

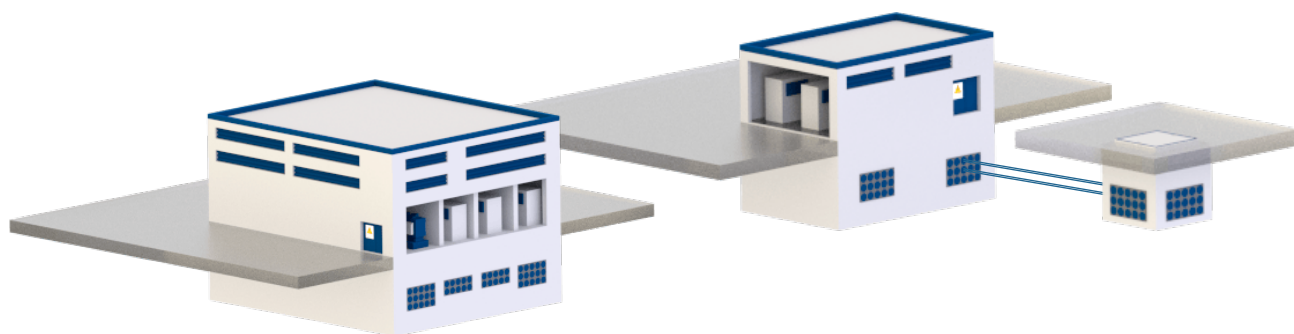
# Substations and technical buildings

Cable and pipe entries

# Cable and pipe entries

For substations, switch gears and conventionally constructed technical buildings

**A substation is an essential part of the electrical supply network. To ensure trouble-free operation and high security of supply in the long term, buildings – some of which house sensitive components of primary and secondary equipment – must be protected against water ingress as well as damage caused by rodents and reptiles..**



Hauff-Technik cable entries are frequently found in substations in connection with secondary equipment (network protection, voltage regulation, remote control, ripple control, etc.). We offer solutions for every cable type and cable cross section here. Cable entries are also used in connection with primary equipment, e.g. to seal cables in switch gear buildings. Our press seals are ideally suited to sealing the pipes used to connect transformer trays.

Continuous empty conduit routes, possibly in combination with cable drawing shafts, have proven an effective way of replacing cables in substations without subsequent groundwork and the risks associated with it. We have the optimum connection option for every cable duct.

Hauff-Technik cable entry systems provide a pressure-tight connection between a building and an empty conduit system.

Hauff-Technik offers both solutions for new buildings – these are already taken into consideration during planning and then set in concrete during construction of the building – and for existing buildings for subsequent installation in core drill holes.

Detailed information about our products can be found on the following pages.

## Our product solutions at a glance

### Substation integrated in a building

- Cable entries for connecting a rigid cable duct
- Cable entry with flexible duct connection
- Fire protection
- Earthing entry

### Substation with switch gear building

- Cable entry for connecting a rigid cable duct
- Cable entry without cable duct connection
- Earthing entry

### Cable shaft

- Cable entry for connecting a rigid cable duct
- Cable entry without cable duct connection
- Earthing entry

## Our planning support for architects and specialised planners

Your project is in good hands with us. We provide direct and fast support on technical questions and are happy to advise you on the correct way to install and seal cables and pipes. Whatever you're planning, with Hauff-Technik you can make it perfect. We will be happy to advise you individually and personally.

### Planning support team for architects and specialised planners

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# Wall inserts and polymer flange

## Single wall insert HSI150 K/X with one-sided connection option on the outside of the building



Single wall inserts are available above a wall thickness of 70 mm. In addition to a closing cover, they are also equipped with a safety cover that is not removed until just before the cable is laid.

This double security ensures protection from water ingress and also from oil escaping into the surrounding area if the closing cover is opened unintentionally or prematurely for wall thicknesses of 70 – 150 mm. A variety of system seals is available for cable and duct sealing.



## Double wall insert HSI150 K2/X with connection options on both sides



Double wall inserts are available above a wall thickness of 100 mm and are equipped with pressure-tight closing covers on both sides.

They provide a way of connecting cable ducts and additionally creating seals with cables on the inside of the building.

Packages can be formed with the square assembly frame. The double wall insert provides maximum sealing flexibility and considerable advantages compared with core drill holes and wall sleeves.



## Single wall insert with integrated patch flange HSI150 1X(Z) K AF/X for setting in



Integrated patch flange for practical application of plastic-modified bitumen thick coatings for the gastight and watertight connection on one side of system seals for cables or cable ducts and a high level of flexibility during subsequent use..

A 1x1 or 1x4 package configuration is possible.

Quality mark: sealed ex works. Facility to check for unintentional or unauthorised opening of the closing cover.

## Double wall insert with integrated patch flange HSI150 1X(Z) K2 AF/X for setting in concrete



Integrated patch flange for practical application of plastic-modified bitumen thick coatings for the gastight and watertight connection on both sides of system seals for cables or cable ducts and a high level of flexibility during subsequent use.

A 1x1 or 1x4 package configuration is possible.

Quality mark: sealed ex works. Facility to check for unintentional or unauthorised opening of the closing cover.



## Single wall insert HSI150 KMA with foldable rubber sleeve



For the direct connection of cable ducts (outside) and the connection system seals for cables (inside).

A 1x1 or 1x4 package configuration is possible.

Quality mark: sealed ex works. Facility to check for unintentional or unauthorised opening of the closing cover.



# Wall inserts and polymer flange

## Single wall insert with plug-in socket HSI150 GSM



The single wall insert with plug-in socket is both the optimum and an extremely economical solution for connecting smooth cable ducts to buildings and cable drawing shafts.

The factory pre-assembled, pressure-tight closing cover of the HSI150 GSM also prevents water ingress into the building for cable ducts already connected.

On the inside of the building, the cable should preferably be sealed with split system seals after laying.



## Inclined wall insert HSI150 K2 S30°/45°/60°/X



Die Schräg-Dichtpackung HSI150 ist die ideale Lösung, wenn Kabel oder Kabelschutzrohre schräg durch die Wand geführt werden müssen.

Durch den Schrägeinbau können Kabel unter Einhaltung der Mindestbiegeradien verlegt werden.

Es stehen Ausführungen in 30°, 45° oder 60° als Einfach- bzw. Doppel-Dichtpackung zur Verfügung. Pakete sind einreihig lieferbar. Schräg-Dichtpackungen werden einbaufertig zum schalungsbündigen Einbau mit Styroporkeilen ausgeliefert.



# Polymer flange and system cover

## Flange HSI150 DFK



The polymer flange HSI150 DFK is installed on the outside of the building over a core drill hole (Ø max. 150 mm). Tightness to the wall is achieved by a 6 mm thick overlapping surface seal made of EPDM. The fastening elements including sealing washer are made of high-quality stainless steel. An integrated spirit level simplifies horizontal alignment. All HSI150 system covers and seals can be installed. The HSI150 DFK is both the ideal and a flexible solution if there is no single or double wall insert available on site.



## Shrink-fit system cover HSI150 D1X80, D3X58 OR D7X33



The system covers with bayonet system are installed in the wall inserts before the cables are laid. For sealing the cables, variants with different socket diameters are available depending on the requirements.

Hot or cold shrink sleeves are included.

System covers with larger sockets are additionally supplied with centring tape. Unused sockets are sealed using VS blind plugs.



# System covers and system seals for cables

## Split system cover HSI150 DG 1x36-70, 1x70x112, 3x24-54 or 6x10-36



The system cover HSI150 DG is installed after the cable has been laid. This means that the full cross section of the cable entry is available for laying cables. An adapter ring, which is also split, ensures an optimum sealing fit.

The patented super segmented ring technology with precisely labelled application areas enables the seal insert to be adapted on site according to the cables being laid. The split HSI150 DG and the shrink-fit system covers are suitable for standard power cables and are the preferred solution here.

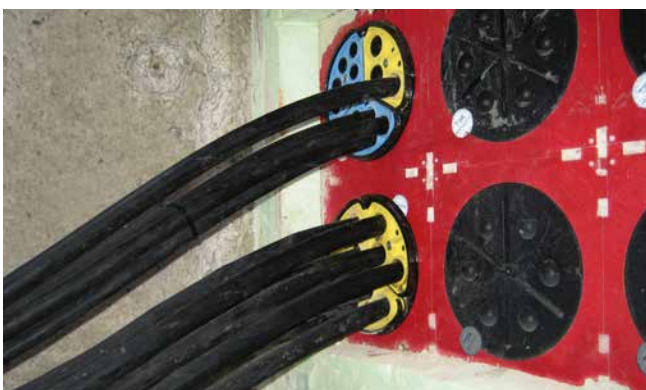


## Segmento



The Technogel used in SEGMENTO is a particularly gentle way of sealing cables. Four segments with an application range of 5 – 31 mm are available, which can be mounted in any combination in the system cover HSI150 S3.

Retrofitting is very straightforward.  
All segments are supplied with plugs.  
A typical use is sealing signal, data and control cables.





# Fire protection

## HSS150 HSI150 – fire protection set for installation in the cable entry HSI150 K2/X



The firewall HSS150 HSI150 for walls is a gastight and watertight firewall with the fire resistance class S90 to DIN 4102-9 for installation in the system HSI150 K2. The seal is created using system covers. The barrier is approved for use with all types of cable in walls and for multiinstallation with HSI150 up to 2x6.

Approval no.: Z-19.15-1906



## HSS100 KB FR HRD – HSS150 KB FR HRD fire protection set for installation in core drill holes/wall sleeves



The fire-stop pads HSS(D) KB FR HRD for core drill holes/wall sleeves up to Ø 100 or 150 mm are installed after the cable has been laid, with installation of the pads possible from one side. The barrier is approved for use with all types of cable in walls. The HSS(D) KB FR HRD has the fire resistance class S90 to DIN 4102-9.

Approval no.: Z-19.15-1792



# System covers for connecting cable ducts

## HSI150 MA System cover with sleeve method



The system cover HSI150 MA allows smooth and corrugated cable ducts with an outer diameter of 110, 125 or 160 mm to be connected. The pipe connection is made via a flexible and sturdy rubber sleeve, which is fitted with stainless steel straps against the system cover and the cable duct.

For connecting corrugated pipes, ring clips for mechanical stabilisation are additionally required. These are positioned under the stainless steel straps. The type and manufacturer of the corrugated pipe must be specified when ordering. For empty duct connections, we recommend placing the cable seal on the inside of the building.



## HSI150 D...KS shrink-fit system cover



Quick and easy connection of corrugated cable ducts (Ø 110 and 125 mm) with a cold shrink sleeve.

Installing empty conduit ducts may enable problematic groundwork on the substation site to be avoided at a later date.



# Cable entry system

## Connection to the wall insert KES MA150 D



The cable entry system KES MA150 D is the perfect solution for a pressure-tight, flexible and rugged empty conduit system. The system cover KES MA150 D with sleeve method provides a gastight and watertight (2.5 bar) connection between the spiral hose Hateflex 14150 and the wall insert HSI150.

Various sealing variants are available for sealing cables at the end of the spiral hose.



## Floor entry KES150 MA ZVR150/500



KES150 MA ZVR150/500 provides a gastight and watertight floor entry for the spiral hose Hateflex and simultaneously offers an optimum sealing fit for press seals. The height is exactly adjusted to the finished floor level by cutting the ZVR after concreting.

The press seals HRD150 SG... can be used for cable sealing in the ZVR.



# Cable entry system

## Connection set for core drill holes/wall sleeves KES150 MA KB Set



Cable duct sealing in waterproof concrete with two press seals HSD 200 1x159 on the inside and outside of the wall. The cable seal in the cable duct is created with a standard press seal HRD150 SG on the inside of the wall. With this solution, water can be present in the cable duct without this resulting in leaks or damage to the building. The expanding forces exerted on the cable duct by the cable seal are absorbed by the pipe seal.

Additional variants on request

## Cable entry system KES150 MA160-172/140-163 WE



The sleeves KES150 MA160-172/140-163 WE are designed to connect smooth ducts to the Hateflex spiral hose. This enables rigid cable ducts to be flexibly extended as far as the connection on the building with the cable entry system, for example to compensate for a height offset.



## Cable duct end stop KES150 MA WE160 SG Set



Using a sleeve and a split standard interchangeable insert with segmented ring technology, a seal can be created at the empty conduit end on cables that have already been laid. The sleeve is installed before the cables are laid.

The entire cross section of the cable entry system is available when laying cables. In addition to the existing sealing set comprising sleeve and split standard interchangeable insert with segmented ring technology, individual interchangeable inserts are also available.



# Standard wall sleeves and flanges

## Cement-coated wall sleeve ZVR



The ZVR is available in diameters of 50 – 300 mm and is installed flush with the formwork. Alternatively it is also suitable for installation in wall recesses and break-throughs.

The break-resistant, inherently stable plastic liner with cement-bound special coating provides an optimum connection with the concrete. All press seals can be used for sealing cables or pipes.



## Flange FA/FAG for retrofit dowelling in closed and split design for subsequent mounting on sheet steel, sheet metal housings or concreted walls



Tightness to the wall/housing is achieved by a 10 mm thick surface seal made of EPDM. The flange and the fastenings for concrete including sealing rings are made of stainless steel and therefore provide optimum corrosion protection.

All press seals can be used for sealing cables or pipes. Flanges for retrofit dowelling can also be fabricated individually in accordance with your requirements and can, for example, be mounted over larger recesses/break-throughs.

Flanges with several pipe sockets are also available.



# Standard press seals and sealing set

## Standard press seal HSD



The press seal HSD is an effective and low-cost solution for sealing smooth cable ducts in core drill holes and wall sleeves.

The extremely rugged stainless steel U-profile press segments with integrated torque control provide optimum pressing action and offer outstanding corrosion protection..



## Corrugated pipe seal WRD



The corrugated pipe seal WRD is the optimum sealing solution for corrugated cable ducts. The patented ring clips ensure a uniform distribution of the contact pressure and gentle sealing without any penetration of the sealing rubber into the pipe corrugation. This prevents deformation of and damage to the corrugated pipe in the first place.

The supplied insulation ring centres the corrugated pipe and neatly finishes and insulates the wall connection.

With a cable seal in the corrugated pipe, the press seal HRD must be positioned directly underneath the press seal of the WRD to prevent deformation.



# Standard press seals

## Standard press seal HRK SSG



The split press seal HRK SSG is used to seal cables already installed in core drill holes/wall sleeves. This means that the entire wall sleeve/core drill hole space is available for laying cables.

The super segmented ring technology means that the seal insert can be adapted right on site according to the cables being laid. The labelled segments provide an extremely high level of application security here.

Unused openings are sealed with the plugs included in the scope of delivery. Variants with outer diameters of 100, 150 and 200 mm are available.

The press plates are made of high-quality glass fibre reinforced polyamide and feature integrated form-fitting connections for maximum stability and twist resistance. The bolts and nuts are made of A2 stainless steel (AISI 304L).



## Standard press seal HRD SG



The split press seal HRD SG is designed to seal cables already laid through core drill holes/wall sleeves. This means that the entire wall sleeve/core drill hole space is available for laying cables.

The segmented ring technology means that the seal insert can be adapted on site according to the cables being laid.

Unused openings are sealed with the plugs included in the scope of delivery. Variants with outer diameters of 80, 100, 125, 150 and 200 mm are available. The press plates are made of high-quality A2 stainless steel (AISI 304L).



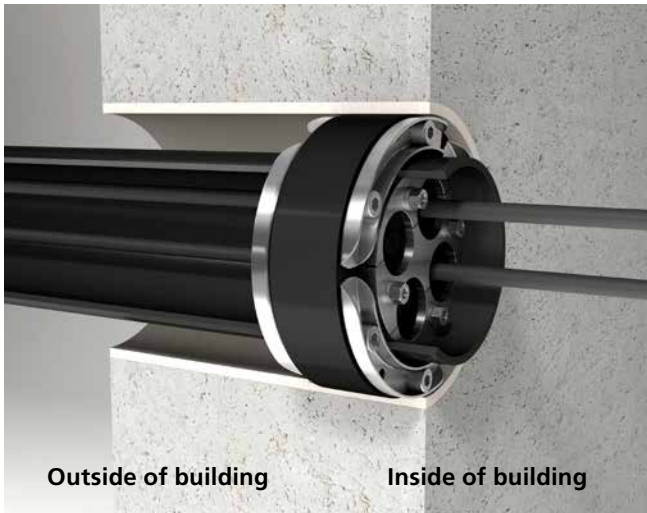
# Standard press seals



## With duct connection – thicker wall

Cable duct sealing in waterproof concrete with two press seals HSD200 1x159 on the inside and outside of the wall. The cable seal in the cable duct is created with a standard press seal HRD 150 SG on the inside of the wall. With this solution, water can be present in the cable duct without this resulting in leaks or damage to the building. The expanding forces exerted on the cable duct by the cable seal are absorbed by the pipe seal.

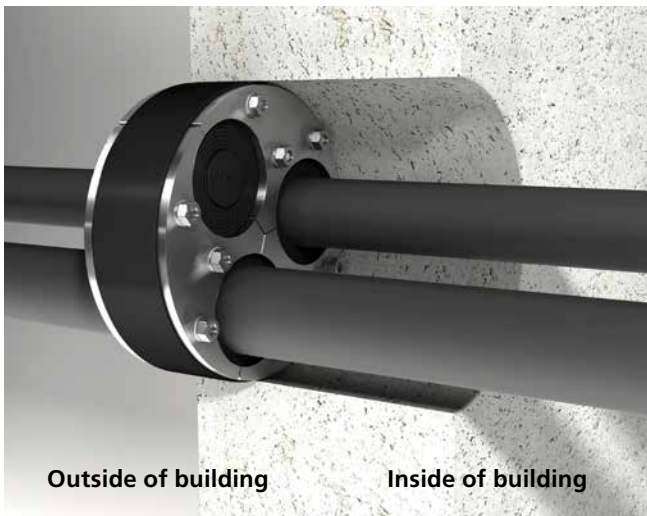
Additional variants on request.



## With duct connection – thinner wall

Cable duct sealing with a press seal HSD150 1x110 in the wall sleeve on the inside of the building. The cable seal in the cable duct is likewise created on the inside of the wall. The cables are sealed with a standard press seal HRD100 SG. This solution provides an optimum seal for the cable duct and cables. The expanding forces exerted on the cable duct by the cable seal are absorbed by the pipe seal. When using the sealing system for core drill holes in waterproof concrete, the seals must be positioned flush with the outside wall to prevent water ingress into the core drill hole.

Additional variants on request.



## Without duct connection

Cable sealing with a press seal in a core drill hole in waterproof concrete. The seal must be positioned flush with the outside wall to prevent water ingress into the core drill hole. When using wall sleeves, the cable seal position can be freely selected.



# Individual press seals

## Individual press seal HRD LAU (ABZ Z-74.91-195)



The individual press seal HRD LAU with building inspection approval certificate for use in facilities for storage, filling and handling is designed to seal cables and pipes in core drill holes/wall sleeves.

The press seal made of A4 stainless steel (AISI 316L) and silicone is tested and certified for resistance to transformer oils and can be used in oil collection pans. Variants with an outer diameter of 100 to 500 mm with a configuration of 1 to 3 cables/pipes are available.

Article numbers, GTIN and price on request Other variants available at [www.hauff-technik.com](http://www.hauff-technik.com).

# Earthings

## Earthing entry HEA M12/X or M16/X



The earthing entry HEA M12 has a specially contoured contact washer for patented twist resistance and is suitable for installation flush with the formwork in waterproof concrete.

Earthing connections can be made with the thread on both sides in the conductor core.

Also available for element walls.



## Earthing entry with terminal lug and cross-clamp HEA PK M12/X or HEA PK M16/x



The earthing entry HEA PK has a specially contoured contact washer for patented twist resistance and is suitable for installation flush with the formwork in waterproof concrete.

Earthing connections can be made on the inside and outside with the thread on both sides in the conductor core. There is a tab with cross-clamp for making an earthing connection in the wall.



## Insulated earthing entry HEA IS M12/x



The insulated earthing entry from Hauff-Technik is particularly suitable for station construction and also serves as an optional measuring isolation point for the earthing system.

The function of the ring earth electrode outside the station can be checked separately via the insulated earthing entries. Round or flat steels or cable shoes can be connected via crossclamps or connection bolts. Successful short-circuit test according to DIN EN 50522 (VDE 0101-2):2011-11.



## Earthing fixed point HEA A M12/x for welding to core iron on the station building



The earthing fixed point for station construction can be used for equipotential bonding and earthing the transformer station. With the conductor core made of corrosion-resistant A2 stainless steel, the connection point of the station earthing can be installed inside or outside. Due to the black-and-white transition and the practical connection groove, the core iron can be welded on without changing the material. Suitable for distances between formwork and core iron of 50 or 70 mm.

Successful short-circuit test according to DIN EN 50522 (VDE 0101-2):2011-11.






# Wall inserts and polymer flange

HSI150 – Wall insert	
Figure	Article code
<b>Single wall insert above wall thickness 70 mm</b>	
	HSI150 1x1 K/X*1
<b>Double wall insert minimum wall thickness 100 mm</b>	
	HSI150 1x1 K2/X*1
<b>Single wall insert with integrated sealing flange HSI150 1x1 K AF/X 1 = number of rows, 1 = number of columns, X = wall thickness (mm)</b>	
	HSI150 1x1 K AF/X
<b>Double wall insert with integrated sealing flange HSI150 1x1 K2 AF/X 1 = number of rows, 1 = number of columns, X = wall thickness (mm)</b>	
	HSI150 1x1 K2 AF/X
<b>Single wall insert with foldable rubber sleeve for setting in concrete and connecting corrugated cable ducts, minimum wall thickness 120 mm</b>	
	HSI150 1x1 KMA AF/X
<b>Single wall insert with integrated push fit socket diameter ID 110 mm, minimum wall thickness 120 mm</b>	
	HSI150 1x1 GSM110/X*1*2
<b>Single wall insert with integrated push fit socket diameter ID 125 mm, minimum wall thickness 120 mm</b>	
	HSI150 1x1 GSM125/X*1*2
<b>Single wall insert with integrated push fit socket diameter ID 160 mm, minimum wall thickness 180 mm, block assembly only in conjunction with spacer</b>	
	HSI150 1x1 GSM160/X*1

\*1 The article numbers for the exact wall thicknesses can be found at [www.hauff-technik.com](http://www.hauff-technik.com)  
Standard lengths 70 to 500 mm (gradation in 10 mm)



\*2 Possible restrictions for cable configurations

<b>HSI150 1xz K2 S_°/X</b>			
<b>Figure</b>	<b>Installation angle</b>	<b>Minimum wall thickness (mm)</b>	<b>Article code</b>
<b>Slanted double wall insert S30°, z = number of columns</b>			
	30°	240	<b>HSI150 1xz K2 S30°/X</b>
<b>Slanted double wall insert S45° z = number of columns</b>			
	45°	250	<b>HSI150 1xz K2 S45°/X</b>
<b>Slanted double wall insert S45°z = number of columns</b>			
	60°	300	<b>HSI150 1xz K2 S60°/X</b>



Article numbers and GTIN on request.


z = number of openings alongside each other  
S = installation angle in °. X = wall thickness in




The minimum concrete covering of 200 mm according to the waterproof concrete directive (information sheet H10) is only reached above a wall thickness of 342 mm (S45° – 385 mm; S60° – 420 mm) with the slanted wall insert HSI150 K2 S30°.

<b>HSI150/90 – Polymer flange</b>			
<b>Figure</b>	<b>Article code</b>	<b>Article number</b>	<b>GTIN</b>
<b>Polymer flange including attachment elements made of stainless steel A4 (AISI 316L) and sealing rings for concrete walls</b>			
	<b>HSI150 DFK</b>	2118010020	4052487156264
	<b>HSI90 DFK</b>	3030466887	4052487240529

# System covers and system seals for cables





Optional accessories			
Figure	Article code	Article number	GTIN
290 ml cartridge, colour grey, elastic sealant to optimize wall surface in combination with sealing flanges			
	EGO SMP805	5020050084	4052487238533
Spacer set (2 x) to enlarge the axial spacing of the wall inserts to 250 mm. Enables block assembly HSI150 with HSI90			
	HSI AH40	3030300093	4052487220156

HSI150 – Closing cover				
Figure	Article	Article code	Article number	GTIN
Transparent closing cover				
	Blind cover	HSI150 DT	2126010172	4052487193566


HSI150 – Heat-shrink system cover				
Figure	Application range cable / pipe diameter (mm)	Article code	Article number	GTIN
System cover with 1 socket, included 1 x hot shrink sleeve 1 x centring tape				
	25 – 78	HSI150 D1x80 WS	2101100010	4052487054966
System cover with 3 sockets, included 3 x hot shrink sleeve 1 x centring tape				
	22 – 56	HSI150 D3x58 WS	3030300082	4052487054997
System cover with 7 sockets, included 7x hot shrink sleeve				
	12 – 31	HSI150 D7x33 WS	3030300083	4052487197632

Design with cold shrink sleeves available on request.






## HSI150 DG – System cover for retrofit installation




Figure	Application range cable / pipe OD (mm)	Article code	Article number	GTIN
<b>Split system cover with 1 opening including split adapter ring</b>				
	36 – 70	<b>HSI150 DG 1x36-70</b>	2102200020	4052487121064
<b>Split system cover with 1 opening including split adapter ring</b>				
	70 – 112	<b>HSI150 DG 1x70-112</b>	2102200030	4052487121071
<b>Split system cover with 3 openings including split adapter ring and 3x blind plugs</b>				
	24 – 54	<b>HSI150 DG 3x24-54</b>	2102200000	4052487055444
<b>Split system cover with 6 openings including split adapter ring and 6x blind plugs</b>				
	10 – 36	<b>HSI150 DG 6x10-36</b>	2102200010	4052487055451

## Accessories for split system cover

Figure	Article code	Article number	GTIN
<b>Toolset for installation, comprising 1 torque wrench 4-20 Nm ¼-inch, 1 adapter for cordless screwdriver square end ¼ inch, 2 extensions 150 mm ¼ inch, 1 extension 100 mm ¼ inch, 1 wrench socket M6 SW 5 ¼ inch, 1 wrench socket M6 100 mm with ball head ¼ inch, 1 hexagon spanner M8 50 mm with ball head, ¼ inch</b>			
	<b>HSI150 DG/HRK SSG WKZ</b>	5200010300	4052487233460

# System covers and system seals for cables

<b>HSI150 – Segmento</b>			
<b>Figure</b>	<b>Article code</b>	<b>Article number</b>	<b>GTIN</b>
<b>System cover for holding segments</b>			
	<b>HSI150 S3</b>	3030300088	4052487062046
<b>The violet segment application range for 2 cables, diameter 20 – 31 mm including 2 blind plugs</b>			
	<b>SEG 2x31</b>	3030300180	4052487215442
<b>The yellow segment application range for 3 cables, diameter 20 – 26 mm including 3 blind plugs</b>			
	<b>SEG 3x26</b>	3030300181	4052487215459
<b>The blue segment application range for 6 cables, diameter 15 – 21 mm including 6 blind plugs</b>			
	<b>SEG 6x21</b>	3030300182	4052487215466
<b>The orange segment application range for 8 cables, diameter 5 – 15 mm including 8 blind plugs</b>			
	<b>SEG 8x15</b>	3030300183	4052487215473

<b>Accessories for Segmento system cover</b>			
<b>Figure</b>	<b>Article code</b>	<b>Article number</b>	<b>GTIN</b>
<b>SEGMENTO torque screwdriver (1.2 Nm) with acoustic signal generator</b>			
	<b>DSD</b>	5200010236	4052487233477
<b>SEGMENTO special lubricant 10 g</b>			
	<b>GMS</b>	5020050021	4052487238557
<b>SEGMENTO assignment template to determine the suitable segments according to the cable diameter</b>			
	<b>BSS</b>	2300320000	4052487062244



# Fire protection

## HSS – Fire protection set S90 and tools

Figure	Core drill hole / wall sleeve ID (mm)	Article code	Article number	GTIN
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Approval no: Z-19.15-1906 – fire protection S90

**Gas-tight fire protection set in conjunction with HRD comprising fire-stop pads 2x HVS K250, 3x HVS KB60, 1x label, stainless steel belt**

	up to 100	<b>HSS100 KB FR HRD</b>	5030010032	4052487233569
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**Gas-tight fire protection set in conjunction with HRD comprising: fire-stop pads 2x HV K400, 3x HVS K250, 3x HVS KB 60, 1x label, stainless steel belt**

	up to 150	<b>HSS150 KB FR HRD</b>	5030010033	4052487233545
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HRD rubber press seal not included.

## HSS universal fire-resistant sealing for cable entry HSI150

Figure	Sealing variant	Article code	Article number	GTIN
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Approval no: Z-19.15-1906 – fire protection S90

**Gas-tight fire protection set in conjunction with system sealing HSI150 comprising: fire-stop pads 1x HVS K720, 1x HVS K400, 4x HVS K250 / 2, 4x HVS KB 60, abel, stainless steel belt**

 e.g.. HSS150/DG	SEGMENTO/system cover	<b>HSS150 HSI150</b>	5030010030	4052487233606
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**Gas-tight fire protection set in conjunction with system sealing HSI150 comprising: fire-stop pads 2x HVS K400, 3x HVS K250, 3x HVS KB-60, abel, stainless steel belt**

	HRD-press seal	<b>HSS150 HSI150 HRD</b>	5030010031	4052487233583
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# Fire protection

## HVS fire protection S90 pad firewall system for core drill holes and wall sleeves

Figure	Core drill hole / wall sleeve ID (mm)	Article code	Article number	GTIN
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Approval no.: Z-19.15-1792

**Fire protection set comprising:  
Fire-stop pads 3x HVS K250 / 2, 5x HVS KB 60, 1x label, 2x stainless steel belt**

	Up to Ø 100	<b>HVS KK100</b>	5030010010	4052487233668
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**Fire protection set comprising:  
Fire-stop pads 2x HVS K400, 5x HVS K250 / 2, 6x HVS-KB 60, 1x label, 2x stainless steel belt**

	Up to Ø 150	<b>HVS KK150</b>	5030010011	4052487233644
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**Fire protection set comprising:  
Fire-stop pads 2x HVS K720, 2x HVS K400, 5x HVS K250 / 2, 8x HVS KB 60, 1x label, 4x stainless steel belt**


	Up to Ø 200	<b>HVS KK200</b>	5030010012	4052487233620
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HRD rubber press seal not included.

## Accessories

Figure	Article code	Article number	GTIN
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**Fitting panel for close-fitting installation of HVS / HSS fire-stop pads**


	<b>HVS/HSS MBL</b>	2600024100	4052487132145
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## System covers for connecting cable ducts

### HSI150 – sleeve method for smooth and corrugated pipes

Figure	Duct OD (mm)	Article code	Article number	GTIN
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#### System cover for smooth ducts

	110	<b>HSI150 MA110 GR</b>	2126010110	4052487058346
	125	<b>HSI150 MA125 GR</b>	2126010125	4052487058360
	140	<b>HSI150 MA145 GR</b>	2126010140	4052487058377
	160	<b>HSI150 MA168 GR</b>	2126010000	4052487058292

#### System cover for corrugated ducts\* including clip rings for Kabuflex

	110	<b>HSI150 MA110 WR*</b>	2126010113	4052487124980
	125	<b>HSI150 MA125 WR*</b>	2126010007	4052487124973
	160	<b>HSI150 MA168 WR*</b>	2126010001	4052487058308

\* For corrugated duct connections, clip rings CR are additionally required (please specify duct type and manufacturer in your order). In addition 2 x profile sleeves from the corrugated duct manufacturer are required for each duct connection.

### HSI150 – cold shrink-fit method for corrugated pipes

Figure	Duct OD (mm)	Article code	Article number	GTIN
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#### System cover for corrugated ducts

	110	<b>HSI150 D1x110 KS WR</b>	2102100060	4052487055338
	125	<b>HSI150 D1x125 KS WR</b>	2102100070	4052487055352

### Accessories for cold-shrink system cover

Figure	Article code	Article number	GTIN
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#### Replacement shrink sleeves for HSI150 D1x1110 KS WR

	<b>KSM I223 2x119-56</b>	5170040004	4052487232982
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#### Replacement shrink sleeves for HSI150 D1x1125 KS WR

	<b>KSM I240 2x154-76</b>	5170040006	4052487232999
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## Cable entry system



<b>KES150 MA – Cable entry system</b>			
Figure	Article code	Article number	GTIN
<b>System cover for pressure-tight connection of spiral hose Hateflex14150 to wall insert HSI150</b>			
	<b>KES MA150 D</b>	2125810000	4052487058070
<b>Cement-coated wall sleeve (length 500 mm) with sleeve for floor entry of spiral hose Hateflex14150</b>			
	<b>KES150 MA ZVR150/500</b>	2125502000	4052487139991
<b>Connection set for core drills / wall sleeve including two press seals to connect the spiral hose Hateflex14150 to core drills diameter 200 mm for max. wall thickness 500 mm *</b>			
	<b>KES150 MA KB SET</b>	2125818500	4052487140409





\* other variants available at [www.hauff-technik.com](http://www.hauff-technik.com).

<b>Spiral hose with smooth inner surface for gentle cable feeding, ID = 150 MM (standard lengths)</b>				
Figure	Length (m)	Article code	Article number	GTIN
	2	<b>Hateflex14150/2000B</b>	3030366925	4052487233163
	3	<b>Hateflex14150/3000B</b>	3030366901	4052487233118
	4	<b>Hateflex14150/4000B</b>	3030366902	4052487233101
	5	<b>Hateflex14150/5000B</b>	3030366904	4052487233095
	6	<b>Hateflex14150/6000B</b>	3030366909	4052487233057
	8	<b>Hateflex14150/8000B</b>	3030366912	4052487233033
	10	<b>Hateflex14150/10000B</b>	3030366915	4052487233231
	12	<b>Hateflex14150/12000B</b>	3030366918	4052487233217
	15	<b>Hateflex14150/15000B</b>	3030366921	4052487233194
	18	<b>Hateflex14150/18000B</b>	3030366923	4052487233187
	20	<b>Hateflex14150/20000B</b>	3030366924	4052487233170
	25	<b>Hateflex14150/25000B</b>	3030366893	4052487232869

Custom lengths on request.









## Cable entry system

Accessories for CABLE ENTRY SYSTEMS – FLOOR ENTRY			
Figure	Article code	Article number	GTIN
<b>Installation fixture KES FUBO-FIX AV C-rack (length: 1100 mm) with 4 adjustable earth spikes</b>			
	KES FUBO-FIX AV	1900500165	4052487165693
<b>Fastening bow for diameter 160 mm suitable for fixing the KES150 MA ZVR150/500 at the installation fixture including attachment elements (side by side arrangement possible)</b>			
	KES150 FUBO-FIX BB160	1900500167	4052487165716

KES150 MA – Cable duct end stop			
Figure	Article code	Article number	GTIN
<b>Sealing set KES150 MA WE including split interchangeable insert with segmented ring technology for the cable seal at the end of the spiral hose Hateflex14150: for 1 cable, diameter 48 – 83 mm or 3 cables, diameter 22 – 58 mm or 6 cables, diameter 8 – 36 mm (installation of sleeve prior to cable laying) including blind plug</b>			
	KES150 MA WE160 SG 1x48-83 SET	2125817103	4052487164764
	KES150 MA WE160 SG 3x22-58 SET	2125817102	4052487164757
	KES150 MA WE160 SG 6x8-36 SET	2125817101	4052487164740
<b>Sleeve for fitting with interchangeable insert WE 160-z / d for cable seal on spiral hose end of Hateflex14150 (installation prior to cable laying)</b>			
	KES150 MA 160-172/140-163 WE	2125817100	4052487120937
<b>Split interchangeable insert with segmented ring technology for installation in sleeve KES150 MA WE for sealing: of 1 cable, diameter 48 – 83 mm or 3 cables, diameter 22 – 58 mm or 6 cables, diameter 8 – 36 mm including blind plug</b>			
	WE160 SG 1x48-83	0825817116	4052487164719
	WE160 SG 3x22-58	0825817115	4052487164702
	WE160 SG 6x8-36	0825817114	4052487164696
<b>Split interchangeable insert for installation in sleeve KES150 MA WE production according to cable use z = number of cables, d = cable diameter</b>			
	WE160 zxd	*	*

\* Article numbers, GTIN and price on request\*  
Other variants available at [www.hauff-technik.com](http://www.hauff-technik.com).


# Cable entry system

Cable entry systems			
Figure	Article code	Article number	GTIN
<b>Connection sleeve to connect rigid cable ducts OD = 110 mm* to spiral hose Hateflex14150</b>			
	KES150 MA160-172/140-163 AR111	2125814000	4052487058131
<b>Connection sleeve to connect rigid cable ducts OD = 125 mm* to spiral hose Hateflex14150</b>			
	KES150 MA160-172/140-163 AR126	2125813000	4052487058124
<b>Connection sleeve for hose extension / connection Hateflex14150</b>			
	KES150 MA150-172/150-172	2128020000	4052487058407
<b>Connection sleeve to connect rigid cable ducts OD = 160 mm* to spiral hose Hateflex14150</b>			
	KES150 MA140-163/160-175	2125812000	4052487058100
<b>1 set of clip rings to stabilize the corrugated pipe* within the sleeve suitable for Kabulfex (please specify pipe type and manufacturer in your order)</b>			
	CR110	1630500110	4052487134491
	CR125	1630500125	4052487134514
	CR160	1630500160	4052487134538
<b>Rigid pipe section 440 mm projecting and OD = 160 mm with sleeve for connection to spiral hose Hateflex14150 (tight wall sealing in core drills in combination with an HRD press seal).</b>			
	KES150 MA160-172/140-163 SET	2125818000	4052487058278
<b>Spacer 1 x 2 to attach and position hose blocks with Hateflex14150 (can be combined with a simple connection system)</b>			
	KES150 1x2 AH PP	3030359940	4052487227797
<b>Toolset for pressure-tight strap assembly, comprising 1 torque 4-20 Nm, ¼ inch, 1 extension 150 mm, ¼ inch, 1 socket for hexagon spanner SW 13, ¼ inch, 1 socket for hexagon spanner SW 8, ¼ inch</b>			
	KES MA WKZ SET	5200010302	4052487233453

\* Additional clip rings CR are necessary to connect corrugated pipes.  
In addition 2 x profile sleeves from the corrugated pipe manufacturer are required for each pipe connection.

# Wall sleeves and flange wall sleeves

## ZVR – Cement-coated wall sleeve

Figure	Wall sleeve ID (mm)	Wall sleeve OD (mm)	Article code	Article number
	50	59	ZVR50/X FC	1200050XXX*
	80	95	ZVR80/X FC	1200080XXX*
	100	115	ZVR100/X FC	1200100XXX*
	125	142	ZVR125/X FC	1200125XXX*
	150	167	ZVR150/X FC	1200150XXX*
	200	219	ZVR200/X FC	1200200XXX*
	250	269	ZVR250/X FC	1200250XXX*
	300	321	ZVR300/X FC	1200300XXX*

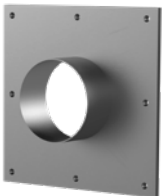
X = wall thickness in mm

\* The article numbers and GTINs for the exact wall thicknesses can be found at: [www.hauff-technik.com](http://www.hauff-technik.com)


Standard lengths: 200, 240, 250, 300, 365, 400, 500 mm Other wall sleeve diameters on request.

Above a length of > 600 mm, the cement-coated pipe has a 250 mm coating on each side.

## FA

Figure	Wall sleeve ID (mm)	Wall sleeve wall thickness (mm) S	Flange standard dimensions (mm)	Article code	Article number
	80	2	□170	FA1x80/80/0 A2	0910820000
	100	2	□185	FA1x100/80/0 A2	0910830000
	125	2	□205	FA1x125/80/0 A2	0910840000
	150	2	□225	FA1x150/80/0 A2	0910850000
	200	3	Ø 350	FA1x200/80/0 A2	0910870000

## FAG






Figure	Wall sleeve ID (mm)	Wall sleeve wall thickness (mm) S	Flange standard dimensions (mm)	Article code	Article number
	80	1,5	□170	FAG1x80/80/0 A2	0910910000
	100	2	□185	FAG1x100/80/0 A2	0910920000
	125	2	□205	FAG1x125/80/0 A2	0910930000
	150	2	□225	FAG1x150/80/0 A2	0910950000
	200	2,5	□280	FAG1x200/80/0 A2	0910960000
	250	2	Ø 400	FAG1x250/80/0 A2	0910970000
	300	3	Ø 450	FAG1x300/80/0 A2	0910980000
	350	3	Ø 500	FAG1x350/80/0 A2	0910983500
	400	3	Ø 550	FAG1x400/80/0 A2	0910990000
	450	4	Ø 600	FAG1x450/80/0 A2	0910990002
	500	4	Ø 650	FAG1x500/80/0 A2	0910990003

## Standard press seals

Standard press seal HSD,, A2/EPDM55, sealing width 40 mm					
Core drill hole / wall sleeve ID (mm)	Suitable for media pipe OD (mm)		Article code	Article number	GTIN
	from	to			
100	32	34	<b>HSD100 1x32 b40 A2/EPDM55</b>	1650010032	4052487121347
	40	43	<b>HSD100 1x40 b40 A2/EPDM55</b>	1650010040	4052487121408
	48	51	<b>HSD100 1x48 b40 A2/EPDM55</b>	1650010048	4052487121460
	60	63,5	<b>HSD100 1x60 b40 A2/EPDM55</b>	1650010060	4052487121521
125	60	63,5	<b>HSD125 1x60 b40 A2/EPDM55</b>	1650012060	4052487121583
	75	77	<b>HSD125 1x75 b40 A2/EPDM55</b>	1650012075	4052487121644
	78	81	<b>HSD125 1x78 b40 A2/EPDM55</b>	1650012085	4052487121705
150	78	81	<b>HSD150 1x78 b40 A2/EPDM55</b>	1650015078	4052487121828
	88	92	<b>HSD150 1x88 b40 A2/EPDM55</b>	1650015088	4052487121880
	110	113	<b>HSD150 1x110 b40 A2/EPDM55</b>	1650015110	4052487121941
200	110	113	<b>HSD200 1x110 b40 A2/EPDM55</b>	1650020100	4052487122047
	114	119	<b>HSD200 1x114 b40 A2/EPDM55</b>	1650020110	4052487122108
	125	128	<b>HSD200 1x125 b40 A2/EPDM55</b>	1650020120	4052487122160
	133	136	<b>HSD200 1x133 b40 A2/EPDM55</b>	1650020130	4052487122221
	139	141	<b>HSD200 1x139 b40 A2/EPDM55</b>	1650020140	4052487122283
	159	163	<b>HSD200 1x159 b40 A2/EPDM55</b>	1650020150	4052487122344






# Corrugated pipe seal

WRD				
Figure	Nominal width (mm)	Article code	Article number	GTIN
<b>Core drill hole/wall sleeve ID 100 mm</b>				
	63	<b>WRD100 1x63 b40 A2/EPDM55–Kabuflex</b>	1610100063*	4052487042116*
	<b>Core drill hole/wall sleeve ID 125 mm</b>			
	63	<b>WRD125 1x63 b40 A2/EPDM55 – Kabuflex</b>	1610125063*	4052487132534*
	75	<b>WRD125 1x75 b40 A2/EPDM55 – Kabuflex</b>	1610125075*	4052487042192*
<b>Core drill hole/wall sleeve ID 150 mm</b>				
	75	<b>WRD150 1x75 b40 A2/EPDM55–Kabuflex</b>	1610150075*	4052487042208*
	90	<b>WRD150 1x90 b40 A2/EPDM55 – Kabuflex</b>	1610150090*	4052487042215*
	110	<b>WRD150 1x110 b40 A2/EPDM55 – Kabuflex</b>	1610150110*	4052487042222*
<b>Core drill hole / wall sleeve ID 200 mm</b>				
	110	<b>WRD200 1x110 b40 A2/EPDM55 – Kabuflex</b>	1610200110*	4052487042239*
	125	<b>WRD200 1x125 b40 A2/EPDM55–Kabuflex</b>	1610200125*	4052487042253*
	160	<b>WRD200 1x160 b40 A2/EPDM55 – Kabuflex</b>	1610200160*	4052487042277*
<b>Core drill hole / wall sleeve ID 250 mm</b>				
	160	<b>WRD250 1x160 b40 A2/EPDM55–Kabuflex</b>	1610250160*	4052487042314*
	200	<b>WRD250 1x200 b40 A2/EPDM55–Kabuflex</b>	1610250300*	4052487181907*

\*GTIN and article number depend on the type of pipe and pipe manufacturer.

Other sizes on request.

## Standard press seals

<b>HRK SSG – Standard press seal with super segmented technology</b>						
<b>Figure</b>	<b>Number of cables</b>	<b>Cable OD (mm)</b>	<b>Article code</b>		<b>Article number</b>	<b>GTIN</b>
<b>Core drill hole / wall sleeve ID (mm) 100</b>						
	1	18 – 65	<b>HRK100 SSG 1x18-65 b40 PAGF/A2/EPDM55</b>	1	3030300044	4052487129268
	4	8 – 30	<b>HRK100 SSG 4x8-30 b40 PAGF/A2/EPDM55</b>	1	3030300045	4052487129251
<b>Core drill hole / wall sleeve ID (mm) 150</b>						
	1	36 – 70	<b>HRK150 SSG 1x36-70 b40 PAGF/A2/EPDM55*</b>	1	3030300046	4052487223614
	1	70 – 112	<b>HRK150 SSG 1x70-112 b40 PAGF/A2/EPDM55*</b>	1	3030300047	4052487129305
	3	24 – 54	<b>HRK150 SSG 3x24-54 b40 PAGF/A2/EPDM55</b>	1	1600101630	4052487129275
	6	10 – 36	<b>HRK150 SSG 6x10-36 b40 PAGF/A2/EPDM55</b>	1	3030300048	4052487126373
<b>Core drill hole / wall sleeve ID (mm) 200</b>						
	1	110 – 162	<b>HRK200 SSG 1x110-162 b40 PAGF/A2/EPDM55*</b>	1	3030300049	4052487223652
	3	40 – 72	<b>HRK200 SSG 3x40-72 b40 PAGF/A2/EPDM55</b>	1	3030300050	4052487134576

# Standard press seals

HRD SG – Standard press seal with segmented ring technology					
Total Number of cables	Number of cables	Cable diameter OD	Article code	Article number	GTIN
<b>Core drill hole / wall sleeve ID (mm) 80</b>					
1	1	6 – 41	<b>HRD80 SG 1x6-41 b40 A2/EPDM55</b>	2700100108	4052487000109
<b>Core drill hole / wall sleeve ID (mm) 100</b>					
1	1	24 – 52	<b>HRD100 SG 1x24-52 b40 A2/EPDM55</b>	2700101000	4052487168038
4	4	8 – 30	<b>HRD100 SG 4x8-30 b40 A2/EPDM55</b>	2700102000	4052487000130
8	8	4 – 16,5	<b>HRD100 SG 8x4-16,5 b40 A2/EPDM55</b>	2700103000	4052487000147
5	2	8 – 30	<b>HRD100 SG 2x8-30 3x4-16,5 b40 A2/EPDM55</b>	2700103500	4052487000154
	3	4 – 16,5			
<b>Core drill hole / wall sleeve ID (mm) 104</b>					
1	1	24 – 52	<b>HRD104 SG 1x24-52 b40 A2/EPDM55</b>	2700103615	4052487129695
4	4	8 – 30	<b>HRD104 SG 4x8-30 b40 A2/EPDM55</b>	2700103610	4052487127370
8	8	4 – 16,5	<b>HRD104 SG 8x4-16,5 b40 A2/EPDM55</b>	2700103620	4052487129213
<b>Core drill hole / wall sleeve ID (mm) 125</b>					
3	3	10 – 40	<b>HRD125 SG 3x10-40 b40 A2/EPDM55</b>	2700103750	4052487063913
6	6	6 – 31	<b>HRD125 SG 6x6-31 b40 A2/EPDM55</b>	2700103800	4052487000161
10	10	4 – 16,5	<b>HRD125 SG 10x4-16,5 b40 A2/EPDM55</b>	2700103850	4052487000178
<b>Core drill hole / wall sleeve ID (mm) 150</b>					
1	1	12 – 75	<b>HRD150 SG 1x12-75 b40 A2/EPDM55</b>	2700103996	4052487063951
1	1	75 – 110	<b>HRD150 SG 1x75-110 b40 A2/EPDM55</b>	2700103998	4052487063968
3	3	22 – 54	<b>HRD150 SG 3x22-54 b40 A2/EPDM55</b>	2700104000	4052487000185
6	6	8 – 35	<b>HRD150 SG 6x8-35 b40 A2/EPDM55</b>	2700105000	4052487000192
9	9	6 – 25	<b>HRD150 SG 9x6-25 b40 A2/EPDM55</b>	2700106000	4052487000208
10	4	8 – 30	<b>HRD150 SG 4x8-30+6x4-16,5 b40 A2/EPDM55</b>	2700106500	4052487000215
	6	4 – 16,5			
<b>Core drill hole / wall sleeve ID (mm) 200</b>					
7	3	6 – 54	<b>HRD200 SG 3x6-54+4x6-26 b40 A2/EPDM55</b>	2700107000	4052487000222
	4	6 – 26			
15	7	10 – 32	<b>HRD200 SG 7x10-32+8x3,5-16,5 b40 A2/EPDM55</b>	2700108000	4052487000239
	8	3,5 – 16,5			

## Earthing entries

HEA M – Entry for earthing in concrete			
Item	Article code	Article number	GTIN
Entry for earthing connections made of stainless steel A4 (AISI 316L), connection M 12 on both sides, with water barrier and protective foils, for wall thickness 70 mm	<b>HEA M12/70</b>	1700010070	4052487044479
Entry for earthing connections made of stainless steel A4 (AISI 316L), connection M 12 on both sides, with water barrier and protective covers, for wall thickness 100 mm	<b>HEA M12/100</b>	1700010100	4052487044493
Entry for earthing connections made of stainless steel A4 (AISI 316L), connection M 12 on both sides, with water barrier and protective covers, for wall thickness 150 mm	<b>HEA M12/150</b>	1700010150	4052487044509
Entry for earthing connections made of stainless steel A4 (AISI 316L), connection M 12 on both sides, with water barrier and protective covers, for wall thickness 200 mm	<b>HEA M12/200</b>	1700010200	4052487044516
Entry for earthing connections made of stainless steel A4 (AISI 316L), connection M 12 on both sides, with water barrier and protective covers, available for wall thicknesses 210 – 500 mm	<b>HEA M12/X</b>	on request	on request
Entry for earthing connections made of stainless steel A4 (AISI 316L), connection M 16 on both sides, with water barrier and protective covers, available for wall thicknesses 210 – 500 mm	<b>HEA M16/200</b>	1700020020	4052487044530

HEA PK – Earthing connection and entry			
Item	Article code	Article number	GTIN
Entry for earthing connections made of stainless steel A4 (AISI 316L), connection M12 on both sides, with terminal lug and cross clamp, available for wall thicknesses 150 – 500 mm, with water barrier and protective covers	<b>HEA PK M12/X</b>	on request	on request
Entry for earthing connections made of stainless steel A4 (AISI 316L), connection M16 on both sides, with terminal lug and cross clamp, available for wall thicknesses 150 – 500 mm, with water barrier and protective covers	<b>HEA PK M16/X</b>	on request	on request

X = wall thickness (mm)

Increments of 10 mm possible

Short circuit-proof up to 10 KA / 1s (VDE 0101 / E DIN EN 50522)

## HEA IS M12 – Insulated earthing entry for substation

Item	Article code	Article number	GTIN
Insulated feedthrough for earthing connections made of stainless steel A4 (AISI 316L), connection M12 on both sides, with water barrier and protective cover (HEA IS M12) for wall thickness 100 mm	<b>HEA IS M12/100</b>	1710020100	4052487045308
Insulated feedthrough for earthing connections made of stainless steel A4 (AISI 316L) connection M12 on both sides, with water barrier and protective cover (HEA IS M12) for wall thickness 150 mm	<b>HEA IS M12/150</b>	1710020150	4052487045360
Insulated feedthrough for earthing connections made of stainless steel A4 (AISI 316L) connection M12 on both sides, with water barrier and protective cover (HEA IS M12) for wall thickness 200 mm	<b>HEA IS M12/200</b>	1710020156	4052487045384
Insulated feedthrough for earthing connections made of stainless steel A4 (AISI 316L) connection M12 on both sides, with water barrier and protective cover (HEA IS M12) for wall thickness 250 mm	<b>HEA IS M12/250</b>	1710020157	4052487045391

## HEA A M12 – Anschlussstück mit schweißnut

Item	Article code	Article number	GTIN
Connection piece in stainless steel A2 (AISI 304L) with weld groove in St tzn, conductor core diameter 25 mm, connection M12, for distances between formwork and core iron of 50 mm	<b>HEA A M12/50</b>	1700300500	4052487124140
Fixed point made of stainless steel A2 (AISI 304L) with weld groove made of steel St tzn, conductor core diameter 25 mm, connection M12, for distances between formwork and the core iron 70 mm	<b>HEA A M12/70</b>	1700300520	4052487131407

Notes

Lined writing area consisting of two columns of horizontal lines.



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