96927 T011 A080
Stock No.	6150-12-156-9123	6150-12-161-4273	6150-12-156-9124
PU	1 pc(s)	1 pc(s)	1 pc(s)

Part No.	416 220	416 280	416 300
Cable length (l1)	22.05 m	28.05 m	30.05 m
Military Name	VG 96927 T011 A081	VG 96927 T011 A082	VG 96927 T011 A083
Stock No.	6150-12-188-4477	6150-12-188-4478	6150-12-156-9125
PU	1 pc(s)	1 pc(s)	1 pc(s)

Cable lug, 2x open, 1x M8 / M10 and 1x M5 / M6

Part No.	416 516
Cable cross section	16 mm ²
Cable length (l1)	1.55 m
Cable lug open	1x M8 / M10 1x M5 / M6
Colour	black ●
Military Name	VG 96927 T011 A125
Stock No.	6150-12-308-6607
PU	1 pc(s)

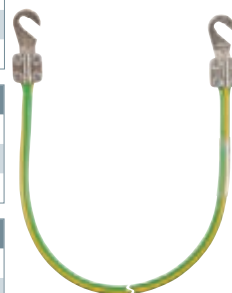


Earthing Material for Telecommunications

Cable lug, 2x open, 2x M8 / M10 green / yellow

Highly flexible copper conductor (ESY), frost-proof.

General technical data:				
Cable cross section	16 mm ²			
Cable lug open	2x M8 / M10			
Colour	green ● / yellow ●			
Part No.	417 005	417 010	417 015	417 020
Cable length (l1)	0.55 m	1.05 m	1.55 m	2.05 m
Stock No.	6150-12-313-5059	6150-12-313-5060	6150-12-313-5061	6150-12-313-5062
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)
Part No.	417 030	417 050	417 100	417 115
Cable length (l1)	3.05 m	5.05 m	10.05 m	15.05 m
Stock No.	6150-12-313-5063	6150-12-313-5064	6150-12-313-5065	6150-12-313-5066
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)
Part No.	417 120	417 125	417 130	417 150
Cable length (l1)	20.05 m	25.05 m	30.05 m	50.05 m
Stock No.	6150-12-313-5067	6150-12-185-8587	6150-12-313-5068	6150-12-174-2744
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)



Packing in accordance with specifications of the VG standards has to be explicitly indicated when ordering.

Earthing Cables with Cable Lugs open / closed

Highly flexible copper cable, frost-resistant, UV stabilised.

Packing in accordance with VG 96927-11.

Cable lug, 1x open M5 / M6 and 1x closed M8

General technical data:				
Cable cross section	10 mm ²			
Cable lug open	M5 / M6			
Cable lug closed	M8			
Bore Ø	8.5 mm			
Colour	black ●			
Part No.	410 503	410 506	410 510	410 515
Cable length (l1)	0.35 m	0.65 m	1.05 m	1.55 m
Military Name	VG 96927 T011 A116	VG 96927 T011 A117	VG 96927 T011 A118	VG 96927 T011 A119
Stock No.	6150-12-196-7302	6150-12-195-9694	6150-12-196-7304	6150-12-196-7303
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)
Part No.	410 520	410 525	410 530	
Cable length (l1)	2.05 m	2.55 m	3.05 m	
Military Name	VG 96927 T011 A120	VG 96927 T011 A121	VG 96927 T011 A122	
Stock No.	6150-12-196-7606	6150-12-198-6807	6150-12-198-6808	
PU	1 pc(s)	1 pc(s)	1 pc(s)	



Cable lug, 1x open M8 / M10 and 1x closed M8

General technical data:	
Cable cross section	10 mm ²
Cable lug open	M8 / M10
Cable lug closed	M8
Bore Ø	8.5 mm
Colour	black ●

Part No.	410 401	410 403	410 404	410 450
Cable length (l1)	0.20 m	0.35 m	0.45 m	0.55 m
Military Name	VG 96927 T011 A092	VG 96927 T011 A093	VG 96927 T011 A094	VG 96927 T011 A095
Stock No.	6150-12-300-9132	6150-12-195-9490	6150-12-192-5455	6150-12-197-0088
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)

Part No.	410 406	410 411	410 415
Cable length (l1)	0.65 m	1.05 m	1.55 m
Military Name	VG 96927 T011 A096	VG 96927 T011 A097	VG 96927 T011 A098
Stock No.	6150-12-192-5456	6150-12-192-5457	6150-12-192-5458
PU	1 pc(s)	1 pc(s)	1 pc(s)

Part No.	410 420	410 425	410 430
Cable length (l1)	2.05 m	2.55 m	3.05 m
Military Name	VG 96927 T011 A099	VG 96927 T011 A100	VG 96927 T011 A101
Stock No.	6150-12-198-1217	6150-12-198-6803	6150-12-198-6805
PU	1 pc(s)	1 pc(s)	1 pc(s)

Cable lug, 1x open M8 / M10 and 1x closed M10

General technical data:	
Cable cross section	10 mm ²
Cable lug open	M8 / M10
Cable lug closed	M10
Bore Ø	10.5 mm
Colour	black ●

Part No.	410 413	410 405	410 407	410 410
Cable length (l1)	0.35 m	0.55 m	0.65 m	1.05 m
Military Name	VG 96927 T011 A084	VG 96927 T011 A085	VG 96927 T011 A086	VG 96927 T011 A087
Stock No.	6150-12-196-7301	6150-12-196-6346	6150-12-198-7027	6150-12-171-2783
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)

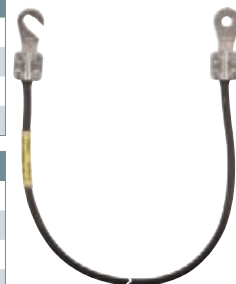
Part No.	410 416	410 421	410 426	410 431
Cable length (l1)	1.55 m	2.05 m	2.55 m	3.05 m
Military Name	VG 96927 T011 A088	VG 96927 T011 A089	VG 96927 T011 A090	VG 96927 T011 A091
Stock No.	6150-12-198-1216	6150-12-198-1218	6150-12-198-6804	6150-12-198-6806
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)

Cable lug, 1x open M5 / M6 and 1x closed M8

Part No.	416 505
Cable cross section	16 mm ²
Cable length (l1)	0.55 m
Cable lug open	M5 / M6
Cable lug closed	M8
Bore Ø	8.5 mm
Colour	black ●
Military Name	VG 96927 T011 A124
Stock No.	6150-12-300-9131
PU	1 pc(s)

Cable lug, 1x open M8 / M10 and 1x closed M8

General technical data:				
Cable cross section	16 mm ²			
Cable lug open	M8 / M10			
Cable lug closed	M8			
Bore Ø	8.5 mm			
Colour	black ●			
Part No.	416 411	416 415	416 420	416 425
Cable length (l1)	1.05 m	1.55 m	2.05 m	2.55 m
Military Name	VG 96927 T011 A109	VG 96927 T011 A110	VG 96927 T011 A111	VG 96927 T011 A112
Stock No.	6150-12-308-6934	6150-12-308-6981	6150-12-308-6933	6150-12-308-6932
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)
Part No.	416 430	416 440	416 450	
Cable length (l1)	3.05 m	4.05 m	5.05 m	
Military Name	VG 96927 T011 A113	VG 96927 T011 A114	VG 96927 T011 A115	
Stock No.	6150-12-308-6931	6150-12-308-6930	6150-12-308-6929	
PU	1 pc(s)	1 pc(s)	1 pc(s)	



Cable lug, 1x open M8 / M10 and 1x closed M10

General technical data:				
Cable cross section	16 mm ²			
Cable lug open	M8 / M10			
Cable lug closed	M10			
Bore Ø	10.5 mm			
Colour	black ●			
Part No.	416 403	416 410	416 416	416 421
Cable length (l1)	0.35 m	1.05 m	1.55 m	2.05 m
Military Name	—	VG 96927 T011 A102	VG 96927 T011 A103	VG 96927 T011 A104
Stock No.	—	6150-12-308-6941	6150-12-308-6940	6150-12-308-6939
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)
Part No.	416 426	416 431	416 441	416 451
Cable length (l1)	2.55 m	3.05 m	4.05 m	5.05 m
Military Name	VG 96927 T011 A105	VG 96927 T011 A106	VG 96927 T011 A107	VG 96927 T011 A108
Stock No.	6150-12-309-6938	6150-12-308-6937	6150-12-308-6936	6150-12-308-6935
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)



Packing in accordance with specifications of the VG standards has to be explicitly indicated when ordering.

Earthing Conductors with Cable Lugs closed

Highly flexible copper conductor, frost-resistant, UV stabilised. Packing in accordance with VG 96927-11.

Cable lug, 2x closed M10

General technical data:				
Cable cross section	10 mm ²			
Cable lug closed	2x M10			
Bore Ø	10.5 mm			
Colour	black ●			
Part No.	410 903	410 905	410 906	410 910
Cable length (l1)	0.35 m	0.55 m	0.65 m	1.05 m
Military Name	VG 96927 T011 A027	VG 96927 T011 A028	VG 96927 T011 A029	VG 96927 T011 A030
Stock No.	6150-12-198-1948	6150-12-198-6809	6150-12-198-6810	6150-12-198-1482
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)
Part No.	410 915	410 920	410 925	410 930
Cable length (l1)	1.55 m	2.05 m	2.55 m	3.05 m
Military Name	VG 96927 T011 A031	VG 96927 T011 A032	VG 96927 T011 A033	VG 96927 T011 A034
Stock No.	6150-12-168-2696	6150-12-168-2695	6150-12-168-2694	—
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)



Cable lug, 2x closed M10

General technical data:			
Cable cross section	16 mm ²		
Cable lug closed	2x M10		
Bore Ø	10.5 mm		
Colour	black ●		
Part No.	416 903	416 905	416 906
Cable length (l1)	0.35 m	0.55 m	0.65 m
Military Name	VG 96927 T011 A035	VG 96927 T011 A036	VG 96927 T011 A037
Stock No.	6150-12-198-6812	6150-12-198-6813	6150-12-198-6814
PU	1 pc(s)	1 pc(s)	1 pc(s)
Part No.	416 910	416 915	416 920
Cable length (l1)	1.05 m	1.55 m	2.05 m
Military Name	VG 96927 T011 A038	VG 96927 T011 A039	VG 96927 T011 A040
Stock No.	6150-12-168-9942	6150-12-168-2693	6150-12-198-6815
PU	1 pc(s)	1 pc(s)	1 pc(s)
Part No.	416 925	416 930	416 970
Cable length (l1)	2.55 m	3.05 m	7.05 m
Military Name	VG 96927 T011 A041	VG 96927 T011 A042	VG 96927 T011 A043
Stock No.	6150-12-198-6816	6150-12-198-1483	6150-12-168-2692
PU	1 pc(s)	1 pc(s)	1 pc(s)

Packing in accordance with specifications of the VG standards has to be explicitly indicated when ordering.

Earthing Conductors with Cable Lug / Pin Cable Lug

Made of highly flexible copper line, frost-resistant, UV stabilised. Packing in accordance with VG 96927-11.

Cable lug, 1x open and pin cable lug size 10

Part No.	410 720
Cable cross section	10 mm ²
Cable length (l1)	2.05 m
Cable lug open	M8 / M10
Pin terminal	size 10 (w = 4.3)
Colour	black ●
Military Name	VG 96927 T011 A127
Stock No.	6150-12-308-6979
PU	1 pc(s)

Cable lug, 1x open and pin cable lug size 16

Part No.	416 016
Cable cross section	16 mm ²
Cable length (l1)	1.55 m
Cable lug open	M8 / M10
Pin terminal	size 16 (w = 5.8)
Colour	black ●
Military Name	VG 96927 T011 A128
Stock No.	6150-12-178-9673
PU	1 pc(s)

Cable lug, 1x closed and pin cable lug size 10

Part No.	410 606
Cable cross section	10 mm ²
Cable length (l1)	0.65 m
Cable lug closed	M8
Pin terminal	size 10 (w = 4.3)
Colour	black ●
Military Name	VG 96927 T011 A126
Stock No.	6150-12-304-4604
PU	1 pc(s)

Packing in accordance with specifications of the VG standards has to be explicitly indicated when ordering.

Earthing Cable Lugs

For mounting on site with integrated strain relief (second half of clamping part).

Mind the following parameters for mounting:

- Stripping approx. 15 mm
- Core end-sleeve acc. to DIN 46228
- Tightening torque of the locking nut screws ≥ 3 Nm

Open M5 / M6

Part No.	444 006
Cable cross section	6-16 mm ²
Cable lug fitting	M5 / M6
Material	Cu/gal Sn
Military Name	VG 96933 T14 A002A
Stock No.	5940-12-156-9126
PU	100 pc(s)



Open M8 / M10

Part No.	444 010
Cable cross section	6-16 mm ²
Cable lug fitting	M8 / M10
Material	Cu/gal Sn
Military Name	VG 96933 T14 A001A
Stock No.	5940-12-152-3867
PU	100 pc(s)



Closed M8

Part No.	444 008
Cable cross section	6-16 mm ²
Cable lug fitting	M8
Material	Cu/gal Sn
Military Name	VG 96933 T14 B001A
Stock No.	5940-12-156-9128
PU	100 pc(s)



Closed M10

Part No.	444 009
Cable cross section	6-16 mm ²
Cable lug fitting	M10
Material	Cu/gal Sn
Military Name	VG 96933 T14 B002A
Stock No.	5940-12-156-9127
PU	100 pc(s)



Packing in accordance with specifications of the VG standards has to be explicitly indicated when ordering.

Earthing Clamps

For connecting earthing conductors to pipes.

Small design



Part No.	435 805
Material of clamping body	MCI/tZn
Material of spindle	St/gal Zn
Clamping range pipe Ø	4-45 mm (3/8-1 1/4")
Connection cross section	6-16 mm ²
Military Name	VG 96953 T06 A0001
Stock No.	5999-12-156-9129
PU	1 pc(s)

Large design



Part No.	435 803
Material of clamping body	MCI/tZn
Material of spindle	St/gal Zn
Clamping range pipe Ø	12-60 mm (1/2-2")
Connection cross section	6-16 mm ²
Military Name	VG 96953 T06 B0001
Stock No.	5999-12-156-2656
PU	10 pc(s)

Packing in accordance with specifications of the VG standards has to be explicitly indicated when ordering.

Earthing Busbars

With slot and anti-rotation feature, for fixing at the earthing pipe.

Three-pole design



Part No.	465 801
Material of busbar	St/tZn
Length	181 mm
Screw	⚙ M10 x 35 mm
Military Name	VG 96953 T07 A0001
Stock No.	5940-12-156-8385
PU	1 pc(s)

Five-pole design



Part No.	466 192
Material of busbar	St/tZn
Length	290 mm
Screw	⚙ M10 x 35 mm
Military Name	VG 96953 T07 B0001
Stock No.	5940-12-188-4931
PU	1 pc(s)

Packing in accordance with specifications of the VG standards has to be explicitly indicated when ordering.

Earthing Spikes

For earthing mobile objects such as vehicles, power generators, etc.

Part No.	634 145	634 160
Material of profile	St/tZn	St/tZn
Profile	50 x 50 x 3 mm	50 x 50 x 3 mm
Length (l1)	450 mm	600 mm
Screw	☛ M8 x 40 mm	☛ M8 x 40 mm
Nut	wing nut M8	wing nut M8
Military Name	VG 96953 T10 D0003	VG 96953 T10 D0004
Stock No.	5975-12-382-6412	—
PU	1 pc(s)	1 pc(s)



Anchoring Pole

For guying rod sections and batten shears e.g. in case of an elevated spanning of telecommunication cables.

Part No.	466 203
Material of profile	MCl/tZn
Profile	25 x 25 x 3.6 mm
Length	405 mm
Design	bore Ø28 mm
Military Name	VG 96953 T10 E0001
Stock No.	4030-12-320-9037
PU	1 pc(s)



Earthing Pipe with Drive Spike

With drive spike for earthing mobile objects such as vehicles, power generators, etc.

Part No.	646 000
Material	St/tZn
Pipe Ø	34 mm
Length	600 mm
Screw	wing nut M8
Military Name	VG 96953 T010 B0001
Stock No.	5975-12-133-4342
PU	1 pc(s)



Earthing Pipe with Drilling Spiral

For earthing mobile objects such as vehicles, power generators, etc. Detachable turning handle.

Consisting of:

- Turning handle (Part No. 462 058
Military name VG 96953 T10 AB001
Stock No. 5975-12-133-7084)
- Earthing pipe (Part No. 462 060
Military name VG 96953 T10 AA001
Stock No. 5975-12-133-7271)
- Clamping body with knurled screw (Part No. 644 099)
Military name VG 96953 T10 AC)

Part No.	644 000
Material	St/tZn
Length	1000 mm
Screw	☛ M10 x 35 mm
Military Name	VG 96953 T10 A0001
Stock No.	5975-12-120-0006
PU	1 pc(s)



DEHN protects.



Equipotential Busbars K12 with Snap-on Terminals

Equipotential busbars for protective and functional equipotential bonding according to IEC 60364-4-41/60364-5-54 and lightning equipotential bonding according to IEC/EN 62305-3.

- Tested according to DIN VDE 0618-1
- VDE sign
- CE sign
- Fixing frames and plastic cover grey or black (halogen-free)
- Sealable / labelable cover
- Snap-on terminals, St/gal Zn
- With 12 contact studs

Assignment:

For Rd one contact stud each

For FI two contact studs each

Standard design

Terminals for:

10 conductors 2.5-95 mm² (solid / stranded) or Rd Ø10 mm

1 conductor FI up to 30 x 4 mm.

Part No.	563 200
Contact bar	Cu/gal Sn
Cross section	30 mm ²
Fixing	[2x] 6 x 8 mm
Standard	EN 62561-1
PU	1 pc(s)



UV stabilised design

Terminals for:

10 conductors 2.5-95 mm² (solid / stranded) or Rd Ø10 mm.

1 conductor FI up to 30 x 4 mm.

Part No.	563 201
Contact bar	Cu/gal Sn
Cross section	30 mm ²
Fixing	[2x] 6 x 8 mm
Standard	EN 62561-1
PU	1 pc(s)



Equipotential Busbar MS

For equipotential bonding.

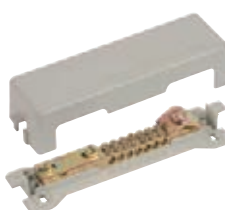
Terminals for:

7 conductors 2.5-16 mm² (solid / stranded).

1 conductor Rd Ø7-10 mm.

1 conductor FI up to 30 x 3.5 mm or Rd Ø8-10 mm.

Part No.	563 050
Contact bar	Ms
Cross section	50 mm ²
Fixing	[4x] 6 x 10 mm
PU	1 pc(s)



Equipotential Busbar with Miniature Terminal Block System

Equipotential busbars for protective and functional equipotential bonding according to IEC 60364-4-41/60364-5-54 (DIN VDE 0100-410/540) in small installations.

- Tested according to DIN EN 60999-2
- Terminal block St/gal Zn

Without cover.

Terminals for:

6 conductors 2.5-25 mm² (solid / stranded).

Part No.	563 105
Clamping bar	Ms/gal Sn
Cross section	100 mm ²
Bar frames	plastic
Fixing	[4x] 6 x 12 mm
Standard	EN 62561-1
PU	10 pc(s)



Equipotential Busbars R15 with Terminal Block System / Kit

Equipotential busbars for protective and functional equipotential bonding according to IEC 60364-4-41/60364-5-54 (DIN VDE 0100-410/540) and lightning equipotential bonding according to IEC/EN 62305-3.

- Tested according to DIN VDE 0609
- 15 modules
- Grey plastic bar frames and cover (halogen-free)
- Sealable / labelable cover
- Terminal block St/gal Zn

Type A

Terminals for:

7 conductors 2.5-25 mm² (solid / stranded).

2 conductors 16-95 mm² (solid / stranded) or Rd Ø8-10 mm.

1 conductor FI up to 30 x 4 mm.



Part No.	563 010
Clamping bar	Ms/gal Sn
Cross section	100 mm ²
Fixing	[4x] 6 x 12 mm
Standard	EN 62561-1
PU	1 pc(s)

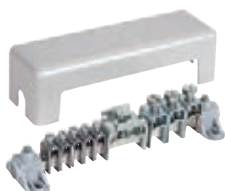
Type B

Terminals for:

5 conductors 2.5-25 mm² (solid / stranded).

3 conductors 16-95 mm² (solid / stranded) or Rd Ø8-10 mm.

1 conductor FI up to 30 x 4 mm.



Part No.	563 020
Clamping bar	Ms/gal Sn
Cross section	100 mm ²
Fixing	[4x] 6 x 12 mm
Standard	EN 62561-1
PU	1 pc(s)

Type C

Terminals for:

13 conductors 2.5-25 mm² (solid / stranded).

1 conductor 16-95 mm² (solid / stranded) or Rd Ø8-10 mm.



Part No.	563 030
Clamping bar	Ms/gal Sn
Cross section	100 mm ²
Fixing	[4x] 6 x 12 mm
Standard	EN 62561-1
PU	1 pc(s)

Type D

Terminals for:

7 conductors 2.5-25 mm² (solid / stranded).

2 conductors 16-95 mm² (solid / stranded) or Rd Ø8-10 mm.

1 conductor FI up to 40 x 5 mm.



Part No.	563 040
Clamping bar	Ms/gal Sn
Cross section	100 mm ²
Fixing	[4x] 6 x 12 mm
Standard	EN 62561-1
PU	1 pc(s)

Accessories for Equipotential Busbars R15 with Terminal Block System / Kit

Cover

Locking / can be labelled.



Part No.	563 015
Material	plastic
Colour	grey ●
Modules	15
PU	10 pc(s)

Terminal Block

Connection of:
1 conductor 2.5-25 mm² (solid / stranded).

Part No.	563 011
Material	St/gal Zn
Modules	1
Standard	EN 62561-1
PU	200 pc(s)



Terminal Block

Connection of:
1 conductor 16-95 mm² (solid / stranded) or Rd Ø8-10 mm.

Part No.	563 013
Material	St/gal Zn
Modules	2
Standard	EN 62561-1
PU	100 pc(s)



Terminal Block

Connection of:
1 conductor Fl up to 30 x 4 mm.

Part No.	563 012
Material	St/gal Zn
Modules	4
Standard	EN 62561-1
PU	25 pc(s)



Terminal Block

Connection of:
1 conductor Fl up to 40 x 5 mm.

Part No.	563 019
Material	St/gal Zn
Modules	5
Standard	EN 62561-1
PU	25 pc(s)



Clamping Bar

Part No.	563 016	563 017	563 018
Length (l1)	198 mm	398 mm	798 mm
Modules	15	30	60
Material	Ms/gal Sn	Ms/gal Sn	Ms/gal Sn
Cross section	100 mm ²	100 mm ²	100 mm ²
Quantity of bar frames	2	4	8
Quantity of covers	1	2	4
PU	10 pc(s)	10 pc(s)	10 pc(s)



Bar Frame

Part No.	563 014
Material	plastic
Colour	grey ●
Fixing	[2x] 6 x 12 mm
Modules	2
PU	50 pc(s)





Equipotential Busbars Industry Design

Equipotential busbars for the protective and functional equipotential bonding according to IEC 60364-4-41/60364-5-54 (DIN VDE 0100-410/540) and lightning equipotential bonding according to IEC/EN 62305-3.
Also for use in potentially explosive atmospheres (secured against self-loosening of screws).



- With spring washer
- Insulator UP (duroplastic, red) with thread M10
- UV stabilised and halogen-free

6 Terminals

Part No.	472 207	472 209
Material	Cu	StSt
Dimension (l x w x t1)	295 x 40 x 5 mm	295 x 40 x 6 mm
Cross section	200 mm ²	240 mm ²
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	39 kA	8.9 kA
Screw	 M10 x 25 mm	 M10 x 25 mm
Material of screw / nut	StSt	StSt
Design	with spring washer	with spring washer
Material of insulator	UP	UP
Standard	EN 62561-1	EN 62561-1
PU	1 pc(s)	1 pc(s)





8 Terminals

Part No.	472 227	472 229
Material	Cu	StSt
Dimension (l x w x t1)	365 x 40 x 5 mm	365 x 40 x 6 mm
Cross section	200 mm ²	240 mm ²
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	39 kA	8.9 kA
Screw	 M10 x 25 mm	 M10 x 25 mm
Material of screw / nut	StSt	StSt
Design	with spring washer	with spring washer
Material of insulator	UP	UP
Standard	EN 62561-1	EN 62561-1
PU	1 pc(s)	1 pc(s)





10 Terminals

Part No.	472 217	472 219
Material	Cu	StSt
Dimension (l x w x t1)	435 x 40 x 5 mm	435 x 40 x 6 mm
Cross section	200 mm ²	240 mm ²
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	39 kA	8.9 kA
Screw	 M10 x 25 mm	 M10 x 25 mm
Material of screw / nut	StSt	StSt
Design	with spring washer	with spring washer
Material of insulator	UP	UP
Standard	EN 62561-1	EN 62561-1
PU	1 pc(s)	1 pc(s)



12 Terminals

Part No.	472 237	472 239
Material	Cu	StSt
Dimension (l x w x t1)	505 x 40 x 5 mm	505 x 40 x 6 mm
Cross section	200 mm ²	240 mm ²
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	39 kA	8.9 kA
Screw	 M10 x 25 mm	 M10 x 25 mm
Material of screw / nut	StSt	StSt
Design	with spring washer	with spring washer
Material of insulator	UP	UP
Standard	EN 62561-1	EN 62561-1
PU	1 pc(s)	1 pc(s)



Special design on request.

Cover for EBB Industry Design

Covers for EBB with insulators.

Part No.	472 279	472 269	472 289	472 299
Type of EBB	6 terminals	8 terminals	10 terminals	12 terminals
Dimension (l x w x d)	301 x 60 x 0.8 mm	371 x 60 x 0,8 mm	441 x 60 x 0.8 mm	511 x 60 x 0.8 mm
Material	StSt	StSt	StSt	StSt
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)



Insulator for EBB Industry Design

Part No.	472 210
Material	UP (thermoset)
Connection thread	M10 (length 12 mm)
Colour	red ●
Dimension (d x h)	32 x 40 mm
PU	1 pc(s)



Fixing Kit for EBB Industry Design

For mounting the insulators e.g. at walls.

Part No.	472 201
Material of screw	St/tZn
Screw	45 mm ▴ M10 x 20 mm
Plastic dowel	Ø12 x 60 mm
Total length	80 mm
PU	1 pc(s)



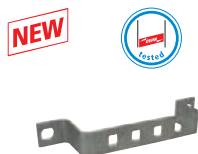
Earthing Busbars single-row

Earthing busbars for screwing to steel constructions, distance of bores 35 mm.

Connection possibilities:

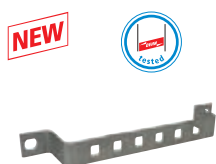
- Flat strip with bore by flat head screws M10 (anti-rotation), nuts and spring washer
- Round conductor: with KS connector e.g. Part No. 301 000 / 301 019 or by clamping frame e.g. Part No. 390 150

1x 4 Terminals



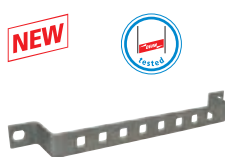
Part No.	472 309 ^{NEW}
Material	StSt
Cross section	105 mm ²
Connection bores Ø	11 x 11 mm
Dimension (l x w x d1)	232 x 30 x 3.5 mm
Fixing	[2x] 12 x 15 mm
Standard	EN 62561-1
PU	1 pc(s)

1x 6 Terminals



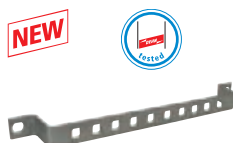
Part No.	472 319 ^{NEW}
Material	StSt
Cross section	105 mm ²
Connection bores Ø	11 x 11 mm
Dimension (l x w x d1)	292 x 30 x 3.5 mm
Fixing	[2x] 12 x 15 mm
Standard	EN 62561-1
PU	1 pc(s)

1x 8 Terminals



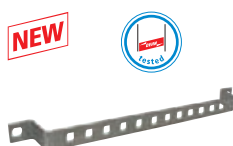
Part No.	472 329 ^{NEW}
Material	StSt
Cross section	105 mm ²
Connection bores Ø	11 x 11 mm
Dimension (l x w x d1)	352 x 30 x 3.5 mm
Fixing	[2x] 12 x 15 mm
Standard	EN 62561-1
PU	1 pc(s)

1x 10 Terminals



Part No.	472 339 ^{NEW}
Material	StSt
Cross section	105 mm ²
Connection bores Ø	11 x 11 mm
Dimension (l x w x d1)	412 x 30 x 3.5 mm
Fixing	[2x] 12 x 15 mm
Standard	EN 62561-1
PU	1 pc(s)

1x 12 Terminals



Part No.	472 349 ^{NEW}
Material	StSt
Cross section	105 mm ²
Connection bores Ø	11 x 11 mm
Dimension (l x w x d1)	472 x 30 x 3.5 mm
Fixing	[2x] 12 x 15 mm
Standard	EN 62561-1
PU	1 pc(s)

Special design upon request.

Earthing Busbars two-row

Earthing busbars for screwing to steel constructions, distance of bores 50 mm.

Connection possibilities:

- Flat strip with bore: with hexagon screws M10, nuts and spring washer
- Flat strip (-40 mm) without bore: with cleat of disconnecting clamps e.g. Part No. 454 100
- Round conductor: with KS connector e.g. Part No. 301 000 / 301 019 or with clamping frame e.g. Part No. 390 150

2x 2 Terminals

Part No.	472 023	472 109
Material	St/tZn	StSt
Cross section	240 mm ²	300 mm ²
Connection bores Ø	11 mm	11 mm
Dimension (l x w x d1)	196 x 60 x 4 mm	196 x 60 x 5 mm
Fixing	[2x] 12 x 15 mm	[2x] 12 x 15 mm
Standard	EN 62561-1	EN 62561-1
PU	1 pc(s)	1 pc(s)



2x 3 Terminals

Part No.	472 022	472 119
Material	St/tZn	StSt
Cross section	240 mm ²	300 mm ²
Connection bores Ø	11 mm	11 mm
Dimension (l x w x d1)	242 x 60 x 4 mm	242 x 60 x 5 mm
Fixing	[2x] 12 x 15 mm	[2x] 12 x 15 mm
Standard	EN 62561-1	EN 62561-1
PU	1 pc(s)	1 pc(s)



2x 4 Terminals

Part No.	472 024	472 129
Material	St/tZn	StSt
Cross section	240 mm ²	300 mm ²
Connection bores Ø	11 mm	11 mm
Dimension (l x w x d1)	293 x 60 x 4 mm	293 x 60 x 5 mm
Fixing	[2x] 12 x 15 mm	[2x] 12 x 15 mm
Standard	EN 62561-1	EN 62561-1
PU	1 pc(s)	1 pc(s)



2x 6 Terminals

Part No.	472 021	472 139
Material	St/tZn	StSt
Cross section	240 mm ²	300 mm ²
Connection bores Ø	11 mm	11 mm
Dimension (l x w x d1)	393 x 60 x 4 mm	393 x 60 x 5 mm
Fixing	[2x] 12 x 15 mm	[2x] 12 x 15 mm
Standard	EN 62561-1	EN 62561-1
PU	1 pc(s)	1 pc(s)



Special design upon request.

Earthing Pipe Clamps

Earthing pipe clamps for integrating pipes into the protective and functional equipotential bonding according to IEC 60364-4-41/5-54 (DIN VDE 0100-410/540), with continuously adjustable tensioning strap.

Type BRS17

For connecting 1 or 2 conductors or through-wiring, connection cross-section 2.5-10 mm² (solid).

Part No.	540 920
Material	StSt
Clamping range pipe Ø	10-27 mm (1/8-3/4")
Dimension of strap (l1 x w x d)	135 x 14 x 0,3 mm
Connection (solid)	2.5-10 mm ²
PU	10 pc(s)

Type Standard

For connecting 1 or 2 conductors or through-wiring, connection cross-section 4-25 mm² (solid / stranded).

Part No.	540 910	540 911	540 912
Material	StSt	StSt	StSt
Clamping range pipe Ø	27-60 mm (3/4-2")	27-114 mm (3/4-4")	27-168 mm (3/4-6")
Dimension of strap (l1 x w x d)	240 x 25 x 0,3 mm	410 x 25 x 0,3 mm	570 x 25 x 0,3 mm
Connection (solid / stranded)	4-25 mm ²	4-25 mm ²	4-25 mm ²
PU	10 pc(s)	10 pc(s)	10 pc(s)

Separate grip head

For combination with endless tensioning strap (Part No. 540 901), connection cross-section 4-25 mm² (solid / stranded).

Part No.	540 900
Material	StSt
Connection	4-25 mm ²
PU	50 pc(s)

Endless tensioning strap

For cutting to length by means of a sheet shear.

Part No.	540 901
Material	StSt
Dimension of strap (w x d)	25 x 0,3 mm
Length	100 m
Military Name	VG 96953 T05 BB001
PU	1 pc(s)

Pipe Clamps for Antennas

Pipe clamp for lightning equipotential bonding of pipes (e.g. antenna poles) according to IEC/EN 62305-3. With continuously adjustable tensioning strap, to connect one or two conductors and suitable for through-wiring.

Pipe clamps for antennas – complete

Connection for:

1 conductor Rd Ø10 mm or 1-2 conductors Rd Ø6-8 mm or 4-50 mm² (solid / stranded).

Part No.	540 103	540 100
Material	StSt	StSt
Clamping range pipe Ø	27-89 mm (3/4-3")	27-168 mm (3/4-6")
Dimension of strap (l1 x w x d)	330 x 25 x 0,3 mm	570 x 25 x 0,3 mm
Standard	EN 62561-1	EN 62561-1
Military Name	VG 96953 T05 B0001	VG 96953 T05 B0002
Stock No.	—	5975-12-120-7744
PU	10 pc(s)	10 pc(s)

Separate grip head

For combination with endless tensioning strap (Part No. 540 901).

Connection for: 1 conductor Rd Ø10 mm or 1-2 conductors Rd Ø6-8 mm or 4-50 mm² (solid / stranded).

Part No.	540 110
Material	StSt
Standard	EN 62561-1
Military Name	VG 96953 T05 BA001
PU	50 pc(s)

Equipotential Bonding

Endless tensioning strap

For cutting to length e.g. by means of a sheet shear.

Part No.	540 901
Material	StSt
Dimension of strap (w x d)	25 x 0.3 mm
Length	100 m
Military Name	VG 96953 T05 BB001
PU	1 pc(s)



Lightning Protection Pipe Clamp with Tines

Pipe clamp for the integration of pipes with surface protection into the lightning equipotential bonding according to IEC/EN 62305-3. For use e.g. at varnished or powder-coated surfaces up to a layer thickness of 0.2 mm.

The special tines penetrate the surface protection and provide the necessary contact, thus it is not necessary to remove the surface protection.

Lightning Protection Pipe Clamp with Tines, complete

Connection for: 1 conductor Rd Ø10 mm or 1-2 conductors Rd Ø6-8 mm or 4-50 mm² (solid / stranded).

Part No.	540 200
Material	StSt
Clamping range pipe Ø	27-168 mm (3/4-6")
Dimension of strap (l1 x w x d)	570 x 25 x 0.3 mm
Standard	EN 62561-1
PU	10 pc(s)



Clamping Chuck separately

For combination with endless tensioning strap (Part No. 540 901).

Connection for: 1 conductor Rd Ø10 mm or 1-2 conductors Rd Ø6-8 mm or 4-50 mm² (solid / stranded).

Part No.	540 210 ^{NEW}
Material	StSt
Standard	EN 62561-1
PU	50 pc(s)



Earthing Pipe Clamps Lightning Protection

Earthing pipe clamps for integrating pipes into the protective and functional equipotential bonding according to IEC 60364-4-41/60364-5-54 (DIN VDE 0100-410/540) and lightning equipotential bonding according to IEC/EN 62305-3. The clamping range (specified in mm) refers to the outer diameter and the clamping range (specified in inch) refers to the inner diameter (nominal width) of the pipes.

With screws M10

Connection for Rd 4-10 mm or connection wire cross-section max. 70 mm².

General technical data:			
Material	MCl / St/tZn		
Standard	EN 62561-1		
Part No.	407 012	407 034	407 100
Clamping range pipe Ø	21 mm (1/2")	27 mm (3/4")	34 mm (1")
Dimension (l1 x r1)	80 x 11 mm	83 x 14 mm	85 x 17.5 mm
PU	10 pc(s)	10 pc(s)	10 pc(s)
Part No.	407 114	407 112	407 200
Clamping range pipe Ø	42 mm (1 1/4")	48 mm (1 1/2")	60 mm (2")
Dimension (l1 x r1)	100 x 24.5 mm	95 x 22 mm	113 x 30.5 mm
PU	10 pc(s)	10 pc(s)	10 pc(s)



Type St/tZn with screws M8

St/tZn material thickness 3 mm.

Connection for FI with screws and nuts M10, for Rd 7-10 mm e.g. KS connector Part No. 301 000 or clamping frame, Part No. 390 150.

General technical data:

Material	St/tZn
Standard	EN 62561-1



Part No.	410 038	410 012	410 034	410 100
Clamping range pipe Ø	17 mm (3/8")	21 mm (1/2")	27 mm (3/4")	34 mm (1")
Dimension (l1 x r1)	110 x 8.5 mm	115 x 10.5 mm	115 x 13.5 mm	124 x 17 mm
PU	25 pc(s)	25 pc(s)	25 pc(s)	25 pc(s)

Part No.	410 114	410 112	410 134
Clamping range pipe Ø	42 mm (1 1/4")	48 mm (1 1/2")	55 mm (1 3/4")
Dimension (l1 x r1)	132.5 x 21 mm	140.5 x 24 mm	145 x 27.5 mm
PU	25 pc(s)	25 pc(s)	25 pc(s)

Part No.	410 200	410 212	410 300
Clamping range pipe Ø	60 mm (2")	76 mm (2 1/2")	89 mm (3")
Dimension (l1 x r1)	151 x 30 mm	169 x 38 mm	182.5 x 44.5 mm
PU	25 pc(s)	20 pc(s)	15 pc(s)

Type StSt with screws M8

StSt material thickness 2.5 mm.

Connection for FI with screws and nuts M10, for Rd 7-10 mm e.g. KS connector Part No. 301 000 or clamping frame, Part No. 390 150.

General technical data:

Material	StSt
Standard	EN 62561-1



Part No.	410 309	410 319	410 329	410 339
Clamping range pipe Ø	17 mm (3/8")	21 mm (1/2")	27 mm (3/4")	34 mm (1")
Dimension (l1 x r1)	110.5 x 8.5 mm	114.5 x 10.5 mm	115.5 x 13.5 mm	124 x 17 mm
PU	25 pc(s)	25 pc(s)	25 pc(s)	25 pc(s)

Part No.	410 349	410 359	410 369
Clamping range pipe Ø	42 mm (1 1/4")	48 mm (1 1/2")	55 mm (1 3/4")
Dimension (l1 x r1)	132.5 x 21 mm	140.5 x 24 mm	145 x 27.5 mm
PU	25 pc(s)	25 pc(s)	25 pc(s)

Part No.	410 379	410 389	410 399
Clamping range pipe Ø	60 mm (2")	76 mm (2 1/2")	89 mm (3")
Dimension (l1 x r1)	151 x 30 mm	169 x 38 mm	182.5 x 44.5 mm
PU	25 pc(s)	20 pc(s)	15 pc(s)

Downpipe Clamps

Pipe clamps for lightning equipotential bonding connection of downpipes according to IEC/EN 62305-3.

Connection possibilities for Rd e.g. with KS connector Part No. 301 000 or with clamping frame Part No. 390 150 (according to material).

For fixed pipe diameters

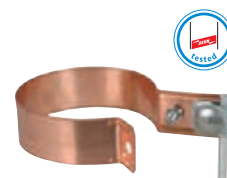
Part No.	420 100	420 120	420 107	420 127
Material	St/tZn	St/tZn	Cu	Cu
Clamping range pipe Ø (d1)	100 mm	120 mm	100 mm	120 mm
Bore Ø	11 mm	11 mm	11 mm	11 mm
Standard	EN 62561-1	EN 62561-1	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)	50 pc(s)	50 pc(s)



Type bimetallic

For connecting conductors St with downpipes Cu, with clamping frame St/tZn and intermediate plate (Cupal).

Part No.	420 207
Material	Cu / St/tZn
Clamping range pipe Ø (d1)	100 mm
Clamping range Rd	6-10 mm
Standard	EN 62561-1
PU	50 pc(s)



Type RV adjustable

With additional anti-rotation locking of the fastening screw and markings, preset bending points as well as punched cutting aids.

General technical data:	
Bore Ø	10.5 mm
Standard	EN 62561-1

Part No.	423 010	423 011	423 017	423 019
Material	St/tZn	Al	Cu	StSt
Clamping range pipe Ø (d1)	60-100 mm	60-100 mm	60-100 mm	60-100 mm
Length (l1)	337 mm	337 mm	337 mm	337 mm
PU	50 pc(s)	50 pc(s)	50 pc(s)	50 pc(s)

Part No.	423 020	423 021	423 027	423 029
Material	St/tZn	Al	Cu	StSt
Clamping range pipe Ø (d1)	60-150 mm	60-150 mm	60-150 mm	60-150 mm
Length (l1)	494 mm	494 mm	494 mm	494 mm
PU	50 pc(s)	50 pc(s)	50 pc(s)	50 pc(s)



Earthing Tongs

- For connecting tank vehicles, aircrafts, containers and tanks etc.
- For discharging static charge
- For use in hazardous areas



Small design

Brass jaw with steel tips (Material No. 1.4104) and copper contact clip.

Connection: Flat head screw with slot or with enclosed crimped cable lug 25 mm² – M6 (Cu/gal Sn).

Part No.	546 025	546 002
Material of tongs	St/gal Zn	StSt
Clamping range Rd / FI	up to Ø16 / up to 13 mm	up to Ø16 / up to 13 mm
Length	140 mm	140 mm
Connection screw	M6 x 12 mm	M6 x 12 mm
PU	1 pc(s)	1 pc(s)



Large design

Brass jaw without steel tips and copper contact clip. Connection: Threaded bolt with nut.

Part No.	546 000	546 001
Material of tongs	St/gal Zn	StSt
Clamping range Rd / FI	up to Ø55 / up to 45 mm	up to Ø55 / up to 45 mm
Length	205 mm	205 mm
Connection nut	M10	M10
PU	1 pc(s)	1 pc(s)



Flat Strip Holders with Thrust Piece

For wall mounting.

Thrust piece with screw M8 for the installation of flat strip up to 11 mm and round conductor 6-10 mm.

Wall distance 11 mm



Part No.	277 230	277 237	277 239
Material of conductor holder	St/tZn	Cu	StSt
Fixing	Ø13 and 7 x 20 mm	Ø13 and 7 x 20 mm	Ø13 and 7 x 20 mm
Slot width	12 mm	12 mm	12 mm
Material of screw	StSt	StSt	StSt
Standard	EN 62561-4	EN 62561-4	EN 62561-4
PU	25 pc(s)	25 pc(s)	25 pc(s)

Wall distance 15 mm



Part No.	277 240
Material of conductor holder	St/tZn
Fixing	7 x 15 mm
Slot width	12 mm
Material of screw	StSt
Standard	EN 62561-4
PU	25 pc(s)

Conductor Holder

Conductor holder for installing round and flat conductors for equipotential bonding e.g. in transformer stations, processor rooms.
Insulated conductor holder.



Part No.	277 130
Conductor holder support Rd / FI	6-13 / 30 x 4 mm
Fixing	Ø10 and 6 x 19 mm
Material	plastic
Colour	grey ●
PU	50 pc(s)

Connection Clamp



For universal connection to the ring equipotential bonding for St/tZn, copper or stainless steel (StSt).

Part No.	563 169
Conductor holder support Rd / FI	Ø8-10 / 30 x 3 up to 11 mm
Material	StSt
Terminal cross section	2.5-95 mm ²
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	5.5 kA
PU	50 pc(s)

Pipe Clamps for Hazardous Areas Zone 1/21, 2/22

Pipe clamp for electrical contacting of pipes in explosion-hazardous areas 1 and 2 (gases, vapours, mists) as well as Ex zones 21 and 22 (dusts). Non-sparking lightning equipotential bonding according to IEC/EN 62305-3.

- For use in explosion-hazardous areas Ex zones 1 and 2 (gases, vapours, mists) as well as Ex zones 21 and 22 (dusts)
- Tested according to explosion group IIB
- Time-saving installation – no need to deactivate systems/areas for welding or drilling works

Type EX BRS 27

Clamping range of Ø6-27 mm (3/4")

Part No.	540 821
Lightning impulse current (10/350 µs) Cu (I _{imp})	10 kA
Lightning impulse current (10/350 µs) Cu Ø12-27 mm (3/4") (I _{imp})	20 kA
Lightning impulse current (10/350 µs) Cu Ø27 mm (3/4") (I _{imp})	25 kA
Lightning impulse current (10/350 µs) St/tZn Ø17-27 mm (3/4") (I _{imp})	25 kA
Lightning impulse current (10/350 µs) StSt Ø6-12 mm (I _{imp})	10 kA
Lightning impulse current (10/350 µs) StSt Ø12-27 mm (3/4") (I _{imp})	12 kA
Lightning impulse current (10/350 µs) StSt Ø27 mm (3/4") (I _{imp})	25 kA
Connection	M8
Clamping range pipe Ø	6-27 mm (3/4")
Material of clamping body	polyamide
Material of grip head / tensioning strap	StSt
Material of contact clip	brass/gal Sn
Standard	EN 62561-1
PU	1 pc(s)



Type EX BRS 90 / 300 / 500

Type EX BRS 90 Part No. 540 801 clamping range Ø27 (3/4") to 89 mm (3").

Type EX BRS 300 Part No. 540 803 clamping range Ø89 (3") to 300 mm.

Type EX BRS 500 Part No. 540 805 clamping range Ø300 to 500 mm.

Part No.	540 801	540 803	540 805
Lightning impulse current (10/350 µs) Cu (I _{imp})	50 kA	50 kA	—
Lightning impulse current (10/350 µs) St/tZn (I _{imp})	50 kA	50 kA	—
Lightning impulse current (10/350 µs) St/blank (I _{imp})	—	—	50 kA
Lightning impulse current (10/350 µs) StSt (I _{imp})	25 kA	50 kA	50 kA
Connection	M10	M10	M10
Clamping range pipe Ø	27-89 mm (3/4"-3")	89 (3")-300 mm	300-500 mm
Material of clamping body	polyamide	polyamide	polyamide
Material of grip head / tensioning strap	StSt	StSt	StSt
Material of contact clip	Cu/gal Sn	Cu/gal Sn	Cu/gal Sn
Standard	EN 62561-1	EN 62561-1	EN 62561-1
PU	1 pc(s)	1 pc(s)	1 pc(s)



Separate clamping body

For use with endless tensioning strap (Part No. 540 901), clamping ranges Ø27 (3/4") to 500 mm.

Part No.	540 810
Lightning impulse current (10/350 µs) Cu (I _{imp})	50 kA
Lightning impulse current (10/350 µs) St/tZn (I _{imp})	50 kA
Lightning impulse current (10/350 µs) StSt (I _{imp})	25 kA
Connection	M10
Clamping range pipe Ø	27 (3/4")-500 mm
Material of clamping body	polyamide
Material of grip head / tensioning strap	StSt
Material of contact clip	Cu/gal Sn
Standard	EN 62561-1
PU	1 pc(s)



Accessory for Pipe Clamps for Hazardous Areas Zone 1/21, 2/22

Tensioning Strap

Part No.	540 901
Material	StSt
Strap dimension (w x d)	25 x 0.3 mm
Length	100 m
PU	1 pc(s)



Pipe Clamp for Hazardous Areas Zone 2/22

Pipe clamp for electrical contacting of pipes in explosion-hazardous areas zone 2/22. The pipe clamp is secured against self-loosening according to DIN/EN 62305-3 Supplement 2 (VDE 0185-305-3 Bbl 2).

NEW



Part No.	540 104 ^{NEW}
Material	StSt
Clamping range pipe Ø	27-89 mm (3/4-3")
Dimension of strap (l1 x w x d)	330 x 25 x 0.3 mm
Standard	EN 62561-1
Tightening torque	≥ 15 Nm
PU	10 pc(s)

DECLARATION OF MANUFACTURER

Product: Pipe clamp GSG
 Product designation: Part No. 540 104
 Type: BNC 27-89 M3x30 20x8 GSG-VGA
 Manufacturer: DEHN + SCHNEIDER + Co. KG
 ELECTROTECHNISCHE FABRIK
 Hans-Dietrich-Str. 1
 52228 Neurath/GERMANY

Application:
 The pipe clamp is used for connecting pipes of different materials and diameters to the lightning-impulse bonding system as per IEC 62305-3 and to the protection functional equipotential bonding system as per IEC 62561-1 and EN 62561-1.
 The pipe clamp has no potential source of ignition (component) of its own and is thus not subject to the European directive 94/EC.
 We herewith confirm that the pipe clamp is suitable for use in Ex zone 2 (gas, vapour, mist) and Ex zone 22 (dust).
 Therefore approval according to the European directive 94/EC is legally impossible and not required from an explosion protection point of view.

Neurath, 20.11.2014
 Dr.-Ing. Ralph Bräuer
 Director R & D

Clamps for Hazardous Areas Zone 2/22

Clamps with spring washer for connecting/bonding of round / flat conductors in explosion-hazardous areas zone 2/22. The clamps are secured against self-loosening according to DIN EN 62305-3 Supplement 2 (VDE 0185-305-3 Bbl 2).

NEW



UNI Disconnecting Clamp 200 kA (10/350 µs) with spring washer for two round conductors

Part No.	459 200 ^{NEW}
Material	StSt
Clamping range Rd / Rd	10 / 10 mm
Clamping range Rd / Fl	10 / 30 mm
Lightning current carrying capability (10/350 µs)	200 kA
Standard	based on EN 62561-1
PU	1 pc(s)

DECLARATION OF MANUFACTURER

Product: UNI Disconnecting Clamps 200 kA
 Product designation: Part No. 459 200
 Type: UNF 200 200 10/20 2P K2A
 UNF 200 300 10/20 2P K2A
 Manufacturer: DEHN + SCHNEIDER + Co. KG
 ELECTROTECHNISCHE FABRIK
 Hans-Dietrich-Str. 1
 52228 Neurath/GERMANY

Application:
 The UNI disconnecting clamps are used as lightning current carrying capacitor connections from air termination type or rods to conductors respectively from down conductors to the earth surface, as per IEC 62305-3 and EN 62305-3 and EN 62561-1 and EN 62561-1.
 We herewith confirm that the UNI disconnecting clamps are suitable for use in Ex zone 2 (gas, vapour, mist) and Ex zone 22 (dust).
 The UNI disconnecting clamps have no potential source of ignition (component) of their own and are thus not subject to the European directive 94/EC.
 Therefore approval according to the European directive 94/EC is legally impossible and not required from an explosion protection point of view.

Neurath, 20.11.2014
 Dr.-Ing. Ralph Bräuer
 Director R & D

NEW



UNI Disconnecting Clamp 200 kA (10/350 µs) with spring washer for earth entry rods

Part No.	459 219 ^{NEW}
Material	StSt
Clamping range Rd / Rd	8-10 / 16 mm
Lightning current carrying capability (10/350 µs)	200 kA
Standard	based on EN 62561-1
PU	1 pc(s)

Clamping Piece 200 kA (10/350 µs) with spring washer

NEW



Part No.	380 209 ^{NEW}
Material	StSt
Clamping range Fl	30 x 4 mm
Lightning current carrying capability (10/350 µs)	200 kA
Standard	based on EN 62561-1
PU	1 pc(s)

KS Connector 200 kA (10/350 µs) with spring washer

NEW



Part No.	301 209 ^{NEW}
Material	StSt
Clamping range Rd	10 mm
Lightning current carrying capability (10/350 µs)	200 kA
Standard	based on EN 62561-1
PU	1 pc(s)

DECLARATION OF MANUFACTURER

Product: KS Connectors
 Product designation: Part No. 301 209 Type KSV 10/10 10A K2A
 Part No. 301 209 Type KSV 10/10 10A K2A
 Part No. 301 209 Type KSV 10/10 10A K2A
 Part No. 301 209 Type KSV 10/10 10A K2A
 Manufacturer: DEHN + SCHNEIDER + Co. KG
 ELECTROTECHNISCHE FABRIK
 Hans-Dietrich-Str. 1
 52228 Neurath/GERMANY

Application:
 The KS connectors are used as lightning current carrying capacitor connections of round conductors, e.g. to flat profiles, as per IEC 62305-3 and EN 62305-3 and EN 62561-1 and EN 62561-1.
 We herewith confirm that the KS connectors are suitable for use in Ex zone 2 (gas, vapour, mist) and Ex zone 22 (dust).
 The KS connectors have no potential source of ignition (component) of their own and are thus not subject to the European directive 94/EC.
 Therefore approval according to the European directive 94/EC is legally impossible and not required from an explosion protection point of view.

Neurath, 20.11.2014
 Dr.-Ing. Ralph Bräuer
 Director R & D

Equipotential Bonding for Ex Areas

MV Clamp 200 kA (10/350 µs) with spring washer for round conductors

Part No.	390 209 ^{NEW}
Material	StSt
Clamping range Rd / Rd	8-10 mm
Lightning current carrying capability (10/350 µs)	200 kA
Standard	based on EN 62561-1
PU	1 pc(s)



NEW



MV Clamp 200 kA (10/350 µs) with spring washer for air-termination rods

Part No.	392 209 ^{NEW}
Material	StSt
Clamping range Rd / Rd	8-10 / 16 mm
Lightning current carrying capability (10/350 µs)	200 kA
Standard	based on EN 62561-1
PU	1 pc(s)



NEW



KS Connector 100 kA (10/350 µs) one-piece with spring washer

Part No.	301 010	301 017
Material of clamping screw	St/tZn	Cu
Material of clamp	ZDC	RCB
Clamping range Rd	7-10 mm	6-10 mm
Connection (single-wire / multi-wire)	—	25-70 mm ²
Type	+ spring washer	+ spring washer
Standard	EN 62561-1	EN 62561-1
PU	100 pc(s)	100 pc(s)



KS Connector 100 kA (10/350 µs) two-piece with spring washer

Part No.	301 229
Material of clamping screw	StSt
Material of clamp	StSt
Clamping range Rd	6-10 mm
Type	+ spring washer
Standard	EN 62561-1
PU	1 pc(s)



Equipotential Busbars for Hazardous Areas Zone 2/22

Equipotential busbars for protective and functional equipotential bonding according to IEC 60364-4-41/60364-5-54 (DIN VDE 0100-410/540) and lightning equipotential bonding according to IEC/EN 62305-3. Screws according to DIN EN 62305-3 Supplement 2 (VDE 0185-305-3 Bbl 2), with spring washer secured against self-loosening.

6 Terminals

Part No.	472 207	472 209
Material	Cu	StSt
Dimension (l x w x t1)	295 x 40 x 5 mm	295 x 40 x 6 mm
Cross section	200 mm ²	240 mm ²
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	39 kA	8.9 kA
Screw	⌀ M10 x 25 mm	⌀ M10 x 25 mm
Material of screw / nut	StSt	StSt
Design	with spring washer	with spring washer
Material of insulator	UP	UP
Standard	EN 62561-1	EN 62561-1
PU	1 pc(s)	1 pc(s)



8 Terminals

Part No.	472 227	472 229
Material	Cu	StSt
Dimension (l x w x t1)	365 x 40 x 5 mm	365 x 40 x 6 mm
Cross section	200 mm ²	240 mm ²
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	39 kA	8.9 kA
Screw	☛ M10 x 25 mm	☛ M10 x 25 mm
Material of screw / nut	StSt	StSt
Design	with spring washer	with spring washer
Material of insulator	UP	UP
Standard	EN 62561-1	EN 62561-1
PU	1 pc(s)	1 pc(s)

10 Terminals

Part No.	472 217	472 219
Material	Cu	StSt
Dimension (l x w x t1)	435 x 40 x 5 mm	435 x 40 x 6 mm
Cross section	200 mm ²	240 mm ²
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	39 kA	8.9 kA
Screw	☛ M10 x 25 mm	☛ M10 x 25 mm
Material of screw / nut	StSt	StSt
Design	with spring washer	with spring washer
Material of insulator	UP	UP
Standard	EN 62561-1	EN 62561-1
PU	1 pc(s)	1 pc(s)

12 Terminals

Part No.	472 237	472 239
Material	Cu	StSt
Dimension (l x w x t1)	505 x 40 x 5 mm	505 x 40 x 6 mm
Cross section	200 mm ²	240 mm ²
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	39 kA	8.9 kA
Screw	☛ M10 x 25 mm	☛ M10 x 25 mm
Material of screw / nut	StSt	StSt
Design	with spring washer	with spring washer
Material of insulator	UP	UP
Standard	EN 62561-1	EN 62561-1
PU	1 pc(s)	1 pc(s)

Accessory for Equipotential Busbars for Hazardous Areas Zone 2/22

Cover for EBB Industry Design

Covers for EBB with insulators.

Part No.	472 279	472 269	472 289	472 299
Type of EBB	6 terminals	8 terminals	10 terminals	12 terminals
Dimension (l x w x d)	301 x 60 x 0.8 mm	371 x 60 x 0.8 mm	441 x 60 x 0.8 mm	511 x 60 x 0.8 mm
Material	StSt	StSt	StSt	StSt
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)

Insulator for EBB Industry Design

Part No.	472 210
Material	UP (thermoset)
Connection thread	M10 (length 12 mm)
Colour	red ●
Dimension (d x h)	32 x 40 mm
PU	1 pc(s)

Fixing Kit for EBB Industry Design

For mounting the insulators e.g. at walls.

Part No.	472 201
Material of screw	St/tZn
Screw	45 mm ☛ M10 x 20 mm
Plastic dowel	Ø12 x 60 mm
Total length	80 mm
PU	1 pc(s)



EXFS L / EXFS KU

For bridging insulating flanges and insulating glands in cathodically protected pipe sections (e.g. pipelines or LPG plants) in hazardous areas in case of surges and lightning currents.

- Class (lightning current carrying capability) N (50 kA)
- ATEX and IECEx-certified for zone 2

EXFS L

Cable type: NSLFF (Cu), highly flexible, 25 mm².

Part No.	923 060	923 061	923 062
Lightning impulse current (10/350 µs) (<i>I_{imp}</i>)	50 kA	50 kA	50 kA
Rated impulse sparkover voltage (<i>U_{r imp}</i>)	≤ 2.5 kV	≤ 2.5 kV	≤ 2.5 kV
Cable length	100 mm	200 mm	300 mm
Extended technical data:			
– Nominal discharge current (8/20 µs) (<i>I_n</i>)	100 kA	100 kA	100 kA
– Power frequency sparkover voltage (50 Hz) (<i>U_{aw}</i>)	≤ 1.2 kV	≤ 1.2 kV	≤ 1.2 kV
PU	1 pc(s)	1 pc(s)	1 pc(s)



EXFS KU

For underground installation (moisture-proof), cable type: NYY-J (Cu), 25 mm².

Part No.	923 019
Lightning impulse current (10/350 µs) (<i>I_{imp}</i>)	50 kA
Rated impulse sparkover voltage (<i>U_{r imp}</i>)	≤ 2.5 kV
Cable length	2x approx. 1500 mm
Extended technical data:	
– Nominal discharge current (8/20 µs) (<i>I_n</i>)	100 kA
– Power frequency sparkover voltage (50 Hz) (<i>U_{aw}</i>)	≤ 1.2 kV
PU	1 pc(s)



EXFS 100 / EXFS 100 KU

For bridging insulating flanges and insulating glands in cathodically protected pipe sections (e.g. pipelines or LPG plants) in hazardous areas in case of surges and lightning currents.

- Class (lightning current carrying capability) H (100 kA)
- Especially low sparkover voltage
- ATEX and IECEx-certified for zone 1 and zone 21

EXFS 100

Isolating spark gap for use in hazardous areas with plastic sheath and M10 threaded screws.

Part No.	923 100
Lightning impulse current (10/350 µs) (<i>I_{imp}</i>)	100 kA
Rated impulse sparkover voltage (<i>U_{r imp}</i>)	≤ 1.25 kV
Extended technical data:	
– Rated discharge current (50 / 60 Hz) (<i>I_{max}</i>)	500 A / 0.2 sec.
– Nominal discharge current (8/20 µs) (<i>I_n</i>)	100 kA
– Power frequency sparkover voltage (50 / 60 Hz) (<i>U_{aw}</i>)	≤ 0.5 kV
PU	1 pc(s)



EXFS 100 KU

For underground installation on insulating flanges.

Part No.	923 101
Lightning impulse current (10/350 µs) (<i>I_{imp}</i>)	100 kA
Rated impulse sparkover voltage (<i>U_{r imp}</i>)	≤ 1.25 kV
Cable length	2x approx. 2000 mm
Extended technical data:	
– Rated discharge current (50 / 60 Hz) (<i>I_{max}</i>)	500 A / 0.2 sec.
– Nominal discharge current (8/20 µs) (<i>I_n</i>)	100 kA
– Power frequency sparkover voltage (50 / 60 Hz) (<i>U_{aw}</i>)	≤ 0.5 kV
PU	1 pc(s)



Accessories for EXFS 100 / EXFS 100 KU

Angled Connection Brackets – IF 1 –

Angled connection bracket for EXFS ...; diameter corresponds to the bolt diameter of the flange bolting; material: St/tZn.



Part No.	923 311	923 314	923 318	923 322
Max. borehole diameter d1	11 mm	14 mm	18 mm	22 mm
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)
Part No.	923 326	923 330	923 333	
Max. borehole diameter d1	26 mm	30 mm	33 mm	
PU	1 pc(s)	1 pc(s)	1 pc(s)	
Part No.	923 336	923 339	923 342	
Max. borehole diameter d1	36 mm	39 mm	42 mm	
PU	1 pc(s)	1 pc(s)	1 pc(s)	
Part No.	923 348	923 356	923 362	
Max. borehole diameter d1	48 mm	56 mm	62 mm	
PU	1 pc(s)	1 pc(s)	1 pc(s)	

Flat Connection Brackets – IF 3 –

Flat connection bracket for EXFS ...; diameter corresponds to the bolt diameter of the flange bolting; material: St/tZn.



Part No.	923 211	923 214	923 218	923 222
Max. borehole diameter d1	11 mm	14 mm	18 mm	22 mm
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)
Part No.	923 226	923 230	923 233	
Max. borehole diameter d1	26 mm	30 mm	33 mm	
PU	1 pc(s)	1 pc(s)	1 pc(s)	
Part No.	923 236	923 239	923 242	
Max. borehole diameter d1	36 mm	39 mm	42 mm	
PU	1 pc(s)	1 pc(s)	1 pc(s)	

EXFS 100: Connecting Cable, Cu, 25 mm²

Connecting cable for EXFS 100; two cable lugs (Ø10.5 mm) made of Cu/gal Sn, screw, nut, and spring washer.



Part No.	923 025	923 035	923 045
Cable length	100 mm	200 mm	300 mm
PU	1 pc(s)	1 pc(s)	1 pc(s)

Earth Resistance Meter FLUKE 1621

Automatic measuring range selection for checking of sensor resistance, auxiliary earth-electrode resistance and soil resistivity.

Part No.	578 350
Display	digitale LCD display
Resistance measuring range	0.15 to 2 000 Ω
Frequency measuring signal	128 Hz
Measuring method	2-/3-pole measurement
Resistance measurement	2-pole a.c. measurement
Dimension (l x w x d)	216 x 113 x 54 mm
PU	1 pc(s)



Earth Resistance Meter GEOHM C

For measuring the resistance to earth and the soil resistivity, with automatic measuring range selection and checking of sensor resistance and auxiliary earth-electrode resistance.

Part No.	578 110
Display	digital LCD display
Resistance measuring range	0.01 to 20 000 Ω
Measuring frequency	45 to 200 Hz
Measuring method	3-/4-pole
Dimension (l x w x d)	275 x 140 x 65 mm
PU	1 pc(s)



Earth Resistance Clamp Meter HT T2000

For earth loop measurement.

With automatic switchoff and transport case.

Part No.	578 385 ^{NEW}
Display	digital LC display
Resistance measuring range	0.01 to 1 000 Ω
Current measuring range	0.05 mA to 20 A
Clamp diameter inside	32 x 64 mm
Max. cable diameter	24 mm
PU	1 pc(s)



NEW

Multimeter HT ET5071

For low-ohm measurements and loop impedance measurement. For testing the continuity of reinforcement steel in concrete with 10 A test current acc. to IEC/EN 62305-3. With automatic switchoff and transport bag.

Additional test functions for:

- Voltage
- Frequency
- Impedance

Accessories:

- Schuko plug on 3-phase split-plug
- Kit: 3 cables + 3 alligator clamps + 1 test prod
- Power cable with 10 A
- 4 cables of 3 m each for continuity testing 10 A
- Windows software + optic USB cable C2006

Part No.	578 390 ^{NEW}
Display	digital LC display with backlight
Resistance measuring range	0.001 to 99.9 Ω
Test current	0.2 and 10A
Test function	4 phase
Interface	optic / USB interface
PU	1 pc(s)



NEW



EP4 Continuity Tester

Continuity tester for resistance measuring e.g. at air-termination and down conductors and subsequently installed reinforcement rods of buildings. Testers may be used for resistance measuring of earth-termination systems according to DIN 18014 with a test current of 200 mA.



Part No.	578 370
Display	digital LCD display
Resistance measuring range	0.01 Ω to 2 000 k Ω
Measuring current	200 mA in the range up to 10 Ω acc. to EN 61557-4
Dimension (l x w x d)	230 x 60 x 40 mm
PU	1 pc(s)

Leather Case with Measuring Accessories for Continuity Tester

For storing the continuity tester and measuring accessories.



Equipment includes:

- 2 coils with handle for unwinding and 50 m measuring line, blue, Part No. 585 320
- 1 measuring line 0.75 mm², 3 m long, black, with split plug on both sides, Part No. 545 020
- 1 test clamp, clamping range 2-21 mm, Part No. 588 000

Part No.	582 620
Material	artificial leather
Dimension (l x w x h)	370 x 130 x 220 mm
PU	1 pc(s)

Earth Resistance Measuring Equipment in a leather case

Case with shoulder strap for easy transport.

Equipment includes:

- 1 coil with handle for unwinding and 25 m measuring line, red, with split plug, Part No. 585 310
- 1 coil with handle for unwinding and 50 m measuring line, blue, with split plug, Part No. 585 320
- 2 earth borers 350 mm long, Part No. 587 460
- 2 measuring lines black 0.75 mm², 3 m long, with split plug on both sides, Part No. 545 010 (connection between earth termination system and earth resistance meter)
- 1 measuring line red 0.75 mm², 0.5 m long, with split plug on both sides, Part No. 545 010
- 1 measuring line blue 0.75 mm², 0.5 m long, with split plug on both sides, Part No. 545 011 (connection between coil and earth borer)
- 1 test clamp, clamping range 2-21 mm, Part No. 588 000

The case provides an empty compartment for optional support of either FLUKE 1621 or GEOHM C measuring device.



Part No.	582 600
Material	artificial leather
Dimension (l x w x h)	400 x 200 x 240 mm
PU	1 pc(s)

Accessories for Earth Resistance Measuring Equipment in a leather case

Earth Drilling Device

As an auxiliary earth electrode and probe for measuring of earthing resistances. With bore for split plug of the measuring line.



Part No.	587 460
Connection	M5
Material	MCl/gal Zn
Length	350 mm
PU	1 pc(s)

Accessories for Earth Resistance Measuring Equipment in a leather case

Test Clamp up to 21 mm

For earth electrode measuring.

Part No.	588 000
Connection	M5
Material	MCl/tZn
Clamping range	2-21 mm
Clamping spindle	M8
PU	1 pc(s)



Test Clamp up to 45 mm

For earth electrode measuring.

Part No.	589 000
Connection	M5
Material	MCl/tZn
Clamping range	4-45 mm
Clamping spindle	M10
PU	1 pc(s)



Coilers, width 40 mm

With split plug and socket.

Part No.	585 310	585 051	585 025	585 320
Length of measuring line	25 m	50 m	25 m	50 m
Colour of measuring line	red ●	red ●	blue ●	blue ●
Width	40 mm	40 mm	40 mm	40 mm
Material	plastic	plastic	plastic	plastic
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)



Coilers, width 80 mm

With split plug and socket.

Part No.	585 211	585 210
Length of measuring line	100 m	100 m
Colour of measuring line	red ●	blue ●
Width	80 mm	80 mm
Material	plastic	plastic
PU	1 pc(s)	1 pc(s)



Coilers, empty

With socket.

Part No.	585 010	585 200
Length of measuring line	0 m	0 m
Width	40 mm	80 mm
Material	plastic	plastic
Colour	grey ●	grey ●
PU	1 pc(s)	1 pc(s)



Measuring Line

Part No.	545 000	545 001
Cross section	0.75 mm ²	0.75 mm ²
Material	Cu	Cu
Designation	H05V-K	H05V-K
Insulation	PVC	PVC
Colour	blue ●	red ●
PU	100 m	100 m





Occurrence Counter



Counter for digital recording of impulse currents.

The device is preferably installed as a discharge current meter between the equipotential bonding busbar and the earth-termination system.

Part No.	910 001	910 007
Counter	0-99	0-99
Lead-through bar	Ø8 mm	Ø8 mm
Material of bar	St/tZn	Cu
PU	1 pc(s)	1 pc(s)



Wire Straighteners

For straightening of round conductors made of different materials (semi-rigid).

5 guide pulleys, with handles



Part No.	597 004
Material	St/gal Zn
Support Rd	7-10 mm
Material of guide pulleys	St/gal Zn
Dimension	approx. 180 x 290 mm
PU	1 pc(s)

10 guide pulleys, with handles



Part No.	597 005
Material	St/gal Zn
Support Rd	7-10 mm
Material of guide pulleys	St/gal Zn
Dimension	approx. 650 x 180 mm
PU	1 pc(s)

10 guide pulleys, with derrick

For stationary set-up.



Part No.	597 003
Material	St/tZn
Support Rd	7-10 mm
Material of guide pulleys	St/gal Zn
Dimension	approx. 1350 x 580 mm
PU	1 pc(s)

10 guide pulleys, movable on rubber wheels

With wire unwinding device, for handling of coils (St/tZn and Al) with an inner diameter of 450-800 mm and coil widths up to 150 mm.



Part No.	597 006
Material	St/tZn
Support Rd	7-10 mm
Material of guide pulleys	St/gal Zn
Dimension	approx. 1650 x 1200 mm
PU	1 pc(s)

Straightening Tool

For bending and straightening of conductors.



Straight design

Part No.	596 000
Material	St/burnished
Application Rd / Fl	8-10 / -4 mm
Length	260 mm
PU	1 pc(s)



Cranked design

Width across flats (A/F 13) for screwing.

Part No.	595 000
Material	St/burnished
Application Rd	8-10 mm
Length	260 mm
PU	1 pc(s)



Separable design

Especially designed for earthing material (StSt, St/tZn) and also for air-termination rods (Ø16 mm) made of aluminium or copper with lateral recess.

Part No.	596 600
Material	St/galZn
Application Rd	10 mm
Application Fl	up to 40 x 4 mm
Length	320 / 620 mm
PU	1 pc(s)



Spider Wrench

Universally usable for lightning protection system installation. With four wrench sizes.

Part No.	572 000
Material	St/gal Zn
Wrench size	10, 13, 17, 19 mm
PU	1 pc(s)



Anti-corrosion Tape

For wrapping of aboveground and underground connections.

For use in the soil according to DIN 30672.

In reels, length 10 m, UV stabilised.

Part No.	556 125	556 130
Width	50 mm	100 mm
Material	petrolatum	petrolatum
PU	24 pc(s)	12 pc(s)



Heat-shrinkable Sleeve

Heat-shrinkable sleeve for coating Rd and FI conductors, e.g. when leading terminal lugs out of the concrete or earth entries out of the ground.

UV stabilised, customised length.



Part No.	554 011
For use with Rd	16 mm
For use with FI	30 mm
Material	DERAY
Colour	black ●
PU	1 m

Special Coating Paint

Special coating paint for lightning protection components and conductors, weather resistant.

The coating paint may be used without pretreatment also for weathered, hot-dip galvanized, spray-galvanized and electrogalvanized surfaces as well as aluminium sheets.

Hazardous materials regulations allow for transportation only in Germany and Austria. Alternatively use a suitable zinc protection paint.



Part No.	559 010	559 011
Colour	grey ●	brown ●
Content	0.75 litres	0.75 litres
PU	1 pc(s)	1 pc(s)

Part No.	GTIN*	PG	Weight/SU	PU	SU	Page
100 100	019119	1-1-1	1.64 kg	10	pc(s)	104
100 150	019140	1-1-1	2.44 kg	10	pc(s)	104
101 000	094505	1-1-1	212 g	20	pc(s)	103
101 001	105539	1-7-1	600 g	1	pc(s)	126
101 007	128705	1-1-1	700 g	20	pc(s)	103
101 009	128699	1-1-1	600 g	20	pc(s)	103
101 010	138698	1-1-1	208 g	10	pc(s)	116
101 110	138704	1-1-1	305 g	1	pc(s)	116
101 150	019515	1-2-1	2.42 kg	10	pc(s)	65 / 218
102 002	105126	1-1-1	17.02 kg	54	pc(s)	109
102 003	105133	1-1-1	8.52 kg	120	pc(s)	109
102 010	057814	1-1-1	17.62 kg	54	pc(s)	108
102 012	105089	1-1-1	17.6 kg	1	pc(s)	109
102 050	045996	1-1-1	217 g	1	pc(s)	109
102 060	094987	1-1-1	140 g	1	pc(s)	109
102 075	094215	1-1-1	8.46 kg	120	pc(s)	109
102 340	105119	1-1-1	17.82 kg	54	pc(s)	108
103 013	129818	1-1-2	228 kg	1	pc(s)	111
103 016	129825	1-1-2	230 kg	1	pc(s)	111
103 019	129832	1-1-2	310 kg	1	pc(s)	111
103 022	129849	1-1-2	452 kg	1	pc(s)	111
103 025	129856	1-1-2	550 kg	1	pc(s)	111
103 030	129917	1-1-2	2500 kg	1	pc(s)	112
103 031	129924	1-1-2	4900 kg	1	pc(s)	112
103 040	129894	1-1-2	22.9 kg	1	pc(s)	112
103 041	129900	1-1-2	38 kg	1	pc(s)	112
103 121	112711	1-1-2	33 kg	1	pc(s)	111
103 122	112728	1-1-2	33.2 kg	1	pc(s)	111
103 123	112735	1-1-2	37.6 kg	1	pc(s)	111
103 124	112742	1-1-2	37.6 kg	1	pc(s)	111
103 125	112759	1-1-2	42.2 kg	1	pc(s)	111
103 126	112841	1-1-2	42.4 kg	1	pc(s)	111
103 210	066311	1-1-1	480 g	10	pc(s)	103
103 211	078529	1-1-1	480 g	10	pc(s)	103
103 220	066328	1-1-1	760 g	10	pc(s)	103
103 221	078536	1-1-1	760 g	10	pc(s)	103
103 230	066335	1-1-1	1.02 kg	10	pc(s)	103
103 231	078543	1-1-1	1.02 kg	10	pc(s)	103
103 240	066342	1-1-1	1.3 kg	10	pc(s)	103
103 241	081857	1-1-1	1.3 kg	10	pc(s)	103
103 250	093485	1-1-1	1.52 kg	10	pc(s)	103
103 251	093515	1-1-1	1.52 kg	10	pc(s)	103
103 260	093492	1-1-1	1.85 kg	10	pc(s)	103
103 261	093522	1-1-1	1.73 kg	10	pc(s)	103
103 280	093508	1-1-1	2.4 kg	10	pc(s)	103
103 410	105775	1-1-1	360 g	10	pc(s)	104
103 417	128682	1-1-1	1.2 kg	10	pc(s)	104
103 419	128651	1-1-1	1.1 kg	10	pc(s)	104
103 420	105782	1-1-1	500 g	10	pc(s)	104
103 429	128668	1-1-1	2.1 kg	10	pc(s)	104
103 430	105799	1-1-1	570 g	10	pc(s)	104
103 439	128675	1-1-1	2.05 kg	10	pc(s)	104
103 440	105805	1-1-1	800 g	10	pc(s)	104
103 449	128798	1-1-1	2.57 kg	10	pc(s)	104
103 450	105812	1-1-1	900 g	10	pc(s)	104
103 460	105829	1-1-1	1.1 kg	10	pc(s)	104
103 480	105836	1-1-1	1.3 kg	10	pc(s)	104
104 150	028487	1-1-1	820 g	10	pc(s)	103

Part No.	GTIN*	PG	Weight/SU	PU	SU	Page
104 200	056343	1-1-1	1.08 kg	10	pc(s)	103
104 250	056350	1-1-1	1.4 kg	10	pc(s)	103
104 300	056367	1-1-1	1.68 kg	10	pc(s)	103
104 600	076556	1-1-1	3.32 kg	1	pc(s)	104
104 903	030497	1-2-1	1.6 kg	10	pc(s)	65 / 218
104 905	030503	1-2-1	2.38 kg	10	pc(s)	65 / 218
104 906	082854	1-2-1	3.2 kg	10	pc(s)	65 / 218
105 071	101456	1-1-5	694 g	1	pc(s)	128
105 079	100183	1-1-5	96 g	1	pc(s)	129
105 140	112650	1-1-5	653 g	1	pc(s)	110
105 160	113022	1-1-5	506 g	1	pc(s)	110
105 161	118324	1-1-5	667 g	1	pc(s)	156
105 162	146433	1-1-5	600 g	1	pc(s)	131
105 170	151192	1-1-1	4.17 kg	1	pc(s)	107
105 171	151215	1-1-1	5.6 kg	1	pc(s)	107
105 172	151239	1-1-1	7.2 kg	1	pc(s)	107
105 173	151253	1-1-1	8.6 kg	1	pc(s)	107
105 174	151277	1-1-1	10.14 kg	1	pc(s)	107
105 175	151208	1-1-1	4.4 kg	1	pc(s)	107
105 176	151222	1-1-1	6 kg	1	pc(s)	107
105 177	151246	1-1-1	7.45 kg	1	pc(s)	107
105 178	151260	1-1-1	9 kg	1	pc(s)	107
105 179	151284	1-1-1	10.4 kg	1	pc(s)	107
105 190	152045	1-1-1	9.2 kg	1	pc(s)	107
105 191	152052	1-1-1	12.6 kg	1	pc(s)	107
105 192	152069	1-1-1	16.2 kg	1	pc(s)	107
105 193	152076	1-1-1	19.4 kg	1	pc(s)	107
105 194	152083	1-1-1	22.4 kg	1	pc(s)	107
105 195	152090	1-1-1	10 kg	1	pc(s)	107
105 196	152106	1-1-1	14.3 kg	1	pc(s)	107
105 197	152113	1-1-1	16.8 kg	1	pc(s)	107
105 198	152120	1-1-1	20 kg	1	pc(s)	107
105 199	152137	1-1-1	23.6 kg	1	pc(s)	107
105 200	095908	1-1-1	9.6 kg	1	pc(s)	108
105 201	095915	1-1-1	17.23 kg	1	pc(s)	172
105 240	135116	1-7-3	7.23 kg	1	pc(s)	159
105 245	135383	1-7-3	1.16 kg	1	pc(s)	115
105 246	135390	1-7-3	1.14 kg	1	pc(s)	115
105 275	158047	1-7-1	243 g	1	pc(s)	179
105 279	155824	1-7-1	3.56 kg	1	pc(s)	197
105 290	126046	1-1-1	8.4 kg	1	pc(s)	108
105 291	126053	1-1-1	19 kg	1	pc(s)	108
105 300	098534	1-1-5	5.2 kg	1	pc(s)	129
105 301	098541	1-1-5	7.2 kg	1	pc(s)	129
105 302	100077	1-1-5	10.2 kg	1	pc(s)	129
105 306	106024	1-1-5	5.23 kg	1	pc(s)	129
105 314	157781	1-7-1	10 kg	1	pc(s)	171
105 315	157804	1-7-1	11 kg	1	pc(s)	171
105 316	157798	1-7-1	15.52 kg	1	pc(s)	171
105 317	157811	1-7-1	17 kg	1	pc(s)	171
105 320	152373	1-7-1	10.6 kg	1	pc(s)	191
105 321	152397	1-7-1	12.2 kg	1	pc(s)	191
105 322	152380	1-7-1	15.8 kg	1	pc(s)	191
105 323	152403	1-7-1	16.2 kg	1	pc(s)	191
105 325	157828	1-7-1	5.42 kg	1	pc(s)	171
105 326	157842	1-7-1	5.82 kg	1	pc(s)	171
105 327	157835	1-7-1	8.02 kg	1	pc(s)	171
105 328	157859	1-7-1	8.32 kg	1	pc(s)	171
105 330	152496	1-7-1	5.6 kg	1	pc(s)	171
105 331	152502	1-7-1	6 kg	1	pc(s)	171
105 332	152519	1-7-1	8.2 kg	1	pc(s)	171

Part No.	GTIN*	PG	Weight/SU	PU	SU	Page
105 333	152526	1-7-1	8.5 kg	1	pc(s)	171
105 336	157866	1-7-1	9.9 kg	1	pc(s)	171
105 337	157880	1-7-1	11.64 kg	1	pc(s)	171
105 338	157873	1-7-1	15.13 kg	1	pc(s)	171
105 339	157897	1-7-1	16.86 kg	1	pc(s)	171
105 340	098794	1-1-5	618 g	1	pc(s)	129
105 341	098800	1-1-5	607 g	1	pc(s)	129
105 342	111141	1-1-5	514 g	1	pc(s)	110
105 343	118515	1-1-5	3.6 kg	1	pc(s)	110
105 344	147300	1-1-5	1.52 kg	1	pc(s)	110
105 345	110489	1-1-5	3.6 kg	1	pc(s)	167
105 351	238916	1-1-5	11.5 kg	1	pc(s)	192
105 354	098725	1-1-5	617 g	5	pc(s)	110
105 355	098732	1-1-5	690 g	5	pc(s)	131
105 356	098749	1-1-5	562 g	5	pc(s)	131
105 360	099777	1-1-5	358 g	1	pc(s)	130
105 361	102033	1-1-5	385 g	1	pc(s)	130
105 362	110496	1-1-5	467 g	1	pc(s)	131
105 363	106031	1-1-5	8.87 kg	1	pc(s)	176
105 364	106048	1-1-5	10.85 kg	1	pc(s)	176
105 365	106055	1-1-5	14.63 kg	1	pc(s)	176
105 376	115545	1-1-5	660 g	5	pc(s)	131
105 390	156944	1-7-1	6.3 kg	1	pc(s)	173
105 391	156951	1-7-1	22.9 kg	1	pc(s)	173
105 392	157903	1-7-1	10 kg	1	pc(s)	191
105 393	157927	1-7-1	12 kg	1	pc(s)	192
105 394	157910	1-7-1	15 kg	1	pc(s)	191
105 395	157934	1-7-1	17 kg	1	pc(s)	192
105 396	156487	1-7-1	1.8 kg	1	pc(s)	193
105 397	156494	1-7-1	2.5 kg	1	pc(s)	193
105 398	156500	1-7-1	3 kg	1	pc(s)	193
105 400	094383	1-1-1	13.4 kg	1	pc(s)	105
105 425	127654	1-1-1	3.1 kg	1	pc(s)	104
105 430	127661	1-1-1	3.5 kg	1	pc(s)	104
105 435	127678	1-1-1	3.7 kg	1	pc(s)	104
105 440	099692	1-1-5	7.64 kg	1	pc(s)	128
105 450	094413	1-1-1	13.8 kg	1	pc(s)	105
105 455	099715	1-1-5	11.45 kg	1	pc(s)	128
105 470	100138	1-1-5	14.65 kg	1	pc(s)	128
105 490	156968	1-7-1	7.4 kg	1	pc(s)	193
105 491	156975	1-7-1	30 kg	1	pc(s)	193
105 496	156517	1-7-1	2.4 kg	1	pc(s)	193
105 497	156524	1-7-1	3.4 kg	1	pc(s)	193
105 498	156531	1-7-1	4 kg	1	pc(s)	193
105 500	094420	1-1-1	15 kg	1	pc(s)	105
105 550	094437	1-1-1	15.2 kg	1	pc(s)	105
105 600	094444	1-1-1	29.4 kg	1	pc(s)	105
105 601	142336	1-1-1	6 kg	1	pc(s)	172
105 650	094451	1-1-1	30 kg	1	pc(s)	105
105 700	094468	1-1-1	31.2 kg	1	pc(s)	105
105 750	094475	1-1-1	31.4 kg	1	pc(s)	105
105 800	094338	1-1-1	32.6 kg	1	pc(s)	105
105 850	094482	1-1-1	32.8 kg	1	pc(s)	105
105 900	240766	1-1-1	33.3 kg	1	pc(s)	105
105 912	125711	1-1-1	196 kg	1	pc(s)	106
105 914	125704	1-1-1	206.2 kg	1	pc(s)	106

106 008	099241	1-1-1	352 g	1	pc(s)	116
106 090	100190	1-1-6	470 g	1	pc(s)	121
106 100	092907	1-1-6	545 g	1	pc(s)	121
106 105	100206	1-1-6	658 g	1	pc(s)	121
106 115	100213	1-1-6	488 g	1	pc(s)	121

Part No.	GTIN*	PG	Weight/SU	PU	SU	Page
106 120	092945	1-1-6	552 g	1	pc(s)	121
106 123	100220	1-1-6	686 g	1	pc(s)	121
106 125	099517	1-1-6	1.15 kg	10	pc(s)	122
106 126	093324	1-1-6	82 g	20	pc(s)	122
106 127	093317	1-1-6	228 g	20	pc(s)	122
106 128	123731	1-1-6	131 g	20	pc(s)	122
106 129	123748	1-1-6	135 g	20	pc(s)	122
106 150	092914	1-1-6	340 g	1	pc(s)	122
106 160	092938	1-1-6	287 g	1	pc(s)	121
106 165	100237	1-1-6	242 g	1	pc(s)	123
106 170	097285	1-1-6	310 g	1	pc(s)	123
106 175	100244	1-1-6	448 g	1	pc(s)	123
106 178	100251	1-1-6	261 g	1	pc(s)	123
106 180	097292	1-1-6	326 g	1	pc(s)	123
106 185	100268	1-1-6	465 g	1	pc(s)	123
106 207	127623	1-1-6	493 g	10	pc(s)	126
106 210	127630	1-1-6	625 g	10	pc(s)	126
106 217	128811	1-1-6	280 g	10	pc(s)	126
106 220	128828	1-1-6	410 g	10	pc(s)	126
106 225	100299	1-1-6	684 g	1	pc(s)	121
106 226	098930	1-1-6	722 g	1	pc(s)	121
106 228	100305	1-1-6	878 g	1	pc(s)	121
106 245	100336	1-1-6	561 g	1	pc(s)	121
106 246	098954	1-1-6	608 g	1	pc(s)	121
106 248	100343	1-1-6	762 g	1	pc(s)	121
106 301	096806	1-1-6	50 g	20	pc(s)	123
106 309	129276	1-1-6	100 g	20	pc(s)	123
106 310	096813	1-1-6	100 g	20	pc(s)	123
106 311	096820	1-1-6	150 g	20	pc(s)	123
106 312	098756	1-1-5	327 g	5	pc(s)	132
106 315	096943	1-1-6	98 g	20	pc(s)	123
106 316	096844	1-1-6	244 g	20	pc(s)	123
106 319	124820	1-1-6	271 g	25	pc(s)	125
106 320	149434	1-1-6	48 g	20	pc(s)	124
106 321	096851	1-1-6	121 g	10	pc(s)	124
106 322	097308	1-1-6	146 g	10	pc(s)	124
106 323	097315	1-1-6	110 g	10	pc(s)	124
106 324	099074	1-1-6	48 g	20	pc(s)	125
106 325	096929	1-1-6	222 g	10	pc(s)	125
106 326	096936	1-1-6	337 g	10	pc(s)	125
106 328	099098	1-1-5	547 g	1	pc(s)	132
106 331	100367	1-1-5	715 g	1	pc(s)	132
106 340	096868	1-1-6	104 g	20	pc(s)	125
106 341	096875	1-1-6	104 g	20	pc(s)	125
106 342	096882	1-1-6	104 g	20	pc(s)	125
106 352	096905	1-1-6	375 g	10	pc(s)	124
106 353	096912	1-1-6	466 g	10	pc(s)	124
106 812	104907	1-7-1	435 g	1	pc(s)	149
106 852	119307	1-7-3	229 g	1	pc(s)	149

108 009	133686	1-1-3	288 g	10	pc(s)	117
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110 000	021440	1-1-3	20 g	50	pc(s)	117
110 017	021457	1-1-3	28 g	10	pc(s)	117

123 021	092822	1-1-3	2.2 kg	1	pc(s)	113
123 032	242067	1-1-3	11.5 kg	1	pc(s)	113
123 109	107366	1-1-3	340 g	1	pc(s)	113
123 110	147911	1-1-3	321 g	1	pc(s)	114
123 116	147966	1-1-3	1.11 kg	1	pc(s)	114
123 425	129009	1-1-3	2.82 kg	1	pc(s)	113
123 430	129016	1-1-3	3.22 kg	1	pc(s)	113

Part No.	GTIN*	PG	Weight/SU	PU	SU	Page
123 435	129023	1-1-3	3.42 kg	1	pc(s)	113
145 241	022584	1-1-4	11 kg	1	pc(s)	120
146 309	072398	1-1-4	864 g	1	pc(s)	120
200 027	031258	1-4-4	46 g	10	pc(s)	58
200 029	031265	1-4-4	45 g	10	pc(s)	58
200 039	129283	1-4-4	40 g	10	pc(s)	58
200 057	041530	1-4-4	30 g	25	pc(s)	58
200 059	041547	1-4-4	26 g	25	pc(s)	58
200 067	041554	1-4-4	34 g	25	pc(s)	58
200 069	041561	1-4-4	28 g	25	pc(s)	58
200 077	082335	1-4-4	32 g	50	pc(s)	58
200 079	069138	1-4-4	49 g	50	pc(s)	58
200 087	082342	1-4-4	37 g	50	pc(s)	58
200 089	074729	1-4-4	54 g	50	pc(s)	58
200 600	098220	1-6-1	4 g	50	pc(s)	63
200 601	098237	1-6-1	7 g	50	pc(s)	63
202 000	019881	1-3-2	8 g	50	pc(s)	57
202 001	020474	1-3-2	3 g	50	pc(s)	57
202 005	022041	1-3-1	70 g	50	pc(s)	49
202 008	020191	1-3-1	251 g	50	pc(s)	42
202 010	019874	1-3-1	159 g	50	pc(s)	42
202 015	022089	1-3-1	59 g	50	pc(s)	49
202 017	019904	1-3-1	189 g	50	pc(s)	42
202 020	020764	1-3-1	250 g	25	pc(s)	38
202 021	020788	1-3-1	264 g	25	pc(s)	38
202 027	020771	1-3-1	290 g	25	pc(s)	38
202 030	022362	1-3-1	114 g	50	pc(s)	32
202 037	019942	1-3-1	187 g	50	pc(s)	42
202 040	019935	1-3-1	170 g	50	pc(s)	42
202 050	020214	1-3-1	137 g	25	pc(s)	42
202 060	022263	1-3-1	226 g	50	pc(s)	32
202 080	020276	1-3-1	250 g	50	pc(s)	42
202 169	105737	1-3-2	6 g	100	pc(s)	57
202 227	020795	1-3-1	290 g	25	pc(s)	38
202 829	159822	1-7-1	119 g	1	pc(s)	159
202 857	153189	1-7-1	127 g	25	pc(s)	199
202 900	020801	1-3-1	127 g	25	pc(s)	38
202 901	019928	1-3-1	83 g	50	pc(s)	42
202 902	020467	1-3-1	81 g	50	pc(s)	42
202 906	022102	1-3-1	32 g	50	pc(s)	49
204 001	018990	1-3-2	8 g	100	pc(s)	53
204 002	019195	1-3-2	8 g	50	pc(s)	53
204 003	019034	1-3-2	15 g	100	pc(s)	53
204 004	019003	1-3-2	15 g	50	pc(s)	53
204 006	028371	1-3-2	19 g	50	pc(s)	54
204 007	019188	1-3-2	9 g	50	pc(s)	53
204 017	019058	1-3-2	9 g	100	pc(s)	53
204 027	018969	1-3-2	12 g	100	pc(s)	53
204 029	032286	1-3-1	35 g	50	pc(s)	39
204 037	019331	1-3-2	16 g	50	pc(s)	53
204 039	032293	1-3-1	35 g	50	pc(s)	39
204 049	032309	1-3-1	40 g	50	pc(s)	43
204 059	032316	1-3-1	41 g	50	pc(s)	43
204 069	032675	1-3-1	31 g	50	pc(s)	43
204 079	032668	1-3-1	31 g	50	pc(s)	43
204 089	109568	1-3-1	67 g	50	pc(s)	40
204 107	028104	1-3-1	105 g	25	pc(s)	38

Part No.	GTIN*	PG	Weight/SU	PU	SU	Page
204 109	028098	1-3-1	98 g	25	pc(s)	38
204 120	085749	1-3-2	20 g	50	pc(s)	54
204 127	028142	1-3-1	110 g	25	pc(s)	38
204 129	021433	1-3-1	102 g	25	pc(s)	38
204 147	042513	1-3-1	51 g	50	pc(s)	40
204 149	042285	1-3-1	52 g	50	pc(s)	40
204 157	042520	1-3-1	83 g	50	pc(s)	40
204 159	042537	1-3-1	78 g	50	pc(s)	40
204 169	042551	1-3-1	100 g	50	pc(s)	40
204 170	072435	1-3-1	40 g	50	pc(s)	41
204 171	073708	1-3-1	38 g	50	pc(s)	41
204 177	042568	1-3-1	70 g	50	pc(s)	40
204 179	042575	1-3-1	60 g	50	pc(s)	40
204 187	042582	1-3-1	91 g	50	pc(s)	40
204 189	042599	1-3-1	83 g	50	pc(s)	40
204 197	042605	1-3-1	112 g	50	pc(s)	40
204 199	042278	1-3-1	111 g	50	pc(s)	40
204 229	035300	1-3-1	31 g	50	pc(s)	44
204 239	035317	1-3-1	31 g	50	pc(s)	44
204 247	041806	1-3-1	72 g	25	pc(s)	37
204 249	041790	1-3-1	68 g	25	pc(s)	37
204 267	035805	1-3-1	70 g	25	pc(s)	37
204 269	035812	1-3-1	64 g	25	pc(s)	37
204 359	082779	1-3-1	61 g	50	pc(s)	42
204 449	124837	1-3-1	66 g	25	pc(s)	37
204 469	124851	1-3-1	63 g	25	pc(s)	37
204 906	028456	1-3-1	19 g	50	pc(s)	49
204 911	030640	1-3-1	98 g	25	pc(s)	38
204 913	030664	1-3-1	108 g	25	pc(s)	38
204 916	030565	1-3-1	19 g	50	pc(s)	49
204 921	030589	1-3-1	50 g	50	pc(s)	40
204 924	030619	1-3-1	64 g	50	pc(s)	40
204 925	030626	1-3-1	90 g	50	pc(s)	40
204 935	029958	1-3-1	40 g	50	pc(s)	39
204 936	029927	1-3-1	40 g	50	pc(s)	39
204 937	029941	1-3-1	46 g	50	pc(s)	39
204 938	029989	1-3-1	47 g	50	pc(s)	39
204 949	129290	1-3-1	54 g	50	pc(s)	39
204 957	129269	1-3-1	55 g	50	pc(s)	39
206 049	242982	1-3-1	25 g	50	pc(s)	43
206 105	083189	1-3-1	74 g	50	pc(s)	49
206 109	042810	1-3-1	110 g	25	pc(s)	38
206 170	082816	1-3-1	51 g	50	pc(s)	41
206 171	089488	1-3-1	51 g	50	pc(s)	41
206 207	054257	1-3-1	65 g	50	pc(s)	41
206 209	042759	1-3-1	59 g	50	pc(s)	41
206 217	052208	1-3-1	93 g	50	pc(s)	41
206 219	042766	1-3-1	83 g	50	pc(s)	41
206 227	054264	1-3-1	117 g	50	pc(s)	41
206 229	042773	1-3-1	114 g	50	pc(s)	41
206 237	077300	1-3-1	81 g	25	pc(s)	37
206 239	042650	1-3-1	74 g	25	pc(s)	37
206 247	078574	1-3-1	92 g	25	pc(s)	37
206 249	042803	1-3-1	80 g	25	pc(s)	37
206 289	149427	1-3-1	76 g	50	pc(s)	41
206 309	042780	1-3-1	60 g	50	pc(s)	41
206 319	042667	1-3-1	87 g	50	pc(s)	41
206 329	042797	1-3-1	110 g	50	pc(s)	41
206 339	047730	1-3-1	27 g	50	pc(s)	49
206 349	047716	1-3-1	48 g	50	pc(s)	44
206 359	047723	1-3-1	65 g	50	pc(s)	42

Part No.	GTIN*	PG	Weight/SU	PU	SU	Page
206 369	086494	1-3-1	50 g	50	pc(s)	44
206 389	109544	1-3-1	62 g	50	pc(s)	43
206 399	109551	1-3-1	63 g	50	pc(s)	43
206 439	124875	1-3-1	72 g	25	pc(s)	37
206 449	124899	1-3-1	78 g	25	pc(s)	37
206 807	046306	1-3-1	107 g	25	pc(s)	38
206 809	077485	1-3-1	114 g	25	pc(s)	38
206 817	078581	1-3-1	122 g	25	pc(s)	38
206 819	077362	1-3-1	115 g	25	pc(s)	38
207 007	054899	1-3-2	16 g	50	pc(s)	53
207 009	054882	1-3-2	16 g	50	pc(s)	53
207 017	054905	1-3-2	16 g	50	pc(s)	53
207 019	054912	1-3-2	20 g	50	pc(s)	53
207 027	042728	1-3-2	26 g	50	pc(s)	53
207 029	042711	1-3-2	24 g	50	pc(s)	53
207 037	042742	1-3-2	26 g	50	pc(s)	53
207 039	042735	1-3-2	24 g	50	pc(s)	53
207 109	085800	1-3-2	27 g	50	pc(s)	53
216 000	020054	1-3-1	74 g	25	pc(s)	39
223 005	099937	1-3-3	481 g	1	pc(s)	116
223 006	148185	1-3-3	1.02 kg	1	pc(s)	115
223 010	092778	1-3-1	184 g	50	pc(s)	47
223 011	092785	1-3-1	167 g	50	pc(s)	47
223 020	092792	1-3-1	121 g	50	pc(s)	48
223 021	092808	1-3-1	103 g	50	pc(s)	48
223 031	092815	1-3-1	117 g	50	pc(s)	47
223 040	096752	1-3-1	100 g	50	pc(s)	47
223 041	096769	1-3-1	96 g	50	pc(s)	47
223 070	108738	1-3-1	103 g	50	pc(s)	47
239 000	022621	1-1-4	4.7 kg	1	pc(s)	120
239 001	022638	1-1-4	5.17 kg	1	pc(s)	120
239 009	072350	1-1-4	4.04 kg	1	pc(s)	120
239 019	093560	1-1-4	5.2 kg	1	pc(s)	120
240 000	022614	1-1-4	1.5 kg	1	pc(s)	120
241 009	072985	1-1-4	440 g	20	pc(s)	120
250 000	023871	1-3-2	30 g	50	pc(s)	54
250 001	023888	1-3-2	29 g	50	pc(s)	54
250 007	023895	1-3-2	29 g	50	pc(s)	54
251 002	095779	1-4-2	135 g	50	pc(s)	50
251 027	096394	1-4-2	148 g	50	pc(s)	50
252 000	023963	1-3-3	45 g	50	pc(s)	71
253 015	022201	1-3-1	1.05 kg	10	pc(s)	31
253 021	022256	1-3-1	6 g	50	pc(s)	32
253 023	022249	1-3-1	8 g	50	pc(s)	31
253 025	053984	1-3-1	6 g	50	pc(s)	32
253 026	100169	1-7-1	8 g	50	pc(s)	177
253 027	110427	1-7-1	8 g	50	pc(s)	177
253 030	054271	1-3-1	58 g	100	pc(s)	31
253 050	079687	1-3-1	1.04 kg	10	pc(s)	31
253 051	079823	1-3-1	38 g	100	pc(s)	31
253 060	081628	1-3-1	1.04 kg	10	pc(s)	31
253 115	129870	1-3-1	4.82 kg	24	pc(s)	127

Part No.	GTIN*	PG	Weight/SU	PU	SU	Page
253 125	129887	1-3-1	4.84 kg	24	pc(s)	127
253 229	159846	1-7-1	4.89 kg	1	pc(s)	148
253 239	159853	1-7-1	8.7 kg	1	pc(s)	149
253 279	159877	1-7-1	178 g	25	pc(s)	149
253 289	159860	1-7-1	89 g	24	pc(s)	148
253 300	129771	1-3-1	165 g	24	pc(s)	127
253 301	129788	1-3-1	4.6 kg	24	pc(s)	127
253 302	129764	1-3-1	9 g	24	pc(s)	127
253 310	129795	1-3-1	470 g	10	pc(s)	127
253 315	129801	1-3-1	54 g	24	pc(s)	127
253 325	129863	1-3-1	75 g	24	pc(s)	127
253 330	153585	1-7-1	97 g	24	pc(s)	196
253 331	155206	1-7-1	180 g	25	pc(s)	197
253 333	153578	1-7-1	4.74 kg	24	pc(s)	196
253 334	154933	1-7-1	8.59 kg	1	pc(s)	196
260 106	023512	1-3-3	112 g	50	pc(s)	70
260 108	023413	1-3-2	96 g	50	pc(s)	56
260 118	023796	1-3-2	52 g	50	pc(s)	58
260 158	023420	1-3-2	117 g	50	pc(s)	56
260 187	023475	1-3-2	101 g	50	pc(s)	56
260 708	023406	1-3-2	80 g	50	pc(s)	56
262 070	023628	1-3-2	88 g	50	pc(s)	56
262 100	023635	1-3-2	97 g	50	pc(s)	56
273 019	031487	1-3-2	22 g	50	pc(s)	57
273 731	096691	1-3-3	146 g	50	pc(s)	70
273 740	096714	1-3-2	111 g	50	pc(s)	57
273 741	096721	1-3-2	123 g	50	pc(s)	57
273 742	096738	1-3-2	150 g	50	pc(s)	57
274 030	130340	1-3-2	34 g	50	pc(s)	61
274 110	123434	1-3-2	30 g	50	pc(s)	54
274 113	123403	1-3-2	36 g	50	pc(s)	55
274 116	123410	1-3-3	37 g	50	pc(s)	69
274 117	128194	1-3-2	30 g	50	pc(s)	54
274 150	128187	1-3-2	33 g	50	pc(s)	54
274 160	123380	1-3-2	40 g	50	pc(s)	55
274 167	128200	1-3-2	41 g	50	pc(s)	55
274 230	130456	1-3-2	45 g	50	pc(s)	61
274 260	123489	1-3-3	48 g	50	pc(s)	69
275 019	031494	1-3-3	31 g	50	pc(s)	71
275 030	095847	1-3-2	87 g	50	pc(s)	62
275 110	095793	1-3-2	65 g	50	pc(s)	55
275 113	095816	1-3-2	82 g	50	pc(s)	56
275 116	095823	1-3-3	96 g	50	pc(s)	70
275 129	106758	1-7-1	21 g	10	pc(s)	206
275 160	095809	1-3-2	76 g	50	pc(s)	55
275 220	103450	1-7-1	17 g	25	pc(s)	206
275 225	103467	1-7-1	17 g	25	pc(s)	181
275 229	102040	1-7-1	59 g	50	pc(s)	206
275 230	095854	1-3-2	94 g	50	pc(s)	62
275 240	152335	1-7-1	53 g	25	pc(s)	198
275 241	152342	1-7-1	53 g	25	pc(s)	198
275 242	152359	1-7-1	52 g	25	pc(s)	198
275 249	152366	1-7-1	56 g	25	pc(s)	198
275 250	155602	1-7-1	46 g	25	pc(s)	150
275 251	155619	1-7-1	46 g	25	pc(s)	150
275 252	155626	1-7-1	46 g	25	pc(s)	150
275 259	155633	1-7-1	49 g	25	pc(s)	150

Part No.	GTIN*	PG	Weight/SU	PU	SU	Page
275 260	095830	1-3-3	100 g	50	pc(s)	70
275 319	229952	1-7-1	168 g	10	pc(s)	180
275 320	099876	1-7-1	291 g	1	pc(s)	180
275 330	105065	1-7-1	218 g	1	pc(s)	179
275 333	105072	1-7-1	220 g	1	pc(s)	179
275 339	223332	1-7-1	247 g	1	pc(s)	198
275 359	223271	1-7-1	131 g	1	pc(s)	198
275 440	146914	1-7-1	170 g	10	pc(s)	181
275 441	146921	1-7-1	258 g	10	pc(s)	182
275 442	146938	1-7-1	261 g	10	pc(s)	182
275 498	146945	1-7-1	320 g	10	pc(s)	182
275 711	124233	1-3-2	37 g	50	pc(s)	60
275 716	124226	1-3-3	40 g	50	pc(s)	60
275 730	124219	1-3-2	42 g	50	pc(s)	60
276 006	023291	1-3-2	2 g	100	pc(s)	56
276 007	028166	1-3-2	2 g	100	pc(s)	56
276 009	083318	1-3-2	8 g	100	pc(s)	56
276 016	123373	1-3-2	3 g	100	pc(s)	56
276 017	126596	1-3-2	3 g	100	pc(s)	56
276 056	104983	1-6-1	2 g	100	pc(s)	27
276 057	104990	1-6-1	2 g	100	pc(s)	27
277 130	022669	1-3-2	28 g	50	pc(s)	260
277 230	110984	1-5-4	120 g	25	pc(s)	62 / 260
277 237	110991	1-5-4	126 g	25	pc(s)	62 / 260
277 239	111004	1-5-4	117 g	25	pc(s)	62 / 260
277 240	022577	1-5-4	167 g	25	pc(s)	62 / 260
284 030	022485	1-3-2	54 g	100	pc(s)	61
284 040	022492	1-3-2	65 g	100	pc(s)	61
286 030	022508	1-3-2	60 g	50	pc(s)	61
286 139	035393	1-3-2	45 g	50	pc(s)	61
286 819	085824	1-3-2	70 g	50	pc(s)	55
290 001	027909	3-1-1	326 g	25	pc(s)	230
290 002	027893	3-1-1	89 g	50	pc(s)	230
297 015	023383	1-3-1	131 g	25	pc(s)	32
297 025	023390	1-3-1	5 g	100	pc(s)	32
297 110	100886	1-3-1	32 g	50	pc(s)	48
297 120	100916	1-3-1	43 g	50	pc(s)	48
297 199	107526	1-9-2	864 g	1	liter	48
300 002	024052	1-4-2	115 g	25	pc(s)	85
300 017	024069	1-4-2	154 g	25	pc(s)	85
301 000	067035	1-4-2	61 g	100	pc(s)	85
301 007	021358	1-4-2	75 g	100	pc(s)	85
301 009	081284	1-4-2	61 g	100	pc(s)	85
301 010	067028	1-4-2	61 g	100	pc(s)	85 / 263
301 017	053502	1-4-2	79 g	100	pc(s)	85 / 263
301 019	081277	1-4-2	63 g	100	pc(s)	85
301 209	158252	1-4-2	59 g	1	pc(s)	88 / 262
301 229	101562	1-7-1	167 g	1	pc(s)	86 / 263
302 010	134904	1-4-1	137 g	50	pc(s)	86
305 000	041936	1-4-1	146 g	50	pc(s)	87
305 007	052307	1-4-1	151 g	50	pc(s)	87

Part No.	GTIN*	PG	Weight/SU	PU	SU	Page
306 020	096264	1-4-1	145 g	50	pc(s)	87
306 029	129467	1-4-1	120 g	50	pc(s)	87
306 100	024113	1-4-1	238 g	25	pc(s)	87
306 101	024120	1-4-1	412 g	25	pc(s)	87
307 000	024151	1-4-1	105 g	50	pc(s)	87
307 007	024168	1-4-1	104 g	50	pc(s)	87
308 001	027947	3-1-1	216 g	25	pc(s)	229
308 025	035881	3-1-1	100 g	50	pc(s)	137 / 227
308 026	035874	3-1-1	107 g	25	pc(s)	137 / 227
308 030	030749	3-1-1	125 g	25	pc(s)	137 / 227
308 031	136571	3-1-1	230 g	25	pc(s)	139 / 229
308 032	152823	3-1-1	169 g	25	pc(s)	139 / 229
308 035	123472	3-1-1	165 g	25	pc(s)	134 / 222
308 036	136588	3-1-1	266 g	25	pc(s)	139 / 229
308 037	154704	3-1-1	208 g	25	pc(s)	139 / 229
308 040	055902	3-1-1	450 g	20	pc(s)	84 / 228
308 041	056411	3-1-1	471 g	20	pc(s)	84 / 228
308 045	124455	3-1-1	262 g	25	pc(s)	138 / 228
308 046	124462	3-1-1	288 g	25	pc(s)	134 / 223
308 060	066281	3-1-1	138 g	50	pc(s)	93
308 070	066298	3-1-1	197 g	50	pc(s)	93
308 120	099258	3-1-1	134 g	25	pc(s)	138 / 228
308 129	099265	3-1-1	131 g	25	pc(s)	138 / 228
308 150	106970	3-1-1	682 g	1	pc(s)	230
308 220	084216	3-1-1	250 g	25	pc(s)	92
308 229	083745	3-1-1	190 g	25	pc(s)	92
308 230	090859	3-1-1	241 g	25	pc(s)	92
308 239	090866	3-1-1	197 g	25	pc(s)	92
308 249	129313	3-1-1	200 g	25	pc(s)	92
308 320	028531	3-1-1	266 g	25	pc(s)	92
308 329	081338	3-1-1	220 g	25	pc(s)	92
308 330	096660	3-1-1	266 g	25	pc(s)	92
309 008	024229	1-4-1	140 g	50	pc(s)	86
309 087	024243	1-4-1	99 g	50	pc(s)	86
310 008	024328	1-4-1	124 g	50	pc(s)	86
314 300	096400	1-4-1	120 g	50	pc(s)	89
314 307	096417	1-4-1	132 g	50	pc(s)	89
314 310	042841	1-4-1	175 g	50	pc(s)	89
315 119	134072	1-4-1	90 g	50	pc(s)	86
316 163	024502	1-4-1	191 g	25	pc(s)	89
316 167	035386	1-4-1	209 g	25	pc(s)	89
318 033	021471	3-1-1	236 g	25	pc(s)	91
318 201	021464	3-1-1	234 g	25	pc(s)	90
318 203	159914	3-1-1	329 g	25	pc(s)	91
318 205	159921	3-1-1	242 g	25	pc(s)	92
318 207	021488	3-1-1	253 g	25	pc(s)	90
318 209	035973	3-1-1	245 g	25	pc(s)	90
318 219	129320	3-1-1	235 g	25	pc(s)	91
318 229	159938	3-1-1	323 g	25	pc(s)	91
318 233	096646	3-1-1	225 g	25	pc(s)	91
318 239	159945	3-1-1	240 g	25	pc(s)	92
318 251	046559	3-1-1	241 g	25	pc(s)	91
318 252	048454	3-1-1	251 g	25	pc(s)	91

Part No.	GTIN*	PG	Weight/SU	PU	SU	Page
319 201	024519	3-1-1	320 g	25	pc(s)	90
319 202	024526	3-1-1	333 g	25	pc(s)	90
319 207	020047	3-1-1	349 g	25	pc(s)	90
319 209	035980	3-1-1	313 g	25	pc(s)	90
319 219	069916	3-1-1	319 g	25	pc(s)	90
319 229	108752	3-1-1	409 g	25	pc(s)	90
320 044	021501	3-1-1	301 g	25	pc(s)	91
321 045	021518	3-1-1	413 g	25	pc(s)	90
321 047	021525	3-1-1	453 g	25	pc(s)	90
338 000	024847	1-4-2	171 g	25	pc(s)	45
338 001	054172	1-4-2	69 g	25	pc(s)	45
338 007	024854	1-4-2	190 g	25	pc(s)	45
338 009	057982	1-4-2	136 g	25	pc(s)	45
339 010	024823	1-4-2	195 g	25	pc(s)	45
339 050	096257	1-4-2	138 g	25	pc(s)	45
339 051	127388	1-4-2	95 g	25	pc(s)	45
339 057	096332	1-4-2	150 g	25	pc(s)	45
339 059	096301	1-4-2	132 g	25	pc(s)	45
339 060	046870	1-4-2	133 g	25	pc(s)	45
339 061	127395	1-4-2	83 g	25	pc(s)	45
339 067	046887	1-4-2	136 g	25	pc(s)	45
339 069	079960	1-4-2	122 g	25	pc(s)	45
339 100	092068	1-4-2	180 g	25	pc(s)	44
339 101	092082	1-4-2	84 g	25	pc(s)	44
339 110	092105	1-4-2	176 g	25	pc(s)	44
339 111	092129	1-4-2	92 g	25	pc(s)	44
339 157	096325	1-4-2	142 g	25	pc(s)	45
339 167	034426	1-4-2	140 g	25	pc(s)	45
343 000	024861	1-4-2	167 g	25	pc(s)	46
343 007	024878	1-4-2	180 g	25	pc(s)	46
345 008	025073	1-4-2	27 g	100	pc(s)	98
345 010	025080	1-4-2	25 g	100	pc(s)	98
347 205	136601	1-4-2	25 g	100	pc(s)	98
363 000	045750	1-4-2	66 g	50	pc(s)	136 / 223
363 010	045743	1-4-2	124 g	50	pc(s)	136 / 223
365 000	024731	1-4-2	109 g	50	pc(s)	50
365 007	024748	1-4-2	131 g	50	pc(s)	50
365 010	096318	1-4-2	107 g	50	pc(s)	50
365 017	096349	1-4-2	105 g	50	pc(s)	50
365 019	096295	1-4-2	83 g	50	pc(s)	50
365 020	035126	1-4-2	120 g	50	pc(s)	50
365 027	035133	1-4-2	146 g	50	pc(s)	50
365 030	046894	1-4-2	100 g	50	pc(s)	50
365 031	055438	1-4-2	49 g	50	pc(s)	50
365 037	046900	1-4-2	103 g	50	pc(s)	50
365 039	057777	1-4-2	89 g	50	pc(s)	50
365 040	069053	1-4-2	124 g	50	pc(s)	50
365 047	069046	1-4-2	139 g	50	pc(s)	50
365 050	091825	1-4-2	155 g	50	pc(s)	51
365 051	091832	1-4-2	75 g	50	pc(s)	51
365 057	091849	1-4-2	165 g	50	pc(s)	51
365 059	091856	1-4-2	134 g	50	pc(s)	47
365 117	035331	1-4-2	115 g	50	pc(s)	51

Part No.	GTIN*	PG	Weight/SU	PU	SU	Page
365 127	080317	1-4-2	104 g	50	pc(s)	51
365 220	096103	1-4-2	171 g	50	pc(s)	51
365 221	092396	1-4-2	91 g	50	pc(s)	51
365 227	096127	1-4-2	197 g	50	pc(s)	51
365 229	096110	1-4-2	161 g	50	pc(s)	51
365 250	148307	1-4-2	83 g	50	pc(s)	51
365 419	128927	1-4-3	458 g	5	pc(s)	36
365 509	141773	1-4-3	335 g	1	pc(s)	36
365 519	130869	1-4-3	333 g	1	pc(s)	36
370 014	096387	1-4-2	188 g	25	pc(s)	93
370 018	024724	1-4-2	290 g	25	pc(s)	93
371 007	024663	1-4-2	231 g	20	pc(s)	93
371 008	024670	1-4-2	148 g	50	pc(s)	93
371 009	024656	1-4-2	218 g	20	pc(s)	93
372 018	104624	1-4-2	158 g	25	pc(s)	94
372 019	104631	1-4-2	154 g	25	pc(s)	94
372 035	104648	1-4-2	177 g	25	pc(s)	94
372 110	119055	1-4-2	283 g	25	pc(s)	94
372 119	119178	1-4-2	277 g	25	pc(s)	94
372 120	119062	1-4-2	288 g	25	pc(s)	94
372 129	119185	1-4-2	283 g	25	pc(s)	94
372 140	119086	1-4-2	336 g	25	pc(s)	94
372 149	119208	1-4-2	327 g	25	pc(s)	94
372 150	119093	1-4-2	339 g	25	pc(s)	94
372 159	119215	1-4-2	333 g	25	pc(s)	94
372 210	119116	1-4-2	284 g	25	pc(s)	94
372 219	119239	1-4-2	278 g	25	pc(s)	94
372 220	119123	1-4-2	288 g	25	pc(s)	94
372 229	119246	1-4-2	283 g	25	pc(s)	94
372 240	119147	1-4-2	335 g	25	pc(s)	94
372 249	119260	1-4-2	326 g	25	pc(s)	94
372 250	119154	1-4-2	338 g	25	pc(s)	94
372 259	119277	1-4-2	331 g	25	pc(s)	94
374 011	030701	1-4-3	80 g	25	pc(s)	33
374 020	030725	1-4-3	37 g	50	pc(s)	33
377 005	024908	1-4-2	22 g	50	pc(s)	52
377 006	024922	1-4-3	37 g	50	pc(s)	34
377 007	092686	1-4-3	107 g	10	pc(s)	34
377 009	119284	1-4-2	52 g	50	pc(s)	52
377 015	092693	1-4-3	36 g	10	pc(s)	34
377 016	083417	1-4-3	36 g	50	pc(s)	34
377 017	024915	1-4-2	49 g	50	pc(s)	52
377 026	068582	1-4-3	45 g	50	pc(s)	34
377 027	034204	1-4-3	112 g	50	pc(s)	34
377 045	099296	1-4-3	36 g	100	pc(s)	35
377 100	078604	1-4-2	74 g	50	pc(s)	52
377 107	092709	1-4-3	172 g	10	pc(s)	35
377 115	092716	1-4-3	59 g	10	pc(s)	35
377 200	136465	1-4-2	70 g	50	pc(s)	52
377 210	083028	1-4-3	50 g	10	pc(s)	35
377 310	033382	1-4-3	72 g	10	pc(s)	35
377 410	083035	1-4-3	90 g	10	pc(s)	35
377 510	033399	1-4-3	110 g	10	pc(s)	35
380 020	066373	1-4-1	86 g	50	pc(s)	74
380 029	066359	1-4-1	70 g	50	pc(s)	74
380 110	133273	1-4-1	100 g	50	pc(s)	100

Part No.	GTIN*	PG	Weight/SU	PU	SU	Page
380 116	133280	1-4-1	100 g	50	pc(s)	100
380 129	150416	1-4-2	100 g	50	pc(s)	99
380 209	158269	1-4-2	102 g	1	pc(s)	88 / 262
385 202	068131	1-4-1	69 g	50	pc(s)	88
385 203	035669	1-4-1	64 g	50	pc(s)	88
385 207	049093	1-4-1	64 g	50	pc(s)	89
385 213	090873	1-4-1	38 g	50	pc(s)	89
385 216	100565	1-4-1	133 g	10	pc(s)	89
390 050	095991	1-4-1	99 g	50	pc(s)	83
390 051	096219	1-4-1	55 g	50	pc(s)	83
390 057	096073	1-4-1	118 g	50	pc(s)	83
390 059	096004	1-4-1	92 g	50	pc(s)	83
390 060	096011	1-4-1	108 g	50	pc(s)	83
390 061	096196	1-4-1	67 g	50	pc(s)	83
390 063	159396	1-4-1	103 g	50	pc(s)	83
390 067	096080	1-4-1	122 g	50	pc(s)	83
390 079	128996	1-4-1	96 g	50	pc(s)	83
390 110	104921	1-4-2	18 g	100	pc(s)	57
390 119	104945	1-4-2	18 g	100	pc(s)	57
390 150	032187	1-4-2	53 g	100	pc(s)	85
390 157	032194	1-4-2	53 g	100	pc(s)	85
390 159	032200	1-4-2	61 g	100	pc(s)	85
390 209	158245	1-4-1	97 g	1	pc(s)	88 / 263
390 250	031791	1-4-1	74 g	50	pc(s)	84
390 257	031807	1-4-1	78 g	50	pc(s)	84
390 259	031814	1-4-1	71 g	50	pc(s)	84
390 267	034402	1-4-1	79 g	50	pc(s)	84
390 479	035324	1-4-2	74 g	50	pc(s)	136 / 223
390 499	127517	1-4-2	57 g	50	pc(s)	136 / 223
390 550	096042	1-4-1	101 g	50	pc(s)	83
390 551	096202	1-4-1	58 g	50	pc(s)	83
390 557	096097	1-4-1	118 g	50	pc(s)	83
390 559	096035	1-4-1	98 g	50	pc(s)	83
390 657	096165	1-4-1	100 g	50	pc(s)	84
391 050	087064	1-4-1	101 g	50	pc(s)	83
391 059	087071	1-4-1	98 g	50	pc(s)	83
391 060	088009	1-4-1	113 g	50	pc(s)	83
391 069	087095	1-4-1	106 g	50	pc(s)	83
391 550	088016	1-4-1	105 g	50	pc(s)	83
391 559	087088	1-4-1	100 g	50	pc(s)	83
392 050	096066	1-4-1	121 g	50	pc(s)	84
392 059	096059	1-4-1	119 g	50	pc(s)	84
392 060	096141	1-4-1	130 g	50	pc(s)	84
392 069	096158	1-4-1	126 g	50	pc(s)	84
392 209	158238	1-4-1	28 g	1	pc(s)	88 / 263
393 069	094079	1-4-1	150 g	50	pc(s)	125
405 020	098459	1-7-1	81 g	25	pc(s)	179
407 012	026100	1-5-2	432 g	10	pc(s)	257
407 034	026117	1-5-2	443 g	10	pc(s)	257
407 100	026124	1-5-2	457 g	10	pc(s)	257
407 112	026148	1-5-2	502 g	10	pc(s)	257
407 114	026131	1-5-2	480 g	10	pc(s)	257
407 200	026162	1-5-2	556 g	10	pc(s)	257
410 003	028722	3-7-1	105 g	1	pc(s)	239

Part No.	GTIN*	PG	Weight/SU	PU	SU	Page
410 005	028715	3-7-1	120 g	1	pc(s)	239
410 006	028708	3-7-1	140 g	1	pc(s)	239
410 010	028692	3-7-1	190 g	1	pc(s)	239
410 012	026186	1-5-2	234 g	25	pc(s)	258
410 015	028685	3-7-1	248 g	1	pc(s)	239
410 020	028678	3-7-1	300 g	1	pc(s)	239
410 025	028661	3-7-1	370 g	1	pc(s)	239
410 030	028654	3-7-1	438 g	1	pc(s)	239
410 034	026247	1-5-2	231 g	25	pc(s)	258
410 035	028647	3-7-1	490 g	1	pc(s)	239
410 038	026223	1-5-2	211 g	25	pc(s)	258
410 040	028630	3-7-1	550 g	1	pc(s)	239
410 050	028623	3-7-1	680 g	1	pc(s)	239
410 060	028616	3-7-1	800 g	1	pc(s)	239
410 070	028609	3-7-1	920 g	1	pc(s)	239
410 099	028593	3-7-1	1.27 kg	1	pc(s)	239
410 100	026254	1-5-2	246 g	25	pc(s)	258
410 112	026278	1-5-2	296 g	25	pc(s)	258
410 114	026261	1-5-2	276 g	25	pc(s)	258
410 134	026285	1-5-2	312 g	25	pc(s)	258
410 140	028586	3-7-1	1.78 kg	1	pc(s)	239
410 150	028579	3-7-1	1.87 kg	1	pc(s)	239
410 199	028562	3-7-1	2.48 kg	1	pc(s)	239
410 200	026292	1-5-2	324 g	25	pc(s)	258
410 212	026308	1-5-2	402 g	20	pc(s)	101 / 258
410 219	118829	1-7-2	74 g	1	pc(s)	146
410 229	107731	1-7-1	72 g	1	pc(s)	170
410 239	152465	1-7-1	80 g	1	pc(s)	191
410 299	028555	3-7-1	3.66 kg	1	pc(s)	239
410 300	026315	1-5-2	416 g	15	pc(s)	101 / 258
410 309	081451	1-5-2	180 g	25	pc(s)	258
410 319	081505	1-5-2	188 g	25	pc(s)	258
410 329	081512	1-5-2	192 g	25	pc(s)	258
410 339	081550	1-5-2	206 g	25	pc(s)	258
410 349	081604	1-5-2	232 g	25	pc(s)	258
410 359	081468	1-5-2	248 g	25	pc(s)	258
410 369	081529	1-5-2	260 g	25	pc(s)	258
410 379	081475	1-5-2	272 g	25	pc(s)	258
410 389	081482	1-5-2	315 g	20	pc(s)	258
410 399	081499	1-5-2	360 g	15	pc(s)	258
410 401	029200	3-7-1	90 g	1	pc(s)	242
410 403	029194	3-7-1	109 g	1	pc(s)	242
410 404	029187	3-7-1	122 g	1	pc(s)	242
410 405	029262	3-7-1	140 g	1	pc(s)	242
410 406	029163	3-7-1	147 g	1	pc(s)	242
410 407	029255	3-7-1	145 g	1	pc(s)	242
410 410	029248	3-7-1	200 g	1	pc(s)	242
410 411	029156	3-7-1	197 g	1	pc(s)	242
410 413	029279	3-7-1	110 g	1	pc(s)	242
410 415	029149	3-7-1	261 g	1	pc(s)	242
410 416	029231	3-7-1	250 g	1	pc(s)	242
410 420	029132	3-7-1	320 g	1	pc(s)	242
410 421	029224	3-7-1	320 g	1	pc(s)	242
410 425	029125	3-7-1	385 g	1	pc(s)	242
410 426	029217	3-7-1	370 g	1	pc(s)	242
410 430	029118	3-7-1	445 g	1	pc(s)	242
410 431	029590	3-7-1	430 g	1	pc(s)	242
410 450	029170	3-7-1	135 g	1	pc(s)	242
410 503	029408	3-7-1	100 g	1	pc(s)	241
410 506	029415	3-7-1	116 g	1	pc(s)	241
410 510	029422	3-7-1	185 g	1	pc(s)	241
410 515	029439	3-7-1	250 g	1	pc(s)	241

Part No.	GTIN*	PG	Weight/SU	PU	SU	Page
410 520	029446	3-7-1	300 g	1	pc(s)	241
410 525	029453	3-7-1	365 g	1	pc(s)	241
410 530	029460	3-7-1	425 g	1	pc(s)	241
410 603	029330	3-7-1	100 g	1	pc(s)	239
410 605	029347	3-7-1	120 g	1	pc(s)	239
410 606	029491	3-7-1	114 g	1	pc(s)	244
410 610	029354	3-7-1	185 g	1	pc(s)	239
410 615	029361	3-7-1	240 g	1	pc(s)	239
410 620	029378	3-7-1	305 g	1	pc(s)	239
410 625	029385	3-7-1	365 g	1	pc(s)	239
410 630	029392	3-7-1	430 g	1	pc(s)	239
410 720	032415	3-7-1	292 g	1	pc(s)	244
410 903	029033	3-7-1	110 g	1	pc(s)	243
410 905	029040	3-7-1	140 g	1	pc(s)	243
410 906	029057	3-7-1	140 g	1	pc(s)	243
410 910	029064	3-7-1	200 g	1	pc(s)	243
410 915	029071	3-7-1	260 g	1	pc(s)	243
410 920	029088	3-7-1	320 g	1	pc(s)	243
410 925	029095	3-7-1	380 g	1	pc(s)	243
410 930	029101	3-7-1	440 g	1	pc(s)	243

416 003	028937	3-7-1	126 g	1	pc(s)	240
416 005	028920	3-7-1	165 g	1	pc(s)	240
416 006	028913	3-7-1	184 g	1	pc(s)	240
416 010	028906	3-7-1	262 g	1	pc(s)	240
416 015	028890	3-7-1	360 g	1	pc(s)	240
416 016	029484	3-7-1	340 g	1	pc(s)	244
416 020	028883	3-7-1	461 g	1	pc(s)	240
416 025	028876	3-7-1	545 g	1	pc(s)	240
416 030	028869	3-7-1	650 g	1	pc(s)	240
416 035	028852	3-7-1	748 g	1	pc(s)	240
416 040	028845	3-7-1	830 g	1	pc(s)	240
416 050	028838	3-7-1	1.04 kg	1	pc(s)	240
416 060	028821	3-7-1	1.24 kg	1	pc(s)	240
416 070	028814	3-7-1	1.44 kg	1	pc(s)	240
416 080	028807	3-7-1	1.6 kg	1	pc(s)	240
416 100	042933	3-7-1	2.01 kg	1	pc(s)	240
416 120	028791	3-7-1	2.43 kg	1	pc(s)	240
416 140	028784	3-7-1	2.73 kg	1	pc(s)	240
416 150	028777	3-7-1	3.01 kg	1	pc(s)	240
416 200	028760	3-7-1	3.95 kg	1	pc(s)	240
416 220	028753	3-7-1	4.38 kg	1	pc(s)	240
416 280	028746	3-7-1	5.64 kg	1	pc(s)	240
416 300	028739	3-7-1	5.94 kg	1	pc(s)	240
416 403	029286	3-7-1	130 g	1	pc(s)	243
416 410	032422	3-7-1	265 g	1	pc(s)	243
416 411	032545	3-7-1	266 g	1	pc(s)	243
416 415	032439	3-7-1	364 g	1	pc(s)	243
416 416	032453	3-7-1	364 g	1	pc(s)	243
416 420	032446	3-7-1	464 g	1	pc(s)	243
416 421	036116	3-7-1	461 g	1	pc(s)	243
416 425	032460	3-7-1	558 g	1	pc(s)	243
416 426	032477	3-7-1	558 g	1	pc(s)	243
416 430	032484	3-7-1	654 g	1	pc(s)	243
416 431	032491	3-7-1	655 g	1	pc(s)	243
416 440	032507	3-7-1	849 g	1	pc(s)	243
416 441	032514	3-7-1	849 g	1	pc(s)	243
416 450	032521	3-7-1	1.04 kg	1	pc(s)	243
416 451	032538	3-7-1	1.04 kg	1	pc(s)	243
416 505	029477	3-7-1	158 g	1	pc(s)	242
416 516	032408	3-7-1	341 g	1	pc(s)	240
416 903	028944	3-7-1	132 g	1	pc(s)	244

Part No.	GTIN*	PG	Weight/SU	PU	SU	Page
416 905	028951	3-7-1	180 g	1	pc(s)	244
416 906	028968	3-7-1	190 g	1	pc(s)	244
416 910	028975	3-7-1	265 g	1	pc(s)	244
416 915	028982	3-7-1	365 g	1	pc(s)	244
416 920	028999	3-7-1	455 g	1	pc(s)	244
416 925	029002	3-7-1	550 g	1	pc(s)	244
416 930	029019	3-7-1	660 g	1	pc(s)	244
416 970	029026	3-7-1	1.46 kg	1	pc(s)	244

417 005	031982	3-7-1	168 g	1	pc(s)	241
417 010	031975	3-7-1	259 g	1	pc(s)	241
417 015	031968	3-7-1	353 g	1	pc(s)	241
417 020	031951	3-7-1	447 g	1	pc(s)	241
417 030	031944	3-7-1	635 g	1	pc(s)	241
417 050	031937	3-7-1	1.01 kg	1	pc(s)	241
417 100	031920	3-7-1	1.95 kg	1	pc(s)	241
417 115	031913	3-7-1	2.89 kg	1	pc(s)	241
417 120	031906	3-7-1	3.83 kg	1	pc(s)	241
417 125	031890	3-7-1	4.77 kg	1	pc(s)	241
417 130	031883	3-7-1	5.71 kg	1	pc(s)	241
417 150	031876	3-7-1	9.47 kg	1	pc(s)	241

420 100	022805	1-4-4	137 g	50	pc(s)	59 / 259
420 107	045828	1-4-4	158 g	50	pc(s)	59 / 259
420 120	022829	1-4-4	160 g	50	pc(s)	59 / 259
420 127	045804	1-4-4	186 g	50	pc(s)	59 / 259
420 207	045873	1-4-4	215 g	50	pc(s)	59 / 259

423 010	054325	1-4-4	113 g	50	pc(s)	59 / 259
423 011	054332	1-4-4	49 g	50	pc(s)	59 / 259
423 017	054349	1-4-4	119 g	50	pc(s)	59 / 259
423 019	054356	1-4-4	109 g	50	pc(s)	59 / 259
423 020	054288	1-4-4	138 g	50	pc(s)	59 / 259
423 021	054295	1-4-4	61 g	50	pc(s)	59 / 259
423 027	054301	1-4-4	156 g	50	pc(s)	59 / 259
423 029	054318	1-4-4	151 g	50	pc(s)	59 / 259

425 076	022683	1-4-4	208 g	50	pc(s)	101
425 089	022706	1-4-4	231 g	20	pc(s)	101

435 803	029781	3-7-1	468 g	10	pc(s)	246
435 805	029798	3-7-1	317 g	1	pc(s)	246

444 006	029323	3-7-1	29 g	100	pc(s)	245
444 008	029293	3-7-1	36 g	100	pc(s)	245
444 009	029309	3-7-1	36 g	100	pc(s)	245
444 010	029316	3-7-1	34 g	100	pc(s)	245

450 000	025158	1-4-3	122 g	50	pc(s)	74
450 001	090903	1-4-3	63 g	50	pc(s)	74
450 007	025165	1-4-3	133 g	50	pc(s)	74
450 011	025172	1-4-3	135 g	50	pc(s)	74
450 101	094093	1-4-3	44 g	50	pc(s)	74

453 100	025523	1-4-3	333 g	10	pc(s)	78
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454 000	025387	1-4-3	261 g	25	pc(s)	77
454 100	035904	1-4-3	177 g	25	pc(s)	77
454 107	035911	1-4-3	198 g	25	pc(s)	77

455 000	025394	1-4-3	250 g	25	pc(s)	77
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Part No.	GTIN*	PG	Weight/SU	PU	SU	Page
459 000	025189	1-4-3	127 g	50	pc(s)	76
459 003	025202	1-4-3	126 g	50	pc(s)	75
459 010	099838	1-4-3	110 g	50	pc(s)	76
459 019	031272	1-4-3	87 g	50	pc(s)	76
459 020	099845	1-4-3	103 g	50	pc(s)	76
459 029	047587	1-4-3	87 g	50	pc(s)	76
459 030	099852	1-4-3	101 g	50	pc(s)	76
459 039	047594	1-4-3	88 g	50	pc(s)	76
459 119	051379	1-4-3	124 g	50	pc(s)	75
459 127	119291	1-4-3	152 g	50	pc(s)	75
459 129	051386	1-4-3	120 g	50	pc(s)	75
459 139	078628	1-4-3	122 g	50	pc(s)	75
459 159	152830	1-4-3	122 g	50	pc(s)	76
459 200	155527	1-4-3	132 g	1	pc(s)	88 / 262
459 219	158221	1-4-3	126 g	1	pc(s)	88 / 262
460 147	025349	1-4-3	340 g	10	pc(s)	77
460 213	034358	1-4-3	166 g	50	pc(s)	77
460 507	034266	1-4-3	126 g	50	pc(s)	75
460 517	034259	1-4-3	105 g	50	pc(s)	75
460 557	034242	1-4-3	80 g	50	pc(s)	75
463 010	025493	1-4-3	138 g	50	pc(s)	76
465 801	030091	3-7-1	321 g	1	pc(s)	246
466 192	030084	3-7-1	550 g	1	pc(s)	246
466 203	033009	3-7-1	813 g	1	pc(s)	247
472 021	027879	1-5-3	866 g	1	pc(s)	255
472 022	030305	1-5-3	588 g	1	pc(s)	255
472 023	030312	1-5-3	507 g	1	pc(s)	255
472 024	034495	1-5-3	677 g	1	pc(s)	255
472 109	074477	1-5-3	604 g	1	pc(s)	255
472 119	074484	1-5-3	740 g	1	pc(s)	255
472 129	074491	1-5-3	841 g	1	pc(s)	255
472 139	074507	1-5-3	1.1 kg	1	pc(s)	255
472 201	089631	1-6-1	66 g	1	pc(s)	253
472 207	090927	1-5-3	964 g	1	pc(s)	252
472 209	090934	1-5-3	1.01 kg	1	pc(s)	252
472 210	096790	1-6-1	92 g	1	pc(s)	253
472 217	090941	1-5-3	1.35 kg	1	pc(s)	252
472 219	090958	1-5-3	1.41 kg	1	pc(s)	252
472 227	096424	1-5-3	1.14 kg	1	pc(s)	252
472 229	096431	1-5-3	1.18 kg	1	pc(s)	252
472 237	096448	1-5-3	1.53 kg	1	pc(s)	252
472 239	096455	1-5-3	1.59 kg	1	pc(s)	252
472 269	096462	1-5-3	322 g	1	pc(s)	253
472 279	090972	1-5-3	285 g	1	pc(s)	253
472 289	090989	1-5-3	366 g	1	pc(s)	253
472 299	096479	1-5-3	403 g	1	pc(s)	253
472 309	157170	1-5-3	226 g	1	pc(s)	254
472 319	157187	1-5-3	267 g	1	pc(s)	254
472 329	157194	1-5-3	307 g	1	pc(s)	254
472 339	157200	1-5-3	348 g	1	pc(s)	254
472 349	157217	1-5-3	387 g	1	pc(s)	254
476 001	028548	1-4-3	468 g	10	pc(s)	80
476 010	025578	1-4-3	797 g	1	pc(s)	79
476 016	125216	1-4-3	559 g	1	pc(s)	79
476 020	126916	1-4-3	800 g	1	pc(s)	80
476 050	219717	1-4-3	870 g	1	pc(s)	80

Part No.	GTIN*	PG	Weight/SU	PU	SU	Page
476 053	219724	1-4-3	148 g	1	pc(s)	80
476 055	219755	1-4-3	1.02 kg	1	pc(s)	80
476 100	086470	1-4-3	460 g	10	pc(s)	80
478 011	033054	1-5-1	301 g	10	pc(s)	133 / 221
478 012	069183	1-5-1	182 g	10	pc(s)	133 / 221
478 019	072107	1-5-1	299 g	10	pc(s)	133 / 221
478 027	125995	1-5-1	603 g	1	pc(s)	134 / 222
478 041	105157	1-5-1	304 g	10	pc(s)	133 / 221
478 049	105164	1-5-1	303 g	10	pc(s)	133 / 221
478 051	124448	1-5-1	370 g	1	pc(s)	133 / 221
478 099	120334	1-6-1	52 g	20	pc(s)	26 / 219
478 112	118140	1-5-1	276 g	10	pc(s)	134 / 222
478 129	118508	1-5-1	140 g	10	pc(s)	135 / 224
478 141	101425	1-5-1	338 g	10	pc(s)	135 / 224
478 149	154964	1-5-1	391 g	10	pc(s)	135 / 224
478 200	035652	1-5-1	263 g	10	pc(s)	134 / 222
478 410	136335	1-5-1	580 g	1	pc(s)	225
478 430	136342	1-5-1	680 g	1	pc(s)	225
478 450	136359	1-5-1	780 g	1	pc(s)	225
478 530	120341	1-5-1	697 g	1	pc(s)	225
478 540	120358	1-5-1	750 g	1	pc(s)	225
478 550	120365	1-5-1	839 g	1	pc(s)	225
478 598	158016	1-6-1	120 g	10	pc(s)	225
478 599	158023	1-6-1	170 g	10	pc(s)	225
478 699	158054	1-5-1	122 g	10	pc(s)	135 / 224
480 003	035348	1-6-1	24 g	50	pc(s)	81
480 004	035355	1-6-1	26 g	50	pc(s)	81
480 018	076372	1-2-1	1.9 kg	10	pc(s)	65 / 218
480 019	068339	1-2-1	1.82 kg	10	pc(s)	65 / 218
480 020	051638	1-2-1	2.24 kg	10	pc(s)	65 / 218
480 021	051621	1-2-1	3.06 kg	10	pc(s)	65 / 218
480 113	112681	1-6-1	61 g	50	pc(s)	81
480 150	019591	1-2-1	2.58 kg	1	pc(s)	65 / 217
480 157	019577	1-2-1	2.87 kg	1	pc(s)	65 / 217
480 291	149441	1-6-1	9 g	100	pc(s)	81
480 597	144026	1-7-1	80 g	1	pc(s)	181
480 698	144590	1-7-1	128 g	1	pc(s)	119
480 699	107229	1-7-1	12 g	1	pc(s)	82
481 0xx	025608	1-6-1	27 g	1	pc(s)	81
482 0xx	025615	1-6-1	28 g	1	pc(s)	81
483 100	019430	1-1-1	1.6 kg	10	pc(s)	103
483 125	019416	1-1-1	2 kg	10	pc(s)	103
483 150	019492	1-2-1	2.4 kg	10	pc(s)	65 / 218
483 200	019713	1-2-1	3.2 kg	10	pc(s)	65 / 218
528 610	150553	1-6-1	3 g	500	pc(s)	36
528 619	108882	1-6-1	7 g	200	pc(s)	35
528 850	020955	1-6-1	15 g	100	pc(s)	63
528 870	020962	1-6-1	22 g	100	pc(s)	63
538 010	054868	1-3-2	8 g	500	pc(s)	60
538 030	026902	1-3-2	19 g	300	pc(s)	63
540 100	094109	1-5-2	133 g	10	pc(s)	256
540 103	101302	1-5-2	120 g	10	pc(s)	256
540 104	239685	1-5-2	127 g	10	pc(s)	262

Part No.	GTIN*	PG	Weight/SU	PU	SU	Page
540 105	115880	1-5-2	359 g	1	pc(s)	116
540 110	094116	1-5-2	98 g	50	pc(s)	256
540 200	113039	1-5-2	136 g	10	pc(s)	257
540 210	221284	1-5-2	98 g	50	pc(s)	257
540 250	138650	1-4-2	60 g	50	pc(s)	97
540 251	138674	1-4-2	37 g	10	pc(s)	97
540 260	138667	1-4-2	60 g	50	pc(s)	97
540 261	138681	1-4-2	36 g	10	pc(s)	97
540 801	115460	1-5-2	503 g	1	pc(s)	261
540 803	115477	1-5-2	566 g	1	pc(s)	261
540 805	128873	1-5-2	766 g	1	pc(s)	261
540 810	115484	1-5-2	550 g	1	pc(s)	261
540 821	123724	1-5-2	249 g	1	pc(s)	261
540 900	076532	1-5-2	55 g	50	pc(s)	256
540 901	076525	1-5-2	6.28 kg	1	pc(s)	125 / 256
540 910	025684	1-5-2	71 g	10	pc(s)	256
540 911	025691	1-5-2	76 g	10	pc(s)	256
540 912	035362	1-5-2	94 g	10	pc(s)	256
540 920	144194	1-5-2	29 g	10	pc(s)	256
540 930	101319	1-5-2	24 g	25	pc(s)	60
540 931	101296	1-5-2	1.69 kg	1	pc(s)	60

545 000	027367	3-5-3	12 g	100	m	269
545 001	141131	3-5-3	20 g	100	m	269

546 000	019959	3-6-1	465 g	1	pc(s)	259
546 001	019973	3-6-1	470 g	1	pc(s)	259
546 002	004016	3-6-1	177 g	1	pc(s)	259
546 025	004023	3-6-1	178 g	1	pc(s)	259

549 000	025547	1-4-3	6.5 kg	1	pc(s)	78
549 001	025554	1-4-3	6.9 kg	1	pc(s)	78
549 050	128217	1-4-3	1.9 kg	1	pc(s)	78
549 051	128224	1-4-3	1.38 kg	1	pc(s)	78
549 090	128231	1-4-3	3.58 kg	1	pc(s)	79
549 091	128248	1-4-3	3 kg	1	pc(s)	79

552 010	021150	1-1-3	33 g	25	pc(s)	33
552 030	021563	1-1-3	196 g	25	pc(s)	33

554 011	030756	1-6-1	46 g	1	m	272
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556 125	028517	1-6-1	650 g	24	pc(s)	271
556 130	028524	1-6-1	1.28 kg	12	pc(s)	271

559 010	021075	1-6-1	1.08 kg	1	pc(s)	272
559 011	021082	1-6-1	1.07 kg	1	pc(s)	272

562 001	019782	1-6-1	4 g	100	pc(s)	100
562 035	019744	1-6-1	3 g	100	pc(s)	100
562 050	019751	1-6-1	5 g	100	pc(s)	100
562 101	019799	1-6-1	3 g	100	pc(s)	100
562 135	019768	1-6-1	3 g	100	pc(s)	100
562 150	019775	1-6-1	5 g	100	pc(s)	100
562 250	019737	1-6-1	2 g	100	pc(s)	100
562 440	019805	1-6-1	38 g	1	pc(s)	101
562 460	019812	1-6-1	57 g	1	pc(s)	101

563 010	027800	1-5-3	469 g	1	pc(s)	250
563 011	027732	1-5-3	13 g	200	pc(s)	251
563 012	027749	1-5-3	63 g	25	pc(s)	251
563 013	027756	1-5-3	32 g	100	pc(s)	251

Part No.	GTIN*	PG	Weight/SU	PU	SU	Page
563 014	027787	1-5-3	11 g	50	pc(s)	251
563 015	027794	1-5-3	59 g	10	pc(s)	250
563 016	027763	1-5-3	166 g	10	pc(s)	251
563 017	027770	1-5-3	370 g	10	pc(s)	251
563 018	083585	1-5-3	672 g	10	pc(s)	251
563 019	096998	1-5-3	65 g	25	pc(s)	251
563 020	027817	1-5-3	476 g	1	pc(s)	250
563 030	027824	1-5-3	444 g	1	pc(s)	250
563 040	082861	1-5-3	460 g	1	pc(s)	250
563 050	054707	1-5-3	231 g	1	pc(s)	249
563 105	027831	1-5-3	210 g	10	pc(s)	249
563 169	104839	1-5-4	76 g	50	pc(s)	260
563 200	056558	1-5-3	410 g	1	pc(s)	249
563 201	101234	1-5-3	397 g	1	pc(s)	249

572 000	021723	1-6-2	198 g	1	pc(s)	271
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573 000	021617	1-6-1	1 kg	25	kg	232
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578 110	096974	3-5-1	1.2 kg	1	pc(s)	267
578 350	124172	3-5-1	980 g	1	pc(s)	267
578 370	110953	3-5-1	337 g	1	pc(s)	268
578 385	240384	3-5-1	1.32 kg	1	pc(s)	267
578 390	240582	3-5-1	3.88 kg	1	pc(s)	267

582 600	034730	3-5-2	5.88 kg	1	pc(s)	268
582 620	110960	3-5-2	3.77 kg	1	pc(s)	268

585 010	029620	3-5-3	201 g	1	pc(s)	269
585 025	029637	3-5-3	460 g	1	pc(s)	269
585 051	141155	3-5-3	740 g	1	pc(s)	269
585 200	029712	3-5-3	229 g	1	pc(s)	269
585 210	029729	3-5-3	1.34 kg	1	pc(s)	269
585 211	141162	3-5-3	1.32 kg	1	pc(s)	269
585 310	034679	3-5-3	495 g	1	pc(s)	269
585 320	148024	3-5-3	760 g	1	pc(s)	269

587 460	035263	3-5-3	375 g	1	pc(s)	268
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588 000	027404	3-5-3	100 g	1	pc(s)	269
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589 000	027411	3-5-3	292 g	1	pc(s)	269
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595 000	046535	1-6-2	325 g	1	pc(s)	271
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596 000	046528	1-6-2	362 g	1	pc(s)	271
596 600	154308	1-6-2	1.92 kg	1	pc(s)	271

597 003	027725	1-6-2	30.44 kg	1	pc(s)	270
597 004	027701	1-6-2	5.95 kg	1	pc(s)	270
597 005	027718	1-6-2	15.7 kg	1	pc(s)	270
597 006	029606	1-6-2	42.8 kg	1	pc(s)	270
597 020	154957	1-6-2	155 g	1	pc(s)	207
597 032	155008	1-6-2	1.49 kg	1	pc(s)	151
597 102	153127	1-6-2	3 g	1	Set	200
597 120	142497	1-6-2	100 g	1	pc(s)	151
597 127	153110	1-6-2	412 g	1	pc(s)	200
597 139	157941	1-6-2	176 g	1	pc(s)	151
597 220	144972	1-6-2	330 g	1	pc(s)	151
597 227	153103	1-6-2	699 g	1	pc(s)	200
597 230	155015	1-6-2	202 g	1	pc(s)	151
597 320	154940	1-6-2	442 g	1	pc(s)	207

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600 003	026957	3-4-3	39 kg	1	pc(s)	237
600 029	026803	3-4-3	5.3 kg	1	pc(s)	238
600 035	033436	3-4-3	4.55 kg	1	pc(s)	238
600 050	052260	3-4-3	2.22 kg	1	pc(s)	238
610 010	022010	3-4-1	786 g	20	pc(s)	234
610 020	054110	3-4-1	436 g	25	pc(s)	234
619 157	021891	3-3-2	3.7 kg	6	pc(s)	231
620 001	021938	3-4-2	36 g	100	pc(s)	231
620 002	066052	3-4-3	857 g	1	pc(s)	237
620 005	027039	3-4-3	1.07 kg	1	pc(s)	235
620 007	027084	3-4-3	1.08 kg	1	pc(s)	235
620 008	066151	3-4-3	1.44 kg	1	pc(s)	236
620 009	118119	3-4-3	2.8 kg	1	pc(s)	235
620 011	026636	3-4-1	315 g	20	pc(s)	233
620 012	026698	3-4-1	418 g	10	pc(s)	234
620 015	026582	3-4-1	370 g	20	pc(s)	233
620 017	026612	3-4-1	420 g	20	pc(s)	233
620 019	027008	3-4-3	1.98 kg	1	pc(s)	236
620 021	026667	3-4-1	289 g	20	pc(s)	234
620 029	066113	3-4-3	1.43 kg	1	pc(s)	236
620 101	021860	3-3-1	2.5 kg	6	pc(s)	231
620 150	021808	3-3-1	3.64 kg	6	pc(s)	231
620 151	021846	3-3-1	3.7 kg	6	pc(s)	231
620 902	021914	3-3-2	3.67 kg	6	pc(s)	231
620 915	026629	3-4-1	298 g	20	pc(s)	233
625 001	021945	3-4-2	69 g	50	pc(s)	231
625 002	095380	3-4-3	810 g	1	pc(s)	237
625 005	027046	3-4-3	1.05 kg	1	pc(s)	235
625 007	027091	3-4-3	1.06 kg	1	pc(s)	235
625 008	066144	3-4-3	1.41 kg	1	pc(s)	236
625 009	118126	3-4-3	2.8 kg	1	pc(s)	235
625 011	026643	3-4-1	340 g	20	pc(s)	233
625 012	026704	3-4-1	424 g	10	pc(s)	234
625 015	026599	3-4-1	383 g	20	pc(s)	233
625 019	027015	3-4-3	1.94 kg	1	pc(s)	236
625 021	026674	3-4-1	310 g	20	pc(s)	234
625 029	066120	3-4-3	1.41 kg	1	pc(s)	236
625 101	021877	3-3-1	3.72 kg	6	pc(s)	231
625 150	021815	3-3-1	5.64 kg	6	pc(s)	231
625 151	021853	3-3-1	5.72 kg	6	pc(s)	231
630 120	107427	3-4-1	152 g	25	pc(s)	233
630 129	107434	3-4-1	150 g	25	pc(s)	233
634 145	125735	3-7-1	1.2 kg	1	pc(s)	247
634 160	125728	3-7-1	1.6 kg	1	pc(s)	247
635 100	056640	3-2-1	2.53 kg	5	pc(s)	232
635 150	056657	3-2-1	3.75 kg	5	pc(s)	232
635 200	056664	3-2-1	5.28 kg	5	pc(s)	232
635 250	067011	3-2-1	6.2 kg	3	pc(s)	232
640 015	106864	3-3-3	389 g	20	pc(s)	233
640 150	105850	3-3-3	2.23 kg	6	pc(s)	232
644 000	030268	3-7-1	4.45 kg	1	pc(s)	247
646 000	078161	3-7-1	2.24 kg	1	pc(s)	247

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648 005	129160	3-4-3	1.46 kg	1	pc(s)	237
648 007	129177	3-4-3	1.46 kg	1	pc(s)	237
649 005	119437	3-4-3	1.41 kg	1	pc(s)	236
649 007	119444	3-4-3	1.19 kg	1	pc(s)	236
649 015	119376	3-3-3	300 g	20	pc(s)	233
649 150	126350	3-3-3	1.71 kg	6	pc(s)	232
800 008	018716	2-1-1	390 g	127	m	26 / 213
800 010	018723	2-1-1	620 g	81	m	26 / 213
800 108	018754	2-1-1	440 g	75	m	26 / 213
800 110	018761	2-1-1	680 g	50	m	26 / 213
800 310	131064	2-1-1	620 g	31	m	26 / 213
801 050	018921	2-3-1	330 g	100	m	28 / 216
810 225	018815	2-2-1	400 g	100	m	27 / 215
810 304	019232	2-2-1	960 g	52	m	27 / 215
810 335	032880	2-2-1	840 g	50	m	27 / 215
810 404	048256	2-2-1	1.28 kg	40	m	27 / 215
810 405	032897	2-2-1	1.6 kg	30	m	27 / 215
819 125	118416	1-7-2	520 g	100	m	146
819 129	223158	1-7-2	480 g	1	pc(s)	146
819 131	223189	1-7-1	480 g	1	pc(s)	168
819 132	223172	1-7-1	603 g	1	pc(s)	168
819 135	141759	1-7-1	580 g	100	m	168
819 136	147140	1-7-1	570 g	100	m	168
819 137	152625	1-7-1	854 g	100	m	190
819 142	152458	1-7-1	410 g	1	pc(s)	191
819 145	152533	1-7-1	377 g	1	pc(s)	169
819 146	152540	1-7-1	389 g	1	pc(s)	169
819 147	152557	1-7-1	394 g	1	pc(s)	169
819 148	152564	1-7-1	419 g	1	pc(s)	170
819 160	152298	1-7-1	4.8 kg	1	pc(s)	190
819 196	222229	1-7-1	203 g	1	pc(s)	170
819 197	222236	1-7-1	195 g	1	pc(s)	169
819 198	222274	1-7-1	198 g	1	pc(s)	170
819 199	222274	1-7-1	198 g	1	pc(s)	169
819 220	157651	1-7-1	3.1 kg	1	pc(s)	168
819 223	157675	1-7-1	4 kg	1	pc(s)	168
819 226	157699	1-7-1	3 kg	1	pc(s)	168
819 227	157712	1-7-1	3.9 kg	1	pc(s)	168
819 241	135772	1-7-3	7.83 kg	1	pc(s)	158
819 245	135796	1-7-1	7.4 kg	1	pc(s)	158
819 250	118232	1-7-3	5.72 kg	1	pc(s)	156
819 251	118249	1-7-3	5.83 kg	1	pc(s)	156
819 252	118256	1-7-3	6.72 kg	1	pc(s)	156
819 253	118263	1-7-3	6.83 kg	1	pc(s)	156
819 280	118836	1-7-2	13.43 kg	1	pc(s)	147
819 281	133815	1-7-2	3.86 kg	1	pc(s)	147
819 285	118843	1-7-2	14.03 kg	1	pc(s)	147
819 286	133822	1-7-2	4.06 kg	1	pc(s)	147
819 288	236479	1-7-2	172 g	1	pc(s)	170
819 294	152571	1-7-1	701 g	1	pc(s)	170
819 299	118911	1-7-2	139 g	1	pc(s)	146
819 326	241015	1-7-1	8.7 kg	1	pc(s)	166
819 328	241183	1-7-1	9.1 kg	1	pc(s)	166
819 336	241237	1-7-1	9.6 kg	1	pc(s)	166
819 338	241244	1-7-1	10 kg	1	pc(s)	166
819 371	241268	1-7-1	17.3 kg	1	pc(s)	166
819 373	241329	1-7-1	18.2 kg	1	pc(s)	166

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819 381	241954	1-7-1	18.5 kg	1	pc(s)	166
819 383	241961	1-7-1	19.1 kg	1	pc(s)	166
819 426	241213	1-7-1	11.6 kg	1	pc(s)	166
819 430	152236	1-7-1	15.4 kg	1	pc(s)	190
819 431	155442	1-7-1	17 kg	1	pc(s)	190
819 433	155459	1-7-1	21 kg	1	pc(s)	190
819 438	241251	1-7-1	12.5 kg	1	pc(s)	166
819 473	242005	1-7-1	37.3 kg	1	pc(s)	167
819 483	241961	1-7-1	19.1 kg	1	pc(s)	167
819 720	110465	1-7-1	59.52 kg	1	pc(s)	167
819 750	115248	1-7-1	69.86 kg	1	pc(s)	167
830 008	018785	2-1-2	450 g	100	m	25 / 213
830 038	035690	2-1-2	450 g	100	m	25 / 213
830 108	080430	2-1-2	448 g	20	m	25 / 213
830 208	106116	1-7-1	2.6 kg	1	pc(s)	206
830 218	106123	1-7-1	3.6 kg	1	pc(s)	206
831 225	018891	2-2-2	450 g	100	m	27 / 215
832 095	048324	2-3-1	845 g	50	m	28 / 216
832 120	129610	2-3-1	1.06 kg	50	m	28 / 216
832 192	018914	2-3-1	597 g	50	m	28 / 216
832 193	093430	2-3-1	597 g	100	m	28 / 216
832 202	081048	2-3-1	597 g	50	m	29 / 217
832 292	093171	2-3-1	597 g	100	m	29 / 217
832 295	093447	2-3-1	845 g	50	m	29 / 217
832 320	129641	2-3-1	1.06 kg	50	m	29 / 217
832 739	018907	2-3-1	438 g	50	m	28 / 216
832 740	093454	2-3-1	438 g	100	m	28 / 216
832 839	093164	2-3-1	438 g	100	m	29 / 217
833 008	151987	2-1-2	182 g	110	m	25 / 214
840 008	018730	2-1-4	140 g	148	m	25 / 214
840 010	018747	2-1-4	210 g	99	m	25 / 214
840 018	035706	2-1-4	140 g	148	m	25 / 214
840 028	131163	2-1-4	135 g	21	m	25 / 214
840 050	070141	2-3-1	133 g	100	m	28 / 216
840 108	080423	2-1-4	135 g	21	m	25 / 214
840 118	071483	2-1-4	200 g	100	m	25 / 214
840 128	160002	2-1-4	200 g	100	m	25 / 214
850 008	129627	2-3-1	235 g	100	m	28 / 216
850 010	129634	2-3-1	395 g	100	m	28 / 216
852 335	031067	2-2-1	840 g	25	m	27 / 215
860 008	018808	2-1-3	400 g	127	m	26 / 213
860 010	019997	2-1-3	620 g	81	m	26 / 213
860 020	092662	2-1-3	620 g	19	m	26 / 213
860 050	139923	2-1-3	620 g	50	m	26 / 213
860 110	150256	2-1-3	624 g	5	pc(s)	66 / 218
860 115	101104	2-1-3	930 g	5	pc(s)	66 / 218
860 130	101111	2-1-3	1.8 kg	5	pc(s)	66 / 218

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860 215	101081	2-2-3	1.25 kg	5	pc(s)	66 / 219
860 230	101098	2-2-3	2.48 kg	5	pc(s)	66 / 219
860 315	150058	2-2-3	1.25 kg	5	pc(s)	66 / 219
860 325	093157	2-2-3	830 g	25	m	27 / 215
860 330	150065	2-2-3	2.5 kg	5	pc(s)	66 / 219
860 335	143388	2-2-3	820 g	60	m	27 / 215
860 425	227774	2-2-3	2 kg	5	pc(s)	66 / 219
860 430	227781	2-2-3	2 kg	5	pc(s)	66 / 219
860 900	143395	2-2-3	820 g	60	m	27 / 215
860 908	019362	2-1-3	400 g	127	m	26 / 213
860 910	019300	2-1-3	620 g	81	m	26 / 213
860 920	092679	2-1-3	620 g	21	m	26 / 213
860 925	093140	2-2-3	830 g	25	m	27 / 215
860 950	155596	2-1-3	620 g	50	m	26 / 213
910 001	027343	4-6-2	485 g	1	pc(s)	270
910 007	027350	4-6-2	496 g	1	pc(s)	270
920 000	057494	4-4-1	127 g	1	pc(s)	101
923 019	033177	4-4-3	1.7 kg	1	pc(s)	265
923 021	036161	4-4-2	185 g	1	pc(s)	101
923 023	074262	4-4-2	185 g	1	pc(s)	101
923 025	110397	4-5-2	137 g	1	pc(s)	266
923 035	110403	4-5-2	163 g	1	pc(s)	266
923 045	110410	4-5-2	190 g	1	pc(s)	266
923 060	038899	4-4-3	725 g	1	pc(s)	265
923 061	038905	4-4-3	750 g	1	pc(s)	265
923 062	038912	4-4-3	733 g	1	pc(s)	265
923 100	108325	4-4-3	289 g	1	pc(s)	265
923 101	108332	4-4-3	1.98 kg	1	pc(s)	265
923 211	150904	4-5-2	109 g	1	pc(s)	266
923 214	150911	4-5-2	107 g	1	pc(s)	266
923 218	150928	4-5-2	103 g	1	pc(s)	266
923 222	150935	4-5-2	98 g	1	pc(s)	266
923 226	150942	4-5-2	93 g	1	pc(s)	266
923 230	150959	4-5-2	180 g	1	pc(s)	266
923 233	150966	4-5-2	174 g	1	pc(s)	266
923 236	150973	4-5-2	170 g	1	pc(s)	266
923 239	150980	4-5-2	162 g	1	pc(s)	266
923 242	150997	4-5-2	158 g	1	pc(s)	266
923 311	150775	4-5-2	100 g	1	pc(s)	266
923 314	150782	4-5-2	106 g	1	pc(s)	266
923 318	150799	4-5-2	102 g	1	pc(s)	266
923 322	150805	4-5-2	99 g	1	pc(s)	266
923 326	150812	4-5-2	93 g	1	pc(s)	266
923 330	150829	4-5-2	178 g	1	pc(s)	266
923 333	150836	4-5-2	172 g	1	pc(s)	266
923 336	150843	4-5-2	168 g	1	pc(s)	266
923 339	150850	4-5-2	162 g	1	pc(s)	266
923 342	150867	4-5-2	158 g	1	pc(s)	266
923 348	150874	4-5-2	141 g	1	pc(s)	266
923 356	150881	4-5-2	262 g	1	pc(s)	266
923 362	150898	4-5-2	244 g	1	pc(s)	266

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AB EXFS IF1 W 14	923 314	266	AK 6.10 KB S KBF3 18 STTZN	372 110	94	BA 20X2.5 CU R100M	831 225	27
AB EXFS IF1 W 18	923 318	266	AK 6.10 KB S KBF3 18 V2A	372 119	94	BA 20X2.5 STTZN R100M	810 225	27
AB EXFS IF1 W 22	923 322	266	AK 6.10 KB W KBF18 35 STTZN	372 240	94	BA 30X3.5 STTZN R25M	852 335	27
AB EXFS IF1 W 26	923 326	266	AK 6.10 KB W KBF18 35 V2A	372 249	94	BA 30X3.5 STTZN R50M	810 335	27
AB EXFS IF1 W 30	923 330	266	AK 6.10 KB W KBF3 18 STTZN	372 210	94	BA 30X3.5 V2A R25M	860 925	27
AB EXFS IF1 W 33	923 333	266	AK 6.10 KB W KBF3 18 V2A	372 219	94	BA 30X3.5 V2A R60M	860 900	27
AB EXFS IF1 W 36	923 336	266	AK 6.10 KSV S KBF18 35 V2A	372 159	94	BA 30X3.5 V4A R25M	860 325	27
AB EXFS IF1 W 39	923 339	266	AK 6.10 KSV S KBF3 18 V2A	372 129	94	BA 30X3.5 V4A R60M	860 335	27
AB EXFS IF1 W 42	923 342	266	AK 6.10 KSV W KBF18 35 V2A	372 259	94	BA 30X4 STTZN R52M	810 304	27
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AEA KO HVI 23 GR V2A	819 196	170	AL ZF B11.11 B5.2 6.5 L81 CU	377 017	52	BRS 27.168 AK1X10 2X6.8 V2A	540 100	256
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AF 10 V4A 1500	860 115	66	AL ZF DUL 6.10 B5.2 6.5 L81 AL	377 200	52	BRS 27.168 Z AK1X10 2X6.8 V2A	540 200	257
AF 10 V4A 3000	860 130	66	AL ZF KB 6.10STTZN B5.2 6.5 L81 AL	377 100	52	BRS 27.60 AQ4 25 V2A	540 910	256
AF 30X3.5 V2A B6.5X12 3000	860 425	66	AP 2X6.10 V2A	301 229	86	BRS 27.89 AK1X10 2X6.8 GSG V2A	540 104	262
AF 30X3.5 V4A 1500	860 215	66	AP L405 TGTZN	466 203	247	BRS 27.89 AK1X10 2X6.8 V2A	540 103	256
AF 30X3.5 V4A 3000	860 230	66	AP SR D50 4AE HVI V2A	819 288	170	BRS 50.300 BB16 8 V2A	540 105	116
AF 30X3.5 V4A B6.5X12 3000	860 430	66	AS 37 5 B7.5 UVS K BR	276 007	56	BRS SPB25 50.300 V2A	106 323	124
AF 30X3.5 V4A ZW 1500	860 315	66	AS 37 5 B7.5 UVS K GR	276 006	56	BS 4K 20.50 BB16 ZG V2A	106 312	132
AF 30X3.5 V4A ZW 3000	860 330	66	AS 37 5 B8.5 V2A	276 009	56	BS D40.50 4K20.50 V2A	105 356	131
AH D50 1000 D100.150 STTZN	105 364	176	AS S RE 27 7.10 FL40 STTZN	640 015	233	BS D40.50 4K60.120 V2A	105 376	131
AH D50 1000 D100.150 STTZN	105 364	196	AS S TE 20 7.10 FL40 CU	620 017	233	BS D40.50 D48.60 V2A	105 354	110
AH D50 1000 D150.190 STTZN	105 365	176	AS S TE 20 7.10 FL40 STTZN	620 015	233	BS D40.50 D70.90 V2A	105 355	131
AH D50 1000 D150.190 STTZN	105 365	196	AS S TE 20 7.10 FL40 V4A	620 915	233	BS D50 DS30 SB50.300 V2A	105 361	130
AH D50 1000 D55.100 STTZN	105 363	176	AS S TE 25 7.10 FL40 STTZN	625 015	233	BS D50 DS90 SB50.300 V2A	105 362	131
AH D50 1000 D55.100 STTZN	105 363	196	AS S TE 25 7.10 FL40 V4A	649 015	233	BS D50 SB50.300 V2A	105 360	130
AH FE RF	290 002	230	AS SPB25 BB16 V2A	106 322	124	BS M10 PAS	472 201	253
AH FE RF V G	290 001	230	AS TE 20 2XKSV 7.10 STTZN	620 012	234	BSC 6.3X19 SW10 V2A	528 619	35
AH PAS RK	563 015	250	AS TE 20 ASSM10 STTZN	620 021	234	BSC D40 D45.65 V2A	105 161	156
AH TSK WDV5 50.200 K	476 053	80	AS TE 20 KSV 7.10 STTZN	620 011	233	BSC D40 DS95 D45.65 V2A	105 162	131
AK 3.18 BB16 V2A AL	106 319	125	AS TE 25 2XKSV 7.10 STTZN	625 012	234	BSC D40.50 SB50.300 V2A	105 160	110
AK 4.10 FRM10X45 KBF0.4 12 TGTZN	371 008	93	AS TE 25 ASSM10 STTZN	625 021	234	BUE SPB25	106 320	124
AK 6.10 DS KBF18 35 STTZN	372 035	94	AS TE 25 KSV 7.10 STTZN	625 011	233	BVK 16.48 6.10 FL40 BSB STBL	308 045	138
AK 6.10 DS KBF5 18 STTZN	372 018	94	ASK 8 150 40 2XB9 V2A	241 009	120	BVK 16.48 FL40 KB6.10 BSB STBL	308 046	134
AK 6.10 DS KBF5 18 V2A	372 019	94	ASSA D6 L1000 6.10 CU V2A	365 509	36	BW45 B11 B5.1 6.5 11 V2A	106 315	123
AK 6.10 KB S KBF18 35 STTZN	372 140	94	ASSA D8 L1000 6.10 CU V2A	365 519	36			

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CUI HEAD 20	597 020	207	DIDH 7.10 515 V2A GFK16	106 165	123	DLH DS 8 H16 WPRO5 8 GR V2A	204 906	49
CUI L 20 GR 3.5M	830 208	206	DIDH 7.10 530 BP V2A GFK	106 090	121	DLH DS 8 H36 FG180.280 BR V2A	204 913	38
CUI L 20 GR 5M	830 218	206	DIDH 7.10 675 V2A GFK16	106 170	123	DLH DS 8 H36 FG180.280 GR V2A	204 129	38
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CUPAB 500X60X0.5 AL CU	562 460	101	DIDH 8 675 KT V2A GFK	106 160	121	DLH DS 8 H36 L205 BR AL	204 171	41
CUPAH GL Q25 L29 AL CU	562 250	100	DIDH PAE 20 23 V 490 930 D22 V2A	105 275	179	DLH DS 8 H36 L205 GR AL	204 170	41
CUPAH GL Q35 L32 AL CU	562 035	100	DIDLH 8 H295 D300 BS	253 115	127	DLH DS 8 H36 L90 EH BR V2A	204 239	44
CUPAH GL Q35 L32 CU AL	562 135	100	DIDLH 8 H435 D300 BS	253 125	127	DLH DS 8 H36 L90 EH GR V2A	204 229	44
CUPAH GL Q50 L40 AL CU	562 050	100	DILH 8 DS10 L280 K GR GFK	253 315	127	DLH FB 8 LO 100X100X70	253 015	31
CUPAH GL Q50 L40 CU AL	562 150	100	DILH 8 DS10 L420 K GR GFK	253 325	127	DLH FB2 8 FE 141X86X70	253 060	31
CUPAH UGL Q50 L60 AL CU	562 001	100	DILH 8 SB10 K GR	253 302	127	DLH FB2 8 LO 141X86X70	253 050	31
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DADS D10 16 48 AL SCH	105 245	115	DIST 16 3000 GFK	106 125	122	DLH FG 8 H32 L170 V2A GALCU	204 957	39
DASH D48 AS600.750 STTZN	105 240	159	DIST 16 M10 1015 GFK	106 220	126	DLH FS 8 H16 L170 BR V2A	204 936	39
DB 700X30X4 V2A	308 150	230	DIST 16 M10 675 GFK	106 217	126	DLH FS 8 H16 L170 GR V2A	204 935	39
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DBS KB D50 RA620 STTZN	105 351	192	DLH DG 8 H20 L103 EH V2A	206 349	44	DLH KB 6.10 RSF20.25 V2A	223 010	47
DBS KB D50 S35 RA1450 V2A	105 391	173	DLH DG 8 H20 L169 WS V2A	206 359	42	DLH KB 6.10 TD B8.5 V2A	223 020	48
DBS KB D50 S35 RA600 V2A	105 390	173	DLH DG 8 H20 L205 V2A AL	206 170	41	DLH KF 8 LO DBS 110X100X70 SW	253 030	31
DDF 8 10 16 FL20.30 D250 K	552 030	33	DLH DG 8 H20 L87 EH V2A	206 369	44	DLH KF2 8 LO 141X86X70	253 051	31
DDF 8.10 D34 B16 K	552 010	33	DLH DG 8 H20 WPRO5 8 V2A	206 339	49	DLH SG 8 H20 FG180.280 CU	206 237	37
DEHNIT 25KG	573 000	232	DLH DG 8 H32 FG180.280 KK GALCU	206 817	38	DLH SG 8 H20 FG180.280 V2A	206 239	37
DGP EP4	578 370	268	DLH DG 8 H32 FG180.280 KK V2A	206 819	38	DLH SG 8 H32 FG180.280 CU	206 247	37
DGPKO ML PK ... KL	582 620	268	DLH DG 8 H32 KP67 V2A K GR	297 120	48	DLH SG 8 H32 FG180.280 V2A	206 249	37
DH K 40 BB ASG L	585 010	269	DLH DG 8 H32 L205 V2A AL	206 171	41	DLH SGL 8 H20 FG180.280 V2A	206 439	37
DH K 40 BS ML0.75 L25M BL	585 025	269	DLH DG 8 RSF20.25 AL	223 041	47	DLH SGL 8 H32 FG180.280 V2A	206 449	37
DH K 40 BS ML0.75 L25M RT	585 310	269	DLH DG 8 RSF20.25 V2A	223 011	47	DLH SS 8 H16 FG180.280 BR CU	204 267	37
DH K 40 BS ML0.75 L50M BL	585 320	269	DLH DG 8 SF0.7 8 V2A	223 031	47	DLH SS 8 H16 FG180.280 GR V2A	204 269	37
DH K 40 BS ML0.75 L50M RT	585 051	269	DLH DG 8 TD B8.5 V2A	223 021	48	DLH SS 8 H36 FG180.280 BR CU	204 247	37
DH K 80 BB ASG L	585 200	269	DLH DG H20 UK8 V2A	206 389	43	DLH SS 8 H36 FG180.280 GR V2A	204 249	37
DH K 80 BS ML0.75 L100M BL	585 210	269	DLH DQ 6.10 FG120.240 CU	202 027	38	DLH SSL 8 H16 FG180.280 GR V2A	204 469	37
DH K 80 BS ML0.75 L100M RT	585 211	269	DLH DQ 6.10 FG120.240 STTZN	202 020	38	DLH SSL 8 H36 FG180.280 GR V2A	204 449	37
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DH ZS 20 D16 500 GFK PA	106 852	149	DLH DQ 6.10 FG200.280 CU	202 227	38	DLH UG 8 H20 L205 KT V2A	206 289	41
DICS WB D50 10 5700 GFK AL V2A	105 455	128	DLH DQ 6.10 FG200.280 STTZN	202 021	38	DLH UG 8 H20 L205 V2A	206 209	41
DICS WB D50 10 7200 GFK AL V2A	105 470	128	DLH DQ 6.10 GP100X100 STTZN	202 060	32	DLH UG 8 H20 L335 CU	206 217	41
DICS WB D50.10 4.2M GFK AL V2A	105 440	128	DLH DQ 6.10 GP50X60 STTZN	202 030	32	DLH UG 8 H20 L335 V2A	206 219	41
DIDH 16 1015 V2A GFK16	106 185	123	DLH DQ 6.10 H55 L115 WS STTZN	202 050	42	DLH UG 8 H20 L475 CU	206 227	41
DIDH 16 1030 BP V2A GFK	106 123	121	DLH DQ 6.10 H55 L260 CU	202 037	42	DLH UG 8 H20 L475 V2A	206 229	41
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DIDH 16 530 BP V2A GFK	106 115	121	DLH DQ 6.10 H55 L260 STTZN	202 040	42	DLH US 8 H16 L205 BR GALCU	204 147	40
DIDH 16 530 RS40.60 V2A	106 225	121	DLH DQ 6.10 H55 L260 V2A	202 902	42	DLH US 8 H16 L205 BR V2A	204 921	40
DIDH 16 530 SB50.300 V2A	106 245	121	DLH DQ 6.10 H55 L410 WS STTZN	202 080	42	DLH US 8 H16 L205 GR V2A	204 149	40
DIDH 16 675 V2A GFK16	106 180	123	DLH DQ 6.10 H70 L420 STTZN	202 008	42	DLH US 8 H16 L335 BR GALCU	204 157	40
DIDH 16 690 BP V2A GFK	106 120	121	DLH DQ 6.10 WPRO5 8 STTZN	202 015	49	DLH US 8 H16 L335 GR V2A	204 159	40
DIDH 16 690 RS40.60 V2A	106 226	121	DLH DQ 6.10 WPRO5 8 V2A	202 906	49	DLH US 8 H16 L475 GR V2A	204 169	40
DIDH 16 690 SB50.300 V2A	106 246	121	DLH DQ 6.10 WPRO5 STTZN	202 005	49	DLH US 8 H36 L205 BR GALCU	204 177	40
DIDH 6.10 675 MMV KT V2A GFK	106 150	122	DLH DQ 8 WPRO5 V2A STTZN	206 105	49	DLH US 8 H36 L205 BR V2A	204 924	40
DIDH 7.10 1015 V2A GFK16	106 175	123	DLH DS 8 H16 FG180.280 BR V2A	204 911	38	DLH US 8 H36 L205 GR V2A	204 179	40
			DLH DS 8 H16 FG180.280 GR V2A	204 109	38	DLH US 8 H36 L335 BR GALCU	204 187	40
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DLH US 8 H36 L475 BR GALCU	204 197	40	EFPM M10 12 V4A L245 VP V2A	478 049	133	EL10 L3.05M 1KSO 8.10 1KSG 10	410 431	242
DLH US 8 H36 L475 GR V2A	204 199	40	EFPM M10 12 V4A MVK8.10 V2A	478 112	134	EL10 L3.05M 1KSO 8.10 1KSG 8	410 430	242
DLH ZS 20 23 H55 L205 V2A	202 829	159	EFPM M10 12 V4A WS L245 VP STTZN	478 051	133	EL10 L3.05M 1KSO 8.10 1KSO 5.6	410 630	239
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DLH ZS 27 V2A BES180 GP300 K	253 333	196	EKSG 8 AQ6 16 CUGALZN	444 008	245	EL10 L4.05M 2KSO 8.10	410 040	239
DLH ZS 7.10 FL20 KT12 STTZN	216 000	39	EKSO 5.6 AQ6 16 CUGALZN	444 006	245	EL10 L5.05M 2KSO 8.10	410 050	239
DLS 6.10 134X300X598 EHI	240 000	120	EKSO 8.10 AQ6 16 CUGALZN	444 010	245	EL10 L6.05M 2KSO 8.10	410 060	239
DM AF FL30X3.5 D120MM TPE	478 599	225	EL10 L0.20M 1KSO 8.10 1KSG 8	410 401	242	EL10 L7.05M 2KSO 8.10	410 070	239
DM AF RD10 D105MM TPE	478 598	225	EL10 L0.35M 1KSO 5.6 1KSG 8	410 503	241	EL16 L0.35M 1KSO 8.10 1KSG 10	416 403	243
DRG 10RO 7.10 DB STTZN	597 003	270	EL10 L0.35M 1KSO 8.10 1KSG 10	410 413	242	EL16 L0.35M 2KSG 10	416 903	244
DRG 10RO 7.10 FB STTZN	597 006	270	EL10 L0.35M 1KSO 8.10 1KSG 8	410 403	242	EL16 L0.35M 2KSO 8.10	416 003	240
DRG 10RO 7.10 HG STGALZN	597 005	270	EL10 L0.35M 1KSO 8.10 1KSO 5.6	410 603	239	EL16 L0.55M 1KSO 5.6 1KSG 8	416 505	242
DRG 5RO 7.10 HG STGALZN	597 004	270	EL10 L0.35M 2KSG 10	410 903	243	EL16 L0.55M 2KSG 10	416 905	244
DRK DUL 8.10 W16.22 AL	339 051	45	EL10 L0.35M 2KSO 8.10	410 003	239	EL16 L0.55M 2KSO 8.10	416 005	240
DRK DUL 8.10 W16.22 CU	339 057	45	EL10 L0.45M 1KSO 8.10 1KSG 8	410 404	242	EL16 L0.55M 2KSO 8.10 GG	417 005	241
DRK DUL 8.10 W16.22 EST AL	339 111	44	EL10 L0.55M 1KSO 8.10 1KSG 10	410 405	242	EL16 L0.65M 2KSG 10	416 906	244
DRK DUL 8.10 W16.22 EST STTZN	339 110	44	EL10 L0.55M 1KSO 8.10 1KSG 8	410 450	242	EL16 L0.65M 2KSO 8.10	416 006	240
DRK DUL 8.10 W16.22 STTZN	339 050	45	EL10 L0.55M 1KSO 8.10 1KSO 5.6	410 605	239	EL16 L1.05M 1KSO 8.10 1KSG 10	416 410	243
DRK DUL 8.10 W16.22 V2A	339 059	45	EL10 L0.55M 2KSG 10	410 905	243	EL16 L1.05M 1KSO 8.10 1KSG 8	416 411	243
DRK KB 6.10 W16.22 AL	339 061	45	EL10 L0.55M 2KSO 8.10	410 005	239	EL16 L1.05M 2KSG 10	416 910	244
DRK KB 6.10 W16.22 CU	339 067	45	EL10 L0.65M 1KSG 8 1SKS 10	410 606	244	EL16 L1.05M 2KSO 8.10	416 010	240
DRK KB 6.10 W16.22 STTZN	339 060	45	EL10 L0.65M 1KSO 5.6 1KSG 8	410 506	241	EL16 L1.05M 2KSO 8.10 GG	417 010	241
DRK KB 6.10 W16.22 V2A	339 069	45	EL10 L0.65M 1KSO 8.10 1KSG 10	410 407	242	EL16 L1.55M 1KSO 8.10 1KSG 10	416 416	243
DRK KB 8.10 W16.22 EST AL	339 101	44	EL10 L0.65M 1KSO 8.10 1KSG 8	410 406	242	EL16 L1.55M 1KSO 8.10 1KSO 5.6	416 516	240
DRK KB 8.10 W16.22 EST STTZN	339 100	44	EL10 L0.65M 2KSG 10	410 906	243	EL16 L1.55M 1KSO 8.10 1SKS 16	416 016	244
DRK ZS 7.10 W13.25 AL	338 001	45	EL10 L0.65M 2KSO 8.10	410 006	239	EL16 L1.55M 2KSG 10	416 915	244
DRK ZS 7.10 W13.25 B60 STTZN	339 010	45	EL10 L1.05M 1KSO 5.6 1KSG 8	410 510	241	EL16 L1.55M 2KSO 8.10	416 015	240
DRK ZS 7.10 W13.25 CU	338 007	45	EL10 L1.05M 1KSO 8.10 1KSG 10	410 410	242	EL16 L1.55M 2KSO 8.10 GG	417 015	241
DRK ZS 7.10 W13.25 STTZN	338 000	45	EL10 L1.05M 1KSO 8.10 1KSG 8	410 411	242	EL16 L1.55M KSO 8.10 KSG 8	416 415	243
DRK ZS 7.10 W13.25 V2A	338 009	45	EL10 L1.05M 1KSO 8.10 1KSO 5.6	410 610	239	EL16 L10.05M 2KSO 8.10	416 100	240
DS 30X2 L170 3XB11 AL	374 020	33	EL10 L1.05M 2KSG 10	410 910	243	EL16 L10.05M 2KSO 8.10 GG	417 100	241
DS 8 L395 AL	374 011	33	EL10 L1.05M 2KSO 8.10	410 010	239	EL16 L12.05M 2KSO 8.10	416 120	240
DSFS	920 000	101	EL10 L1.55M 1KSO 5.6 1KSG 8	410 515	241	EL16 L14.05M 2KSO 8.10	416 140	240
EB ASSM5 L350 TGGALZN	587 460	268	EL10 L1.55M 1KSO 8.10 1KSG 10	410 416	242	EL16 L15.05M 2KSO 8.10	416 150	240
EB D50 WA V2A	105 341	129	EL10 L1.55M 1KSO 8.10 1KSG 8	410 415	242	EL16 L15.05M 2KSO 8.10 GG	417 115	241
EBW90 BB16 B5.1 6.5 11 V2A	106 316	123	EL10 L1.55M 1KSO 8.10 1KSO 5.6	410 615	239	EL16 L2.05M 1KSO 8.10 1KSG 10	416 421	243
EES 16 1000 V4A	104 903	65	EL10 L1.55M 2KSG 10	410 915	243	EL16 L2.05M 1KSO 8.10 1KSG 8	416 420	243
EES 16 1500 2XB11 STTZN	101 150	65	EL10 L1.55M 2KSO 8.10	410 015	239	EL16 L2.05M 2KSG 10	416 920	244
EES 16 1500 V4A	104 905	65	EL10 L10.0M 2KSO 8.10	410 099	239	EL16 L2.05M 2KSO 8.10	416 020	240
EES 16 2000 V4A	104 906	65	EL10 L14.0M 2KSO 8.10	410 140	239	EL16 L2.05M 2KSO 8.10 GG	417 020	241
EES 16.10 1500 STTZN	480 018	65	EL10 L15.0M 2KSO 8.10	410 150	239	EL16 L2.55M 1KSO 8.10 1KSG 10	416 426	243
EES 16.10 1750 STTZN	480 019	65	EL10 L2.05M 1KSO 5.6 1KSG 8	410 520	241	EL16 L2.55M 1KSO 8.10 1KSG 8	416 425	243
EES 16.10 2000 STTZN	480 020	65	EL10 L2.05M 1KSO 8.10 1KSG 10	410 421	242	EL16 L2.55M 2KSG 10	416 925	244
EES 16.10 2500 STTZN	480 021	65	EL10 L2.05M 1KSO 8.10 1KSG 8	410 420	242	EL16 L2.55M 2KSO 8.10	416 025	240
EES 16 1500 TM 2KS7.10 CU	480 157	65	EL10 L2.05M 1KSO 8.10 1KSO 5.6	410 620	239	EL16 L20.05M 2KSO 8.10	416 200	240
EES 16 1500 TM 2KS7.10 STTZN	480 150	65	EL10 L2.05M 1KSO 8.10 1SKS 10	410 720	244	EL16 L20.05M 2KSO 8.10 GG	417 120	241
EEZ 0 99 RD8 CU	910 007	270	EL10 L2.05M 2KSG 10	410 920	243	EL16 L22.05M 2KSO 8.10	416 220	240
EEZ 0 99 RD8 STTZN	910 001	270	EL10 L2.05M 2KSO 8.10	410 020	239	EL16 L25.05M 2KSO 8.10 GG	417 125	241
EFP M16 V4A SL400	478 027	134	EL10 L2.55M 1KSO 5.6 1KSG 8	410 525	241	EL16 L28.05M 2KSO 8.10	416 280	240
EFPK M10 12 V4A L230 STTZN	478 200	134	EL10 L2.55M 1KSO 8.10 1KSG 10	410 426	242	EL16 L3.05M 1KSO 8.10 1KSG 10	416 431	243
EFPK M10 12 V4A	478 012	133	EL10 L2.55M 1KSO 8.10 1KSG 8	410 425	242	EL16 L3.05M 1KSO 8.10 1KSG 8	416 430	243
EFPK M10 12 V4A L230 STTZN	478 011	133	EL10 L2.55M 1KSO 8.10 1KSO 5.6	410 625	239	EL16 L3.05M 2KSG 10	416 930	244
EFPK M10 12 V4A L230 V2A	478 019	133	EL10 L2.55M 2KSG 10	410 925	243	EL16 L3.05M 2KSO 8.10	416 030	240
			EL10 L2.55M 2KSO 8.10	410 025	239	EL16 L3.05M 2KSO 8.10 GG	417 030	241
			EL10 L20.0M 2KSO 8.10	410 199	239	EL16 L3.55M 2KSO 8.10	416 035	240

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EL16 L4.05M 1KSO 8.10 1KSG 10	416 441	243	ES ZF 2X11.11 1XB13 V2A	390 479	136	FK ZS 7.10 KBF0.7 6 RG	365 007	50
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LH 8 SB100 SCL V2A	200 059	58	LH ZS 27 30 SBH 25X0.3 V2A	275 359	198	MVK 8.10 FRM10X35V2A STTZN	390 063	83
LH 8 SB100.120 SCG GALCU	200 087	58	LH ZS 27 B5.5X10 V2A	275 242	198	MVK 8.10 M10 V2A	105 079	129
LH 8 SB100.120 SCG V2A	200 089	58	LH ZS 27 D510 L75 V2A	253 330	196	MVK 8.10 SKM10X30 AL	390 051	83
LH 8 SB80.100 SCG GALCU	200 077	58	LH ZS 27 GM6 V2A	275 241	198	MVK 8.10 SKM10X30 FSC AL	390 551	83
LH 8 SB80.100 SCG V2A	200 079	58	LH ZS 27 GM8 V2A	275 240	198	MVK 8.10 SKM10X30 FSC STTZN	390 550	83
LH 8 SB80.100 SCL CU	200 067	58	LH ZS 27 KS H10 V2A	275 249	198	MVK 8.10 SKM10X30 FSC V2A	390 559	83
LH 8 SB80.100 SCL V2A	200 069	58	LH ZS 27 KT D16 L85 V2A	253 331	197	MVK 8.10 SKM10X30 STTZN	390 050	83
LH DFI DQ 6.10 CU H30 BR	250 007	54	LH ZS 27 SB50.300 V2A	275 339	198	MVK 8.10 SKM10X30 V2A	390 059	83
LH DFI DQ 6.10 STTZN H30 GR	250 000	54	LH ZS 6.11 FL30 SBB PA V2A	275 730	60	MVK 8.10 SKM10X35 V4A	390 079	83
LH DFI DQ 6.10 V2A H30 GR	250 001	54	LH ZS 6.11 SBB PA V2A	275 711	60			
LH DG 8 H20 B7.8 CU	207 007	53	LH ZS 7.10 AB D10X140 STTZN ZG	273 740	57	NS 16 MZ 1 AL	482 0xx	81
LH DG 8 H20 B7.8 V2A	207 009	53	LH ZS 7.10 AB D10X180 STTZN ZG	273 741	57	NS 16 FL30 OZ AL	480 004	81
LH DG 8 H20 HS5X50 KD8 V2A GR	207 109	53	LH ZS 7.10 AB D10X240 STTZN ZG	273 742	57	NS 7.10 FL30 MZ 1 AL	481 0xx	81
LH DG 8 H20 IGM6 CU	207 017	53	LH ZS 7.10 FL20 LRS100 STTZN	262 100	56	NS 7.10 FL30 OZ AL	480 003	81
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PAE 27 AB11 V2A	410 239	191	RE G 16.10 FL4 STGALZN	596 600	271	SEIL 9 50Q CU R50M	832 739	28
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PAS 11AK UV	563 201	249	RFS 16 10 1500 AL	103 410	104	SGK ZS 7.10 KB3.13 STTZN	343 000	46
PAS 6RK OH	563 105	249	RFS 16 10 1500 CU	103 417	104	SH 16 BB16 V2A ZG	106 129	122
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PAS AH RK 13X25 1X8.10	563 030	250	RFS 16 10 2000 AL	103 420	104	SH DFI 16 STTZN H42 GR	252 000	71
PAS AH RK 5X25 3X8.10 1XFL30	563 020	250	RFS 16 10 2000 V2A	103 429	104	SH KR 13.16 H28 B6.5 V2A	275 019	71
PAS AH RK 7X25 2X8.10 1XFL30	563 010	250	RFS 16 10 2500 AL	103 430	104	SH ZS 16 AB D10X180 STTZN ZG	273 731	70
PAS AH RK 7X25 2X8.10 1XFL40	563 040	250	RFS 16 10 2500 V2A	103 439	104	SH ZS 16 KD8X40 STTZN ZG	275 260	70
PAS I 10AP M10 CU	472 217	252	RFS 16 10 3000 AL	103 440	104	SH ZS 16 KS KD8X40 V2A	274 260	69
PAS I 10AP M10 V2A	472 219	252	RFS 16 10 3000 V2A	103 449	104	SH ZS 16 M8 V2A	275 116	70
PAS I 12AP M10 CU	472 237	252	RFS 16 10 3500 AL	103 450	104	SH ZS 16 VKS100 STTZN	260 106	70
PAS I 12AP M10 V2A	472 239	252	RFS 16 10 4000 AL	103 460	104	SK RD10 FL30X3.5 GRGE PVC	478 099	26
PAS I 6AP M10 CU	472 207	252	RFS 16 10 5000 AL	103 480	104	SKO TE 20 STBLANK	620 002	237
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PAS I 8AP M10 CU	472 227	252	RK 95 PAS	563 013	251	SPB 14X0.3 L50M V2A	540 931	60
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PSE 50X50X3 1500 STTZN	635 150	232	RLA 20 FB K SW	253 026	177	SPK 25 BRS AK1X10 2X6.8 V2A	540 110	256
PSE 50X50X3 2000 STTZN	635 200	232	RLA 23 FB K SW	253 027	177	SPK 25X0.3 V2A	106 324	125
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			RRS V 60.150 B10.5 CU	423 027	59	SR D50 3200 FSP1000 IP HVI GFK V2A	105 314	171
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RD 10 STTZN R30M	800 310	26	RS D40.60 BB16 V2A ZG	106 352	124	SR D50 3500 FS2500 IP SA HVIP GFK V2A	105 393	192
RD 10 STTZN R81M	800 010	26	RS D70.90 BB16 V2A ZG	106 353	124	SR D50 3500 FSP1000 IP HVIP GFK V2A	105 320	191
RD 10 V2A R20M	860 920	26	RTUP 230X180 SV STTZN	476 100	80	SR D50 4700 FS1000 IP SA HVI GFK AL	105 327	171
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This main catalogue replaces the Main Lightning Protection Catalogue 2013/2014.

Since we do not plan systems or parts of systems, our product recommendations should be regarded as product information and for advisory purposes only. Our oral and written application proposals are based on experience and are specified to the best of our knowledge. We do not accept any liability in this respect. This particularly applies to the diffe-

rent conditions of use which are beyond our control. We recommend to check whether the respective DEHN product is suitable for the intended application. Application, use and processing of our products are beyond our control. Therefore, the product is completely subject to the user's responsibility.

Illustrations are not binding.

We accept no liability for misprints, modifications and errors.

*) GTIN (EAN code)

In the catalogue, you will find the GTIN (EAN code) next to the Part No. For reasons of clarity, only the individual GTIN part is specified. The country and DEHN + SÖHNE code (40 13364) must be put in front of this number.

Abbreviations:

PG	Product Group
PU	Packing Unit
SU	Sales Unit (Piece, Meter, Set or Pair)
Pc(s)	Piece(s)
m	Meter
Sa	Set
Pa	Pair
Weight	Weight per sales unit

Trademarks:

DEHN schützt., BLITZPLANER, DEHNfix, DEHNgrip, DEHNQUICK, DEHNSnap, HVI, ...MIT SICHERHEIT DEHN., Colour trademark: "Rot" 302 40 296.9

and our brand



are protected by German Trademark, by Community Trademark (EU) and/or are registered trademarks in other countries.

1. General Scope

- 1.1 All deliveries and services in business dealings with entrepreneurs take place exclusively under our general terms of sale (hereinafter "terms of sale"). We oppose deviating regulations, especially conflicting terms of purchase of the customer, unless we expressly agreed to the validity in writing. Our terms of sale apply even if we complete unconditional delivery to the customer while knowing that the terms of sale of the customer are in conflict with our own.
- 1.2 Our terms of sale only apply to entrepreneurs within the meaning of section 310, paragraph 1 of the German Civil Code (BGB), to current business relationships and to all future transactions with the customer.

2. Offer and Order, Reservation of Right of Modification and Copyright

- 2.1 Except where expressly identified by us as binding, documents such as diagrams, drawings and measurements, in particular in print media and online on our website www.dehn-international.com, are only indicative.
- 2.2 Should our order confirmation contain reasonable expansions, limitations, or other modifications with respect to the order, then the customer's agreement is implied, if he/she does not immediately, at the latest however within 3 business days from receipt of the order confirmation, oppose it.
- 2.3 Any order placed in our web shop shall be regarded as an offer to conclude a sales contract. A sales contract only comes into existence if the customer receives a written order confirmation or the goods are delivered / services are rendered.
- 2.4 Our goods are only delivered in the packaging units indicated in the catalogues. If a different number of items is ordered, the amount and price of the next larger packaging unit is considered agreed upon.
- 2.5 We reserve the right to make technical modifications to our services, insofar as such modifications promote technical progress or are unavoidable based on other circumstances and are reasonable for the customer.
- 2.6 We reserve ownership and copyright rights to diagrams, drawings, calculations, and other documents; these may not be made available to third parties without our express written consent.

3. Prices, Value-Added Tax, Packaging Costs

- 3.1 Our prices are subject to change without notice.
- 3.2 Prices include, insofar as nothing else is arranged, customary packaging from our plant without value-added tax. On the day of invoicing, the legally identified VAT amount is to be reimbursed to us.
- 3.3 The cost of non-customary packaging, e.g., collective or seaway packaging, is invoiced separately. The customer bears the cost of the disposal or return of packaging.

4. Passing of Risk, Optional Insurance

The risk of accidental loss and deterioration passes to the customer upon dispatch to the customer from our warehouse or plant, even if carriage-paid delivery is agreed upon. At the request and expense of the customer, we will insure the delivery against breakage, damage to goods in transit and fire damage.

5. Payment Due Dates, Discounts, Right of Refusal, Default, Small Order Quantity Surcharge

- 5.1 Unless otherwise agreed, invoices are payable net 10 days. The customer shall pay the costs of payment. Discount amounts are deductible only if they have been agreed on with us and all accounts payable due have been paid.
- 5.2 If the customer is in default with his payments, interest on the outstanding amount shall be payable at the rate of 8 % above the base interest rate. We reserve the right to prove and allege higher default damages. The right of early notice of default remains unchanged. If we are required to advance performance and, if after the execution of the contract, it becomes apparent that our claim, in particular for payment, may be jeopardised by the customer's inability to perform, we may refuse performance.
- 5.3 The customer cannot charge counter-claims against our due payment claims or exercise a right of retention, unless the customer is entitled to a claim recognised by declaratory judgement that is not contested by us and if, while exercising the right of retention, the counter-claim from the customer is based on the same contractual relationship.
- 5.4 Orders, with the exception of cash sales, for which the net amount (invoiced amount without shipping costs and value-added tax) is less than € 75.00, a small order surcharge of € 25.00 will be charged.

6. Retention of Title, Assignment, Release of Securities

- 6.1 Delivered goods remain our property until the payment of all open business claims up to the point of invoicing. The claims of the customer including value-added tax from the resale of reserved goods, i.e., from a work performance using our goods, should already be transferred to us in the amount of the open invoice. In the case that the reserved goods from the customer are sold together with other

goods that do not belong to us, whether it be without or after processing, or are delivered within the framework of a working contract, the assignment of the resulting claim of the reserve buyer is calculated in the amount of the value of the reserved goods.

- 6.2 Should the value of the granted securities exceed the claims by more than 10 %, we are obliged to retransfer or release the securities upon request. We shall select the securities to be released.
- 6.3 Our goods may only be transferred within the framework of proper business activity. The customer is not allowed to pawn or transfer the ownership of goods that are still in our possession.
- 6.4 At our request, the customer is obliged to inform us of the purchaser and the arranged price and to show the assignment to its debtor.

7. Delivery Period and Date

- 7.1 The start of the delivery period presupposes the involvement of the customer for the clarification of all technical questions.
- 7.2 Delivery periods as well as delivery dates will be appropriately extended if they cannot be adhered to as a result of military mobilisation, war, uprising, strike or lockout, delayed delivery of raw and auxiliary materials, late delivery by our suppliers, or similar circumstances beyond our control. A lasting obstruction under these circumstances gives us the right to withdraw from the contract without liability for damages.

8. Liability for Material and Title Defects

- 8.1 We shall assume liability without restriction in compliance with the statutory regulations, provided that the customer asserts claims for damage compensation, which are attributable to wilful intent or gross negligence, including wilful intent and gross negligence on the part of our representatives or vicarious agents.
- 8.2 We shall assume liability without restriction in compliance with the statutory regulations, in case of culpable injury to life, limb or health; this shall also apply to the mandatory liability under the Product Liability Act.
- 8.3 In so far as a defect of the subject of the contract exists for which we are liable, we shall at our discretion either remedy the defect or deliver a non-defective object of the contract (subsequent performance).
- 8.4 If said subsequent performance should fail or if it is unreasonable for the customer, or if we refuse seriously and conclusively to do so or if we have delayed rectification unreasonably or if other circumstances prevail, which justify immediate withdrawal or damage compensation, taking account of the interests on both sides, then the customer shall be entitled to reduce the contract price or to withdraw from the contract and/or to demand damage compensation. In the event of only a slight infringement of contract, in particular in the event of only slight defects, the customer shall not be entitled to withdrawal.
- 8.5 If the customer should choose only damage compensation after the failure of subsequent performance, then the subject of the contract shall remain with the customer, if this can be reasonably expected. Damage compensation shall be restricted – subject to item 8.1 and 8.2 – to the difference between the purchase price (without value added tax) and the value of the defective subject of the contract remaining with the purchaser.
- 8.6 Insofar as not otherwise specified above, liability shall be excluded.
- 8.7 The limitation period for claims based on defects, - subject to item 8.1 and 8.2 - shall be 12 months from delivery of the goods.
- 8.8 Items 8.1 to 8.7 shall not affect the rights of the customer, if we have fraudulently concealed a defect or have assumed a guarantee for quality.

9. Overall liability

- 9.1 Any further liability for compensation than that provided in item 8 – irrespective of the legal nature of the asserted claim – shall be excluded. This shall in particular apply to damage claims for liabilities resulting from culpa in contrahendo, for other breaches of duty or for tortious claims for damage compensation acc. to § 823 BGB (German code civil law).
- 9.2 Limitation according to 9.1 shall also apply, insofar as the customer claims reimbursement for useless expenditures instead of claiming compensation for damages in place of performance.
- 9.3 As far as the liability for compensation against us is excluded or restricted, this shall also apply with regard to the personal liability for damages of our employees, workers, representatives and vicarious agents.

10. Return of Goods without Legal Liability

- 10.1 If no legal claim to return exists, delivered goods will be accepted only with previous agreement from us. Returns without previous agreement will be sent back – postage-

due – to the sender without inspection. The customer bears the shipping costs for the return delivery in No. 10.1.

- 10.2 The goods must still be in the original packaging. Special orders or deliveries dating back further than three months cannot be returned. In order to cover the costs of goods returns, a processing fee of 20 % of the net value of the goods or € 25.00, whichever is the greater, shall be applied, unless the customer can prove to us that we have incurred no or considerably smaller damage. If the goods can no longer be resold at the list price at the time of the return, an additional deduction (old goods deduction) will be made in addition to the processing fee. If we make an exception and agree to accept the return of parts that are unpackaged or that are no longer in their original packaging, an expense remuneration of at least 15 % will be charged for reworking and repackaging in addition to the processing fee and, if applicable, the old goods deduction, unless the customer can prove to us that we have incurred no or considerably smaller damage.

- 10.3 Returned goods will only be credited to a new invoice. Credits cannot be used to clear invoices due at the time of the return.

11. Product Information, No Advisory Obligation

Our deliveries are intended only for speciality stores or skilled users. Our user information and instructions are limited to the details of each written product information (e.g., installation instructions, catalogues, data sheets). Further advisory obligations do not exist. Application, use, and processing of the products lie solely in the customer's realm of responsibility.

12. Additional Conditions for the Provision of Services

- 12.1 We make our offers without conducting a separate test to ascertain the suitability of the products for the relevant customer project. Our liability is excluded unless we were aware of anything contrary to suitability or we were not so aware due to gross negligence. The customer is responsible for conducting the requisite test.
- 12.2 We also make our offers on the basis of the specifications submitted by the customer without conducting a separate test to ascertain the suitability of the products on an individual basis. Our liability is excluded unless we were aware of anything contrary to suitability or we were not so aware due to gross negligence when checking the specifications. The customer is responsible for conducting the requisite test.
- 12.3 Our application proposals with product recommendations are of a general nature and are neither designed for application to an individual case nor intended to enable such application. Our application proposals are therefore non-binding. We do not accept any liability in this respect. It is absolutely essential to conduct an appropriate test on an individual basis. The customer is responsible for conducting such a test.
- 12.4 Our concept proposals with product recommendations do not replace the prevailing recognised engineering standards. The concept proposals with product recommendations do not claim to be exhaustive, unless expressly agreed otherwise. We do not plan systems or parts thereof. In particular, our concept proposals with product recommendations do not replace specific planning and testing. This lies in the customer's realm of responsibility. We do not accept any liability in this respect.
- 12.5 The sole purpose of the seminars we organise for the customer is to broaden his knowledge and to enable him to check his level of knowledge. We do not monitor and test the knowledge that the customer acquires and applies. We do not accept any liability in this respect. The seminars will always be kept up to date so that they meet the requirements of the recognised engineering standards.

13. Use and Protection of Customer Data

We use customer data, which concern the business dealings with the customer, in terms of the Federal Data Protection Act.

14. Applicable Law, Jurisdiction

- 14.1 German law applies to the mutual contractual obligations, their materialisation, interpretation, and implementation as well as all resulting contractual and business relationships. The application of the UN Agreement on Contracts on the International Purchase of Goods and the thereafter enacted laws of the Federal Republic of Germany is excluded.
- 14.2 Place of performance and jurisdiction for delivery, payment, and for all obligations, including those from exchange and cheque payments – if the customer is a businessperson, legal entity of public law or of special fund under public law – is exclusively Nuremberg.

15. VAT Identification Number

VAT ID No. DE 133251475
DEHN + SÖHNE GmbH + Co.KG.
Nürnberg – Neumarkt

* The original German text shall be the governing version.

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Conversion Table					
Description	Part No.	Length	Weight	Weight	Length
Round Wire St/tZn , 8 mm	800 008	1 m	393 g	1 kg	2.54 m
Round Wire St/tZn , 10 mm	800 010 / 800 310	1 m	617 g	1 kg	1.62 m
Round Wire St/tZn , with plastic coating, 8 mm	800 108	1 m	440 g	1 kg	2.30 m
Round Wire St/tZn , with plastic coating, 10 mm	800 110	1 m	680 g	1 kg	1.48 m
Round Wire Al , semi-rigid/soft, 8 mm	840 008 / 840 018 840 108 / 840 028	1 m	135 g	1 kg	7.40 m
Round Wire StSt (V2A) / (V4A) , 8 mm	860 008 / 860 908	1 m	395 g	1 kg	2.54 m
Round Wire StSt (V2A) / (V4A) , 10 mm	860 010 / 860 020 860 910 / 860 920	1 m	617 g	1 kg	1.62 m
Round Wire Cu , semi-rigid/soft, 8 mm	830 008 / 830 108 830 038	1 m	448 g	1 kg	2.22 m
Strip St/tZn , 20 x 2.5 mm, Z500	810 225	1 m	400 g	1 kg	2.50 m
Strip St/tZn , 30 x 3.5 mm, Z500	810 335 / 852 335	1 m	840 g	1 kg	1.19 m
Strip St/tZn , 30 x 4 mm, Z500	810 304	1 m	960 g	1 kg	1.04 m
Strip St/tZn , 40 x 4 mm, Z500	810 404	1 m	1.280 kg	1 kg	0.78 m
Strip St/tZn , 40 x 5 mm, Z500	810 405	1 m	1.600 kg	1 kg	0.63 m
Strip StSt (V2A) / (V4A) , 30 x 3.5 mm	860 335 / 860 325 860 900 / 860 925	1 m	825 g	1 kg	1.21 m
Strip Cu , 20 x 2.5 mm	831 225	1 m	450 g	1 kg	2.22 m

Abbreviations

The following list shows and explains all abbreviations mentioned.

Conductor Types:

Abbreviation	Conductor Types
Fl	Flat conductor (strip)
Rd	Round conductor (round wire)

Materials:















Abbreviation	Description
Al	Aluminium
AlMgSi	Aluminium magnesium silicon wrought alloy
Cu	Copper, electrical copper
Cu/bronze	Copper / Bronze
Cu/gal Sn	Copper, tin-coated
EVA	Ethylene vinyl acetate copolymer
GRP	Glass-fibre reinforced plastic
GCI	Grey cast iron
K	Plastic material / Polyethylene / Polyamide / Polystyrene
Ms	Brass
Ms/gal Cu	Brass, copper coated
Ms/gal Sn	Brass, tin-coated
StSt	Stainless steel Material No.: 1.4301 (material No.: ASTM/AISI 304) Material No.: 1.4303 (material No.: ASTM/AISI 305) Material No.: 1.4307 (material No.: ASTM/AISI 304L)
StSt (V4A)	Stainless steel Material No.: 1.4401 (material No.: ASTM/AISI 316) Material No.: 1.4404 (material No.: ASTM/AISI 316L) Material No.: 1.4571 (material No.: ASTM/AISI 316Ti)
StSt / gal Cu	Stainless steel, copper coated
PA	Polyamide
PC	Polycarbonate
PE	Polyethylene
PP	Polypropylene
PS	Polystyrole
PVC	Polyvinyl chloride
ABS	Acrylonitrile butadiene styrene
RCB	Red castin brass
Sn	Tin
St/blank	Steel (black)
St/gal Zn	Steel, galvanised
St/tZn	Steel, hot dip galvanised
St / Cu	Steel, copper coated
MCI	Malleable cast iron
MCI/tZn	Malleable cast iron, hot dip galvanised
UP	Polyester (unsaturated)
XLPE	Cross-linked polyethylene
ZDC	Zinc die casting

Material combinations among air-termination systems as well as down conductors an with parts of the construction

Provided that no especially aggressive environmental influences have to be considered, the material combinations listed below have proved themselves. This is based on practical experience.

	Steel	Aluminium	Copper	StSt	Titanium	Tin
Steel (St/tZn)	yes	yes	no	yes	yes	yes
Aluminium	yes	yes	no	yes	yes	yes
Copper	no	no	yes	yes	no	yes
StSt	yes	yes	yes	yes	yes	yes
Titanium	yes	yes	no	yes	yes	yes
Tin	yes	yes	yes	yes	yes	yes





Symbols:

Screws		Screw heads	
	Half-round wood screw		Slot
	Countersunk head wood screw		Hexagon
	Wood screw with threaded head		Hexagon with slot
	Cheese head screw		Cross recessed
	Truss head screw		Star drive
	Knurled screw		Combined slot
	Countersunk screw		
	Raised head screw		

Recommended values:

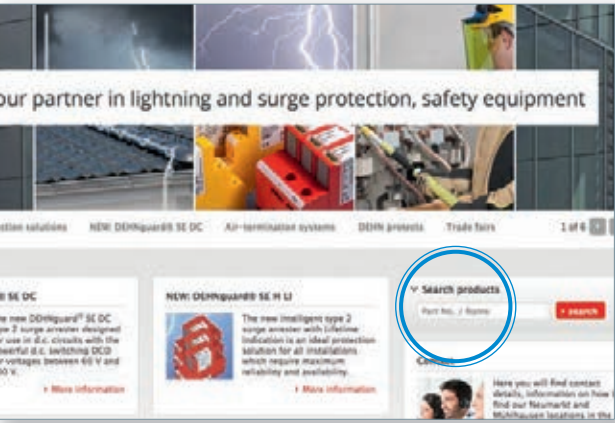
Screw	Tightening torque
M5 / M6	≥ 4 Nm
M8	≥ 10 Nm
M10	≥ 20 Nm
M12	≥ 25 Nm


Miscellaneous:

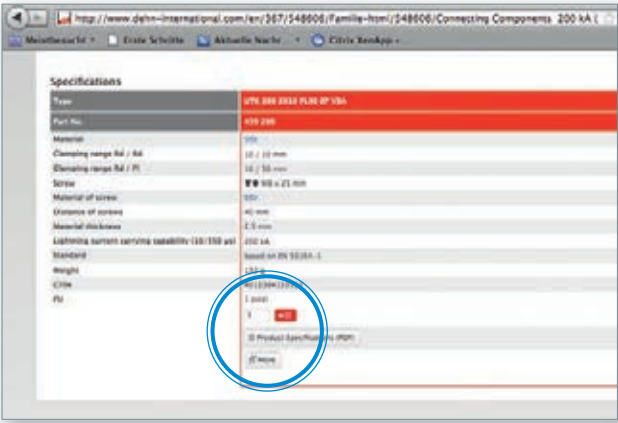
Symbols	
Test according to EN 62561-1 Further information can be found on the Internet	
Installation instructions Further information can be found on the Internet	
New products	
Discontinued products	

How to find manufacturer’s test reports and installation instructions on the Internet

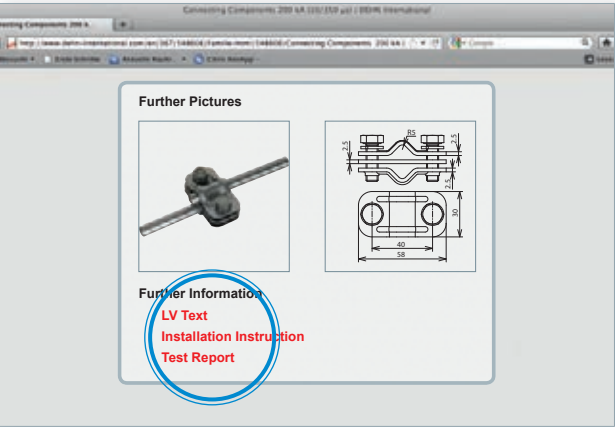
Step 1:
Search products ⇒ enter **Part No.** ⇒ search
at **www.dehn-international.com**



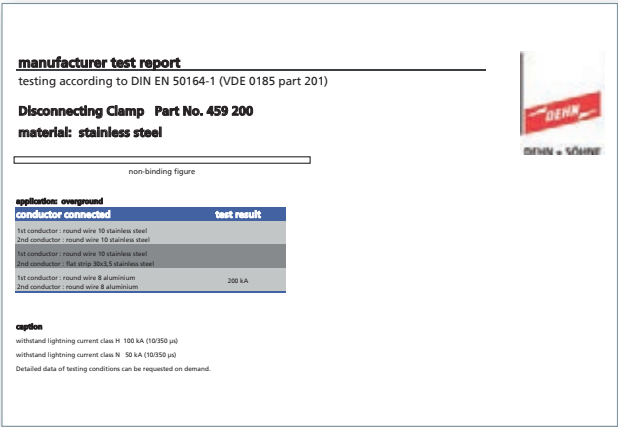
Step 2:
Click  More Symbol.



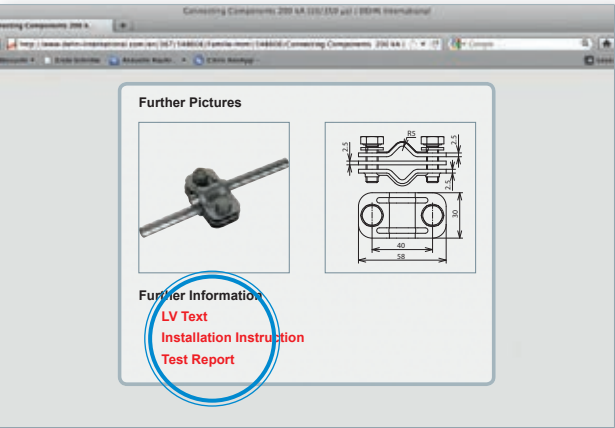
Step 3:
Click **Test Report** .



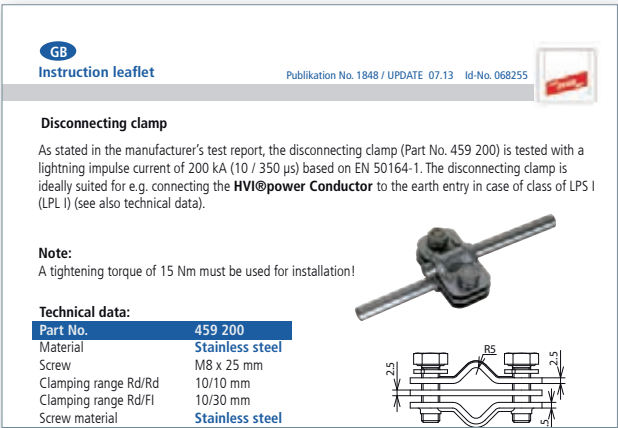
Step 4:
Manufacturer’s test report is displayed
in the form of a pdf file.



Step 5:
Click **Installation Instruction** .



Step 6:
Installation instructions are displayed
in the form of a pdf file.



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Lightning Protection
Safety Equipment
DEHN protects.

DEHN + SÖHNE
GmbH + Co.KG.

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