

KSS150

KSS125

KSS110

KSS80

Cable protection systems



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Cable protection and flexibility

With the KSS system from UGA

The KSS cable protection systems from UGA reliably protect cables against moisture and mechanical effects. Their wide range of connection components allow connections to wall inserts, wall sleeves, core drillings and other cable protection hoses and pipes. A gas and water pressure-tight connection of two buildings is possible at any time. No complex earthworks are necessary if cables are added or removed at a later date.

KSS systems are available in diameters of 80, 110, 125 and 150 mm. They are made of mechanically highly resilient, flexible plastic and can be easily encased in concrete. The minimum bending radius is between half a metre and one metre, depending on the hose diameter.

► The benefits of the KSS system

- Gas and water pressure-tight connection
- Cable protection for building and earth movements
- Various connection components
- Compatible with all common cable protection pipes
- Hose can be encased in concrete

► Processing instructions

Compact the substructure before laying the KSS to prevent it from sinking. Lay the KSS in sand and compact the sand to avoid movement at the entry point over the long term. Do not concrete KSS systems into blocks – possible subsidence can cause damage. Do not use cable cleaners that contain solvents. When installing KSS systems at sub-zero temperatures, they must first be warmed up.

KSS variants

Our UGA cable protection systems are available with the following variants KSS150, KSS125, KSS110, KSS80. There are many connection options that can handle any construction site situation.

Example of product text:

KSS150 with 2 connection systems

Side 1: BKD150-D-MA Side 2: BKD150-K



Side 1: BKD150-D-MA
Side 2: BKD150-K
First side for connecting to a wall insert. Second side with wall insert for encasing in concrete



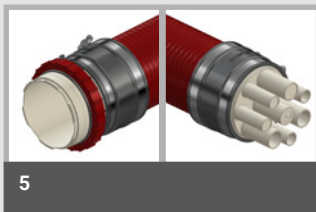
Side 1: BKD150-K
Side 2: BKD150-K
Both sides with wall insert for encasing in concrete



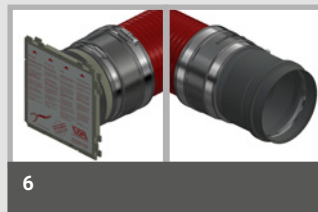
Side 1: BKD150-D-MA
Side 2: BKD150-D-MA
Both sides for connection to a wall insert



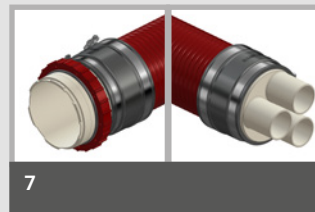
Side 1: BKD150-D-MA
First side for connecting to a wall insert; Second side without connection element (retrofitting possible)



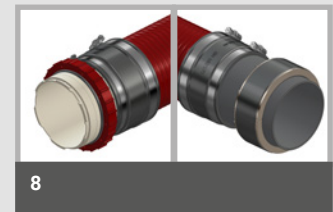
Side 1: BKD150-D-MA
Side 2: D8/35/25
First side for connecting to a wall insert; Second side with adhesive sleeve for connecting to a pipe



Side 1: BKD150-K
Side 2: SM160
First side with wall insert for encasing in concrete; Second side with connecting sleeve for connection of a smooth-walled pipe



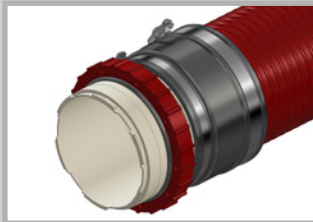
Side 1: BKD150-D-MA
Side 2: D3/59
First side for connection to a wall insert; Second side with system cover for cable sealing using shrink pipe technology



Side 1: BKD150-D-MA
Side 2: GPD200
First side for connection to a wall insert; Second side with rubber press seal GPD for connection to a core bore or a casing tube

System components

System covers



System connection BKD150-D-MA
For connecting the KSS150 with the bayonet wall insert BKD150



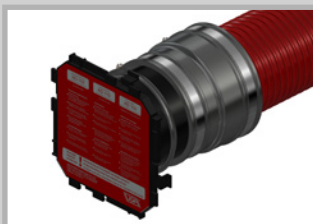
System connection BKD90-D-MA
For connecting the KSS80 with the bayonet wall insert BKD90



System connection KD110-D-MA
For connecting the KSS110 with the wall insert KD110



Wall insert in collar technology for connection to KSS for encasing in concrete
BKD150-K (KSS150/125/110)
KD150-K (KSS150/125/110)

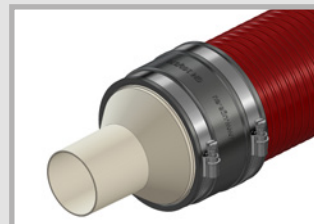


Wall insert in collar technology for connection to KSS for encasing in concrete
KD110-K (KSS110)
BKD90-K (KSS80)



Pipe fitting SM110 or SM160
For connection of a smooth-walled pipe
SM110: for pipe with outside diameter 110 mm;
Available for KSS110
SM 160: for pipe with outside diameter 160 mm;
Available for KSS150

The system cover connection pieces are sealed with shrink sleeves. Thermal shrink sleeves or cold shrink sleeves are available, as required. Unoccupied connection pieces can be easily sealed with VS sealing plugs and thus remain available for retrofitting additional cables.

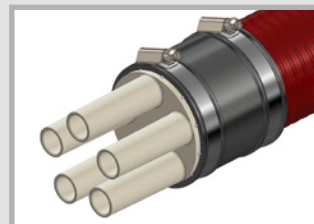


System cover D1
With one connection piece for sealing a cable using shrink technology
D1/110: Connection piece with \varnothing 110 mm for cables with \varnothing 34 – 108 mm;
Available for KSS150, KSS125 and KSS110

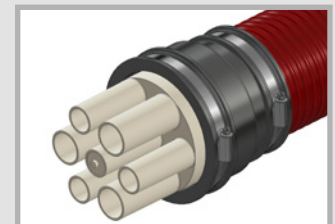


System cover D3
With three connection pieces for sealing up to three cables using shrink technology
D3/59: Three connection pieces with \varnothing 59 mm for cables with \varnothing 22 – 57 mm;
Available for KSS150 and KSS125
D3/46: Three connection pieces with \varnothing 46 mm for cables with \varnothing 16 – 44 mm;
Available for KSS110
D3/30: Three connection pieces with \varnothing 30 mm for cables with \varnothing 7 – 28 mm;
Available for KSS80

D1/80: Connection piece with \varnothing 80 mm for cables with \varnothing 26 – 78 mm;
Available for KSS150, KSS125 and KSS110
D1/75: Connection piece with \varnothing 75 mm for cables with \varnothing 26 – 73 mm;
Available for KSS80



System cover D5
With five connection pieces for sealing up to five cables using shrink technology
D5/20: Five connection pieces with \varnothing 20 mm for cables with \varnothing 7 – 18 mm;
Available for KSS80



System cover D7
With seven connection pieces for sealing up to seven cables using shrink technology
D7/38: Seven connection pieces with \varnothing 38 mm for cables with \varnothing 7 – 37 mm;
Available for KSS150 and KSS125
D7/32/25: Three connection pieces with \varnothing 32 mm for cables with \varnothing 12 – 30 mm; Four connection pieces with \varnothing 25 mm for cables with \varnothing 7 – 23 mm;
Available for KSS110

Plastic spiral hose sold by the metre

Inside diameter mm	Weight g/m	Bending radius mm	Wall thickness mm	Roll length m	Product name
80	approx. 1900	540	6 ±1	25	KSS80-S
110	approx. 2900	740	6.8 ±1	25	KSS110-S
125	approx. 3600	830	6.9 ±1	25	KSS125-S
150	approx. 4700	990	7.7 ±1	25	KSS150-S

Accessories



GPD rubber press seal

For gas and watertight connection to a core drilling or a wall sleeve; Available for all KSS cable protection systems

Standard:

GPD200: In the case of KSS150, KSS125 for core drilling or wall sleeve with inside diameter 200 mm

GPD150: In the case of KSS110 for core drilling or wall sleeve with inside diameter 150 mm

GPD125: In the case of KSS80 for core drilling or wall sleeve with inside diameter 125 mm



KSS hose without connection element



Connection collar MA

For easy connection of two KSS hoses

KSS150-MA(160-170)/(160-170)

KSS125-MA(120-137)/(120-137)

KSS110-MA(105-120)/(105-120)

KSS80-MA(75-89)/(75-89)



Spacers ASH 2 x 3

For positioning and fixing a maximum of 6 KSS hoses, 3 next to each other and two on top of each other

Order no. **ASH125/2 x 3** for hose with Øi 110 mm

Order no. **ASH140/2 x 3** for hose with Øi 125 mm

Order no. **ASH170/2 x 3** for hose with Øi 150 mm

Spacers ASH 2 x 4

For positioning and fixing a maximum of 8 KSS hoses, 4 next to each other and two on top of each other

Order no. **ASH90/2 x 4** for hose with Øi 80 mm



Cold-shrink sleeve KS

For easy and fast assembly without aids, in all weather conditions; 2 bar gas and watertight; Available for all system covers.



3-finger AK spreader caps

Hot shrink technology for sealing three cables in one system cover connection piece

Order no. **AK35-3F-12/2** for connection pieces up to inside diameter 30 mm;

Suitable for cables with outside diameter of 2 – 11 mm

Order no. **AK50-3F-22/5**

for connection pieces up to inside diameter 46 mm;

Suitable for cables with outside diameter of 5 – 21 mm

Order no. **AK75-3F-29/8**

for connection pieces with inside diameter 60 mm;

Suitable for cables with outside diameter of 8 – 28 mm



4-finger spreader caps AK

Hot shrink technology for sealing four cables in one system cover connection piece

Order no. **AK35-4F-13/2** for connection pieces up to inside diameter 30 mm;

Suitable for cables with outside diameter of 2 – 12 mm

Order no. **AK50-4F-20/5**

for connection pieces up to inside diameter 46 mm;

Suitable for cables with outside diameter of 5 – 19 mm

Order no. **AK75-4F-29/8**

for connection pieces with inside diameter 60 mm;

Suitable for cables with outside diameter of 8 – 28 mm



Sealing plug VS

For sealing unoccupied system cover connection pieces; Can be quickly removed for retrofitting cables; Versions available for connection pieces with diameters 20, 25, 30, 32/34, 35, 46 and 58/60 mm

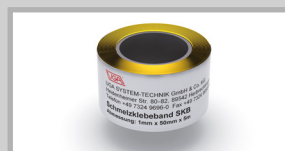
Order no. **VS20 / VS25 / VS30 / VS32/34 / VS46 / VS58/60**



Articulated spanner GSS

For the assembly of all system covers and KSS systems; With adjustable leg

Order no. **GSS**



Melt-type adhesive tape SKB

Cold welding tape with very good adhesive properties for sealing and for corrosion protection; Ideal for wrapping around cables and pipes to enlarge the diameter for shrink-fitting; Suitable for all plastics and metals;

Thickness: 1 mm, width: 50 mm, roll length: 3.00 m

Order no. **SKB**



Cable cleaner KR

For environmentally friendly cleaning of cables of all kinds, even in the case of stubborn contamination; Odourless and evaporates without leaving residues; 1000 ml bottle; Density at 20°C: 0.764 g/cm³ Flash point: > 61°C Evaporation number: 60

Identification: X_n
Order no. **KR/1-litre**

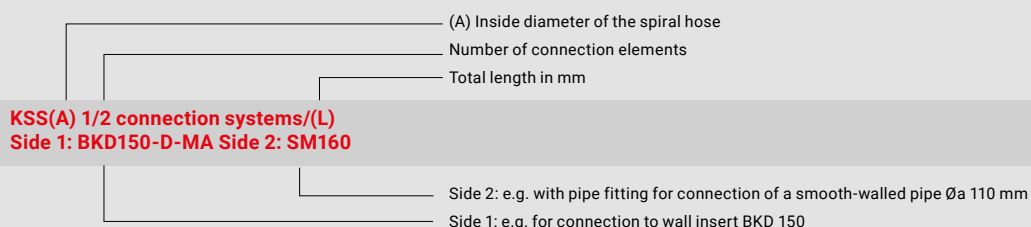
KSS variants

KSS150 / KSS125 / KSS110 / KSS80

Here you can find out which connection element fits which KSS system.
Please note the respective markings.

Product name of the connection system	Description of the connection system	KSS variants			
		KSS 150	KSS 125	KSS 110	KSS 80
BKD150-K	Connection of system cover and system inserts of BKD150	X	X	X	
KD110-K	Connection of system cover and system inserts of KD110			X	
BKD90-K	Connection of system cover and system inserts of BKD90				X
BKD150-D-MA	Connection to bayonet wall insert BKD150	X	X	X	
KD110-D-MA	Connection to wall insert KD110			X	
BKD90-D-MA	Connection to bayonet wall insert BKD90				X
D1/75	Connection cover with 1 connection piece and thermal sleeve for cables with diameters of 24-74 mm				X
D1/80	Connection cover with 1 connection piece and thermal sleeve for cables with diameters of 26-78 mm	X	X	X	
D1/110	Connection cover with 1 connection piece and thermal sleeve for cables with diameters of 56-108 mm	X	X	X	
D3/30	Connection cover with 3 connection pieces and thermal sleeve for cables with diameters of 12-29 mm				X
D3/46	Connection cover with 3 connection pieces and thermal sleeve for cables with diameters of 16-44 mm			X	
D3/59	Connection cover with 3 connection pieces and thermal sleeve for cables with diameters of 22-57 mm	X	X		
D5/20	Connection cover with 5 connection pieces and thermal sleeve for cables with diameters of 7-19 mm				X
D7/32/25	Connection cover with 7 connection pieces and thermal sleeve for various cable diameters			X	
D7/38	Connection cover with 7 connection pieces and thermal sleeve for various cable diameters	X	X		
D8/35/25	Connection cover with 8 connection pieces and thermal sleeves for various cable diameters	X	X		
R/110	PVC pipe section with an outside diameter of 110 mm, e.g. for GPD, RRD			X	
R/125	PVC pipe section with an outside diameter of 125 mm, e.g. for GPD, RRD		X		
R/160	PVC pipe section with an outside diameter of 160 mm, e.g. for GPD, RRD	X			
SM/110	Connection incl. connecting sleeve SM 110 (for smooth-walled pipes 110 mm)			X	
SM/125	Connection incl. connecting sleeve SM 125 (for smooth-walled pipes 125 mm)		X	X	
SM/160	Connection incl. connecting sleeve SM 160 (for smooth-walled pipes 160 mm)	X			
GPD125	PVC pipe section with an outside diameter of 90 mm and GPD 125				X
GPD150	PVC pipe section with an outside diameter of 110 mm and GPD 150			X	
GPD200	PVC pipe section with an outside diameter of 160 mm and GPD 200	X	X		
MA(75 - 89)	EPDM collar with a clamping range of 75-89 mm				X
MA(105 - 120)	EPDM collar with a clamping range of 105-120 mm			X	
MA(120 - 137)	EPDM collar with a clamping range of 120-137 mm		X		
MA(160 - 170)	EPDM collar with a clamping range of 160-170 mm	X			

Product index for KSS with connection system (example)



Tested tightness

At the Fraunhofer Gesellschaft Bremen (IFAM), the UGA systems BKD, KD and KSS were subjected to experimental testing. The tests conducted by the testing body confirmed the gas tightness, the water pressure resistance and the cold water pressure resistance of all the systems. The BKD90, KD150 and KD110 systems were also subjected to a destruction test. All the results achieved far exceed the values required in practice.



► Tests conducted

- Gas tightness with air at an overpressure of 1 bar
- Gas tightness with helium at an overpressure of 5 bar
- Water pressure tightness at an overpressure of 5 bar
- Cold water pressure tightness at an overpressure of 5 bar at $-27^{\circ}\text{C}/-25^{\circ}\text{C}$.
- Destruction test

Each system was tested with three system covers: the blind cover, the system cover with one connection piece and the system cover with three connection pieces. The cold water pressure tightness was tested using the system cover with three connection pieces.

► Results

- **Gas tightness**
The partial pressure immediately after the test setup was 5.4×10^{-6} mbar. This is an excellent value as the partial pressure of helium in the air is approx. 4.8×10^{-6} mbar.
- **Water pressure tightness**
There was no leakage of liquid.
- **Destruction test BKD90**

BKD90-D (system cover closed)	5.00 bar
BKD90-D-1/75	20.76 bar
BKD90-D-3/30	21.15 bar
- **Destruction test KD110**

KD110-D (system cover closed)	5.00 bar
KD110-D-1/80	20.24 bar
KD110-D-3/46	19.28 bar
KD110-WE/3x32	12.37 bar
- **Destruction test KD150**

KD150-D (system cover closed)	5.00 bar
KD150-D-1/80	20.20 bar
KD150-D-3/60	21.92 bar

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We shall supply replacements for any parts that impair functionality due to material defects. No replacements will be provided for defects that are due to transport or storage or are caused by incorrect treatment or installation or consequences of such. Our information is based on current technical knowledge. Subject to technical changes. Because of the abundance of possible influences during assembly and use, our information does not exempt processors and users from carrying out their own trials and tests.

The corresponding installation instructions apply to all UGA products.