

Cable Penetrations

+ Floor

KRASO® Cable Inlet Box System KDS 150

_____ 77

+ Wall

KRASO® Cable Penetration KDS 150 / KRASO® Cable Penetration KDS 150 **MAX **NEW!****

_____ 72

KRASO® Cable Penetration KDS 90

_____ 73

KRASO® Cable Penetration KDS 150 single wall penetration with plug-in sleeve

_____ 75

KRASO® Cable Penetration KDS 150 single wall penetration with hose connection

_____ 75

KRASO® Protrusion Flange FDS 150

_____ 75

KRASO® Cable Penetration KDS 150 double wall penetration - 45 degrees

_____ 76

KRASO® Cable Penetration KDS 150 FL/ZA

_____ 76

KRASO® Foil Clamping Flange Type FKF - optical fibre **NEW!**

_____ 85

+ Roof

KRASO® Swan Neck

_____ 82

KRASO® Swan Neck - thermally insulated -

_____ 83

+ Accessories

KRASO® FLS - Flexible Empty Pipe System

_____ 78

KRASO® Quick Sealing Plug for FLS

_____ 79

KRASO® Hose Connection

_____ 79

KRASO® Support rings for corrugated pipes **NEW!**

_____ 79

KRASO® Spacer

_____ 79

KRASO® System Cover KDS

_____ 80

KRASO® System Sealing Insert KDS 150 Universal Multiple - split -

_____ 81

KRASO® System Sealing Insert KDS 90 Universal

_____ 81

KRASO® Y-Wrench

_____ 81

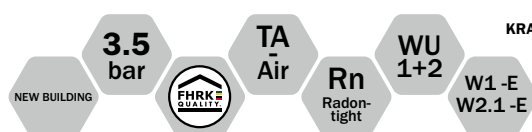
KRASO® Sealing Insert Universal Multiple - split -

_____ 84

**From 05-01-26:
PRICE INCREASE
+ 4.7%**



KRASO® Cable Penetration KDS
Check the installation video
(Just scan the QR code!)



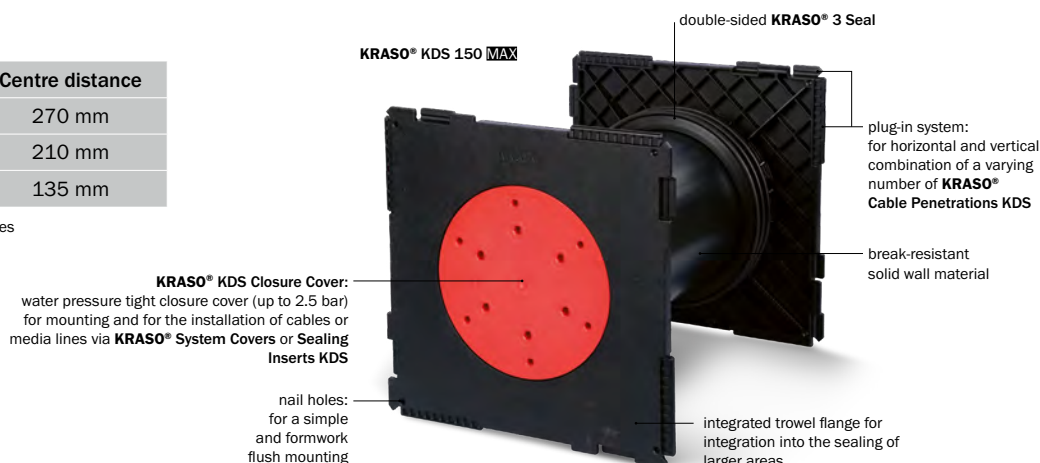
KRASO® Cable Penetration KDS

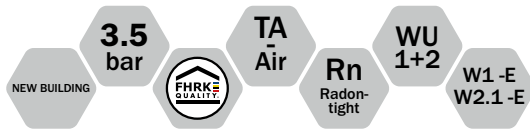
Compatible, tight, secure - the double wall penetration system

- + Compatible with all other current systems!
- + Tight due to our water pressure tight **KRASO® 4 Seal** (KDS 90) or double-sided **KRASO® 3 Seal** (KDS 150)
- + Secure due to break-resistant solid wall material!
- + The intelligent, all-purpose and flexible cable penetration system for complex new buildings: public buildings, hospitals, technical-scientific institutions or in the industrial and commercial sector
- + With plug-in system on both sides for forming packages! Horizontal and vertical combination possible!
- + **KRASO® KDS 150 MAX** with integrated trowel flange (5 cm) for integration into the sealing of larger areas according to DIN 18533 W1 -E and W2.1 -E and larger centre distance (270 mm) for the reinforcement.
- + Optimised for the installation in precast walls
- + Certified with the quality seal of the FHRK e. V.
- + The matching accessories for every purpose!
- + DafStB waterproof concrete guideline: stress class 1 + 2

	Centre distance
KRASO® KDS 150 MAX	270 mm
KRASO® KDS 150	210 mm
KRASO® KDS 90	135 mm

centre distances when forming packages





KRASO® Cable Penetration KDS 150 double wall penetration **LG 1**

cable penetration system for concreting, for in-situ concrete walls or precast walls, with double-sided gas- and water pressure tight surrounding **KRASO® 3 Seal**, with plug-in system on both sides for forming packages, for the later installation of media lines using a **KRASO® System Sealing Insert** (not included in the scope of supply) or for connecting empty pipe hoses using **KRASO® System Cover** (not included in the scope of supply) | **DafStB waterproof concrete guideline: stress class 1 + 2, KRASO® KDS 150 MAX** with integrated trowel flange **DIN 18533 W1 -E and W2.1 -E**

Item	KRASO® KDS 150 double wall penetration											
Available standard wall thicknesses in cm	15	17.5	20	24	25	30	35	36.5	40	45	50	
KRASO® KDS 150 double wall penetration	39 €											
KRASO® KDS 150 MAX double wall penetration	46 €											

Scope of supply: **KRASO® Cable Penetration KDS 150 double wall penetration**, 2 KDS closure covers

Further wall thicknesses available on request!



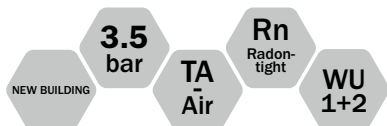
KRASO® Cable Penetration KDS 150 single wall penetration **LG 1**

cable penetration system for concreting, for in-situ concrete walls or precast walls, with gas- and water pressure tight surrounding **KRASO® 3 Seal** and KDS closure covers, with plug-in system on one side for forming packages, for the later installation of media lines using a **KRASO® System Sealing Insert** (not included in the scope of supply) or for connecting empty pipe hoses using **KRASO® System Cover** (not included in the scope of supply) | **DafStB waterproof concrete guideline: stress class 1 + 2, KRASO® KDS 150 MAX** with integrated trowel flange **DIN 18533 W1 -E and W2.1 -E**

Item	KRASO® KDS 150 single wall penetration												
Available standard wall thicknesses in cm	10	12	15	17.5	20	24	25	30	35	36.5	40	45	50
KRASO® KDS 150 single wall penetration	34 €												
KRASO® KDS 150 MAX single wall penetration	39 €												

Scope of supply: **KRASO® Cable Penetration KDS 150 single wall penetration**, KDS closure covers, **KRASO® Cover** as an installation aid

Further wall thicknesses available on request!



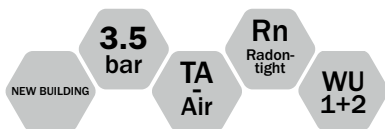
KRASO® Cable Penetration KDS 90 double wall penetration **LG 1**

cable penetration system for concreting, with gas- and water pressure tight surrounding **KRASO® 4 Seal**, with plug-in system on both sides for forming packages, for the later installation of media lines using a **KRASO® System Sealing Insert** (not included in the scope of supply) or for connecting empty pipe hoses using **KRASO® System Cover** (not included in the scope of supply) | **DafStB waterproof concrete guideline: stress class 1 + 2**

Item	KRASO® KDS 90 double wall penetration												
Available standard wall thicknesses in cm	12	15	17.5	20	24	25	30	35	36.5	40	45	50	
KRASO® KDS 90 double wall penetration	34 €												

Scope of supply: **KRASO® Cable Penetration KDS 90 double wall penetration**, 2 KDS closure covers

Further wall thicknesses available on request!



KRASO® Cable Penetration KDS 90 single wall penetration **LG 1**

cable penetration system for concreting, with gas- and water pressure tight surrounding **KRASO® 4 Seal** and KDS closure cover, with plug-in system on one side for forming packages, for the later installation of media lines using a **KRASO® System Sealing Insert** (not included in the scope of supply) or for connecting empty pipe hoses using **KRASO® System Cover** (not included in the scope of supply) | **DafStB waterproof concrete guideline: stress class 1 + 2**

Item	KRASO® KDS 90 single wall penetration											
Available standard wall thicknesses in cm	10 ¹	15	17.5	20	24	25	30	35	36.5	40	45	50
KRASO® KDS 90 single wall penetration	29 €											

¹ For technical production reasons partly KRASO® 2 Seal

Scope of supply: KRASO® Cable Penetration KDS 90 single wall penetration, KDS closure covers, **KRASO® Cover** as an installation aid

Further wall thicknesses available on request!



KRASO® Cable Penetration KDS/DFW 90 double wall penetration **LG 1**

cable penetration system for installation into triple walls, with double-sided gas- and water pressure tight surrounding **KRASO® 2 Seal** and 2 KDS closure covers, with plug-in system on both sides for forming packages, for the later installation of media lines using a **KRASO® System Sealing Insert** (not included in the scope of supply) or for connecting empty pipe hoses using **KRASO® System Cover** (not included in the scope of supply) | **DafStB waterproof concrete guideline: stress class 1 + 2**

Item	KRASO® KDS/DFW double wall penetration										
Available standard wall thicknesses in cm	15	17.5	20	24	25	30	35	36.5	40	45	50
KRASO® KDS/DFW 90 double wall penetration	34 €										

Scope of supply: KRASO® Cable Penetration KDS/DFW 90 double wall penetration, 2 KDS closure covers

Further wall thicknesses available on request!



KRASO® Cable Penetration KDS/DFW 90 single wall penetration **LG 1**

cable penetration system for installation into triple walls, with one-sided gas- and water pressure tight surrounding **KRASO® 2 Seal** and KDS closure cover, with plug-in system on one side for forming packages, for the later installation of media lines using a **KRASO® System Sealing Insert** (not included in the scope of supply) or for connecting empty pipe hoses using **KRASO® System Cover** (not included in the scope of supply) | **DafStB waterproof concrete guideline: stress class 1 + 2**

Item	KRASO® KDS/DFW 90 single wall penetration											
Available standard wall thicknesses in cm	10 ¹	15	17.5	20	24	25	30	35	36.5	40	45	50
KRASO® KDS/DFW 90 single wall penetration	29 €											

¹ For technical production reasons partly **KRASO® 2 Seal**

Scope of supply: KRASO® Cable Penetration KDS/DFW 90 single wall penetration, KDS closure covers, **KRASO® Cover** as an installation aid

Further wall thicknesses available on request!



KRASO® Cable Penetration KDS 150 single wall penetration with plug-in sleeve **LG 1**

for later installation of cables or pipes using **KRASO® System Sealing Insert KDS 150** (not included in the scope of supply) or **KRASO® System Cover KDS 150** (not included in the scope of supply), with water pressure tight surrounding **KRASO® 3 Seal**, with plug-in system on one side for forming packages, one side with plug-in sleeve including connection for KG, HT or KG 2000 pipes DN 160 | DafStB waterproof concrete guideline: stress class 1 + 2

Item	KRASO® KDS 150 single wall penetration with plug-in sleeve								
Available standard wall thicknesses in cm	20	24	25	30	35	36.5	40	45	50
KRASO® KDS 150 single wall penetration with plug-in sleeve	48 €								
KRASO® KDS 150 MAX single wall penetration with plug-in sleeve	55 €								

Scope of supply: **KRASO® Cable Penetration KDS 150** single wall penetration with plug-in sleeve, KDS 150 closure cover and **KRASO® Cover** as an installation aid

Further wall thicknesses available on request!



KRASO® Cable Penetration KDS 150 single wall penetration with hose connection **LG 1**

for later installation of cables or pipes using **KRASO® System Sealing Insert KDS 150** (not included in the scope of supply) or **KRASO® System Cover KDS 150** (not included in the scope of supply), with water pressure tight surrounding **KRASO® 3 Seal**, with plug-in system on one side for forming packages, one side with hose connection e.g. for **KRASO® FLS - Flexible Empty Pipe System** | DafStB waterproof concrete guideline: stress class 1 + 2

Item	KRASO® KDS 150 single wall penetration with hose connection
KRASO® KDS 150 single wall penetration with hose connection 110	113 €
KRASO® KDS 150 single wall penetration with hose connection 160	117 €
KRASO® KDS 150 MAX single wall penetration with hose connection 110	123 €
KRASO® KDS 150 MAX single wall penetration with hose connection 160	127 €

Scope of supply: **KRASO® Cable Penetration KDS 150** single wall penetration with hose connection

Further wall thicknesses available on request!

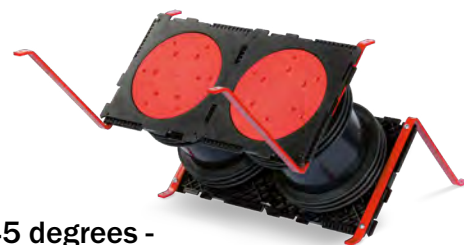
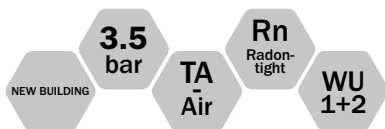


KRASO® Protrusion Flange FDS 150

protrusion flange made of stainless steel-reinforced plastic, for dowel-fixing in front of a core drilling for the connection of **KRASO® System Cover KDS 150** with hose adapter for **KRASO® FLS**, **KRASO® System Sealing Insert KDS 150** | DafStB waterproof concrete guideline: stress class 1 + 2, DIN 18533 W1-E and W2.1-E

Item	KRASO® Protrusion Flange FDS 150
KRASO® Protrusion Flange FDS 150	116 €

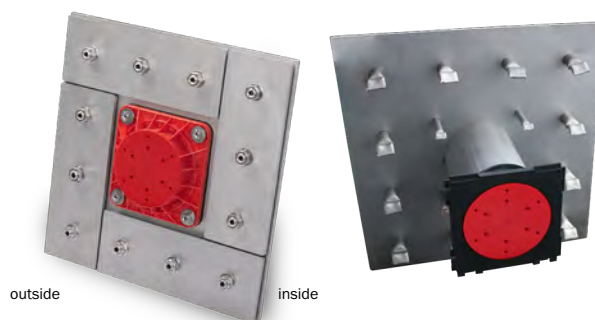
Scope of supply: **KRASO® Protrusion Flange FDS 150** with EPDM flat seal, fixing material, adhesive and sealant **KRASO® PU 50**



KRASO® Cable Penetration KDS 150 double wall penetration - 45 degrees -

with pre-installed clamps and styrofoam holders for installation at an angle of 45° | DafStB waterproof concrete guideline: stress class 1 + 2

Prices on request! Weitere Neigungswinkel möglich!



KRASO® Cable Penetration KDS 150 FL/ZE double wall penetration

cable penetration **KDS 150 FL/ZE** double wall penetration, with fixed-loose flange and exterior protrusion flange FDS 150 for concreting, for installation of media pipes using **KRASO® System Sealing Inserts KDS 150** (not included in the scope of supply) or for connection of **KRASO® KDS 150 Accessories** (e.g. system cover) with bayonet fitting, made of non-corrosive stainless steel V2A, one side with water pressure tight surrounding **KRASO® 2 Seal**, for buildings with exterior sealing ("black tank") against pressing / non-pressing water according to DIN 18533. Available in non-corrosive stainless steel V2A or with special coating | **DIN 18533 W1-E** and **W2.2-E**

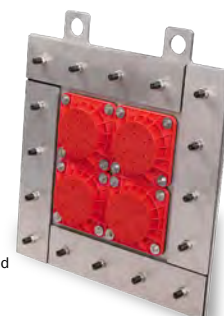
KRASO® Cable Penetration KDS 150 FL/ZE double wall penetration - DIN 18533 W2.2-E: HIGH IMPACT OF PRESSING WATER (WATER COLUMN ≥ 3 METRES)	
Pipe InternalDiameter ID	155
Available standard wall thicknesses in cm	15 · 17.5 · 20 · 24 · 25 · 30 · 35 · 36.5 · 40 · 45 · 50
Dimensions fixed-flange	Dimensions a x b 577 mm - t = 10 mm
Dimensions loose-flange	Dimensions a x b 567 mm - t = 10 mm
KRASO® KDS 150 FL/ZE double wall penetration - non-corrosive stainless steel V2A -	1,251 €
EPDM supplement (2 pcs.)	69 €
KRASO® KDS 150 FL/ZE double wall penetration with special coating - non-corrosive stainless steel V2A -	1,325 €

KRASO® Cable Penetration KDS 150 FL/ZE double wall penetration - DIN 18533 W1-E: SOIL MOISTURE AND NON-PRESSING WATER	
Pipe InternalDiameter ID	155
Available standard wall thicknesses in cm	15 · 17.5 · 20 · 24 · 25 · 30 · 35 · 36.5 · 40 · 45 · 50
Dimensions fixed-flange	Dimensions a x b 397 mm - t = 6 mm
Dimensions loose-flange	Dimensions a x b 387 mm - t = 6 mm
KRASO® KDS 150 FL/ZE double wall penetration - non-corrosive stainless steel V2A -	898 €
EPDM supplement (2 pcs.)	50 €
KRASO® KDS 150 FL/ZE double wall penetration with special coating - non-corrosive stainless steel V2A -	966 €

Scope of supply: KRASO® Cable Penetration KDS 150 FL/ZE double wall penetration, with fixed-loose flange and exterior KRASO® Protrusion Flange FDS 150, 2 KDS 150 closure covers, adhesive and sealant KRASO® PU 50

Further wall thicknesses available on request! Also available in V4A! Also available as formed packages!

KRASO® Cable Penetration KDS 150 FL/ZA as multiple wall penetration - with fixed-loose flange and exterior Protrusion Flange FDS 150, for dowel-fixing (special design)

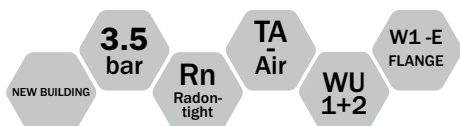




KRASO®
Cable Inlet Box System KDS 150
Check the installation video
(Just scan the QR code!)



KRASO® Cable Inlet Box System KDS 150 available with **KRASO®** Trowel Flange
roughened plastic-trowel flange for the integration
into the floor sealing / sealing sheets



KRASO® Cable Inlet Box System KDS 150

The flexible system for industry and commercial buildings

- + The secure and reliable way for the installation of cables and pipes right into buildings: with a radius of 650 mm or 1000 mm main pipes and cable protective hoses can be connected at a 90-degree angle to buildings without basements
- + **KRASO® Cable Penetration System KDS 150**: flexible and combinable in various ways
- + The **KRASO® Cable Inlet Box System KDS 150** can be expanded to any number of rows thanks to the plug-in system - depending on your requirements!
- + For the installation of cables and pipes such as water, electricity, telecommunication etc. into buildings without a basement: the perfect solution for industrial and commercial buildings!
- + Sealing of the base plate by water pressure tight surrounding **KRASO® 4 Seal**
- + With stable installation device for correct positioning before concreting
- + Flexible plug-in possibilities on the outer side using **KRASO® Cable Penetration System KDS 150**
- + Additional media pipe sealing from the inside using **KRASO® Sealing Inserts**
- + Included in the scope of supply: **KRASO® KDS 150 Empty Pipe Insert** with bayonet fitting for a floor construction with floor heating, insulation and screed
- + DafStB waterproof concrete guideline: stress class 1 + 2, with optional trowel flange DIN 18533 W1 -E

KRASO® Cable Inlet Box System KDS 150 **LG 2**

for the installation of cables and utility lines such as e.g. water - electricity - telecommunication etc. in buildings without basement. Attention: do not use a **KRASO® System Sealing Insert KDS 150**, but use **KRASO® Sealing Inserts** instead (see p. 17 - 21)! | DafStB waterproof concrete guideline: stress class 1 + 2, with optional trowel flange DIN 18533 W1 -E

Item	KRASO® Cable Inlet Box System KDS 150			
	1 x 1	1 x 2	1 x 3	1 x 4
Available standard systems				
KRASO® Cable Inlet Box System KDS 150 - bending radius 650 mm	589 €	990 €	1,361 €	1,696 €
KRASO® Cable Inlet Box System KDS 150 - bending radius 1000 mm	658 €	1,106 €	1,521 €	1,896 €

Scope of supply: **KRASO® Cable Inlet Box System KDS 150**, **KRASO® KDS 150 Empty Pipe Insert** 25 cm, 90° empty pipe system, installation device and KDS 150 closure cover

Further combinations available on request!

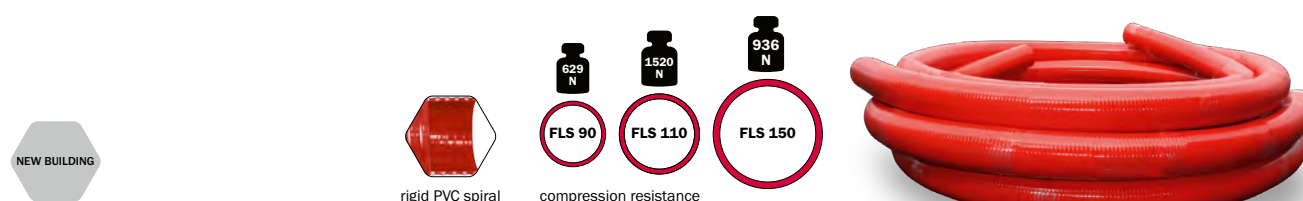


Always the right accessories!

KRASO® KDS - Accessories

For KRASO® Cable Penetration KDS and Cable Inlet Box System KDS 150

- + With the appropriate accessories **KRASO® Cable Penetrations KDS 90 / KDS 150** as wall penetrations and **KRASO® Cable Inlet Box System KDS 150** can be combined to a complete individual system - as it is required for challenging construction projects.
- + Our experts are happy to assist you regarding the numerous possibilities – even on your construction site!



KRASO® FLS - Flexible Empty Pipe System **LG 4**

flexible empty pipe system as a cable protective hose for gas- and water tight connection to **KRASO® Cable Penetration KDS**, over-pres-sures of 4 or 3 bar, under-pressures of 0.7 or 0.5 bar, heavy design for high mechanical load, smooth interior for smooth cable pulling, smooth exterior for optimal sealing, flexible, enhanced resistance against pressure and vacuum, high axial resistance, resistant to alkalis and acids, resistant to brine and sea water, good UV and ozone resistance, gas-tight and liquid-tight, RoHS compliant (Restriction of Hazardous Substances)

Item	KRASO® FLS 90	KRASO® FLS 110*	KRASO® FLS 150* **
InternalDiameter ID in mm	80	101	150
External diameter in mm	88	113	163
Bending radius in mm	200	350	600
Weight in kg/m approx.	1.5	2.9	4.3
Material thickness in mm	4	6	6,5
Compression resistance	629 N	1520 N	936 N
Classification acc. to DIN EN 61386-24	N250 (reached test force F: 364 N)	N250 (reached test force F: 293 N)	N250 (reached test force F: 388 N)
Stock length in m	30	30	3 / 10 / 25
KRASO® FLS	23 € per metre	35 € per metre	45 € per metre
Cutting costs***	17 €	23 €	-

* Minimum order 10 m ** Freight charges for **KRASO® FLS 150** only on request *** No discount applicable



KRASO® Quick Sealing Plug for FLS **LG 1**

for sealing the **KRASO® FLS** - Flexible Empty Pipe System

Item	KRASO® Quick Sealing Plug for FLS		
FLS	FLS 90	FLS 110	FLS 150
KRASO® Quick Sealing Plug for FLS	46 €	53 €	65 €

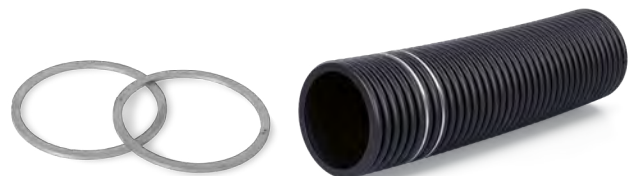
Further diameters available on request!



KRASO® Hose Connection **LG 1**

for the connection of e.g. **KRASO® FLS** - Flexible Empty Pipe System

Item	Hose Connection 90	Hose Connection 110	Hose Connection 125	Hose Connection 150
Scope of application in mm	80 - 90	100 - 115	110 - 125	150 - 165
KRASO® Hose Connection	53 €	71 €	75 €	79 €



KRASO® Support Rings for corrugated pipes **LG 1**

for ribbed/corrugated cable protective hoses* in combination with **KRASO® System Covers KDS** with hose adapter, for even contact pressure and to prevent deformation, non-corrosive stainless steel V2A

Item	KRASO® Support Rings for corrugated pipes					
Diameter DN	63	75	90	110	125	160
KRASO® Support Rings for corrugated pipes	11.10 €	11.80 €	12.90 €	17.80 €	21.55 €	32.75 €

*Profile geometry suitable for corrugated pipe manufacturer Fränkische Rohrwerke, pipe type 'KABUFLEX'. Other brands available on request.

Scope of supply: 2 pieces **KRASO® Support Rings for corrugated pipes**

Further diameters available on request!



KRASO® Spacer **LG 1**

guarantees sufficient distance between flexible empty pipes, light, impact resistant, weather- and rot-proof plastic spacer

Item	KRASO® Spacer 110	KRASO® Spacer 150
Internal Diameter ID in mm	110	165
KRASO® Spacer 1 x 2	15 €	16 €
KRASO® Spacer 2 x 2	19 €	20 €
KRASO® Spacer 2 x 4	24 €	25 €

Further spacers available on request!



KRASO® System Cover KDS 150 with hose adapter **LG 1**

incl. bayonet fitting with union nut and anti-twist lock, hose adapter for the connection of **KRASO® FLS**, PE corrugated pipes or PVC and PP pipes to **KRASO® Cable Penetration KDS 150**. In combination with **KRASO® FLS** water pressure tight up to 2.5 bar. Scope of application as per table below | DafStB waterproof concrete guideline: stress class 1 + 2

Item	Hose adapter 110	Hose adapter 125	Hose adapter 160
Scope of application in mm	100 - 115	110 - 125	150 - 165
KRASO® System Cover KDS 150 with hose adapter	85 €	89 €	92 €

Scope of supply: **KRASO® System Cover KDS 150 with hose adapter**



KRASO® System Cover KDS 150 with sleeve **LG 1**

incl. bayonet fitting with union nut and anti-twist lock, sleeve for the connection of PVC and PP pipes to **KRASO® Cable Penetration KDS 150**

Item	KRASO® System Cover KDS 150 with sleeve		
Diameter DN	110	125	160
KRASO® System Cover KDS 150 with sleeve	79 €	84 €	86 €

Scope of supply: **KRASO® System Cover KDS 150 with sleeve**



KRASO® System Cover KDS 150 - heat-shrink technology - **LG 1**

incl. bayonet fitting with union nut and anti-twist lock (prevents unintentional opening), with 1, 3 or 7 adapters for installation of pipes or cables, incl. shrink hose (length approx. 20 cm), connection via heat-shrink technology, **KRASO® System Cover KDS 150 - heat-shrink technology - 3-fold** and **7-fold** with factory-installed, water pressure tight cover, simple opening by knocking off before installation (on-site), scope of application as per table below | DafStB waterproof concrete guideline: stress class 1 + 2

Item	System Cover KDS 150 1-fold - heat-shrink technology -	System Cover KDS 150 3-fold - heat-shrink technology -	System Cover KDS 150 7-fold - heat-shrink technology -
Diameter pipe or cable from ... to ... in mm	1 x 34 - 115	3 x 22 - 59	7 x 13 - 33
KRASO® System Cover KDS 150 - heat-shrink technology -	96 €	105 €	118 €

Scope of supply: **KRASO® System Cover KDS 150 - heat-shrink technology - 1-fold, 3-fold, 7-fold with shrink hose/shrink hoses**

Further diameters available on request!



KRASO® System Cover KDS 90 with hose adapter 90 **LG 1**

incl. bayonet fitting, hose adapter for connection of **KRASO® FLS**, PE corrugated pipes or PVC pipes to **KRASO® Cable Penetration KDS 90** | DafStB waterproof concrete guideline: stress class 1 + 2

Item	KRASO® System Cover KDS 90 with hose adapter 90
Scope of application in mm	80 - 95
KRASO® System Cover KDS 90 with hose adapter 90	83 €

Scope of supply: **KRASO® System Cover KDS 90 with hose adapter 90**

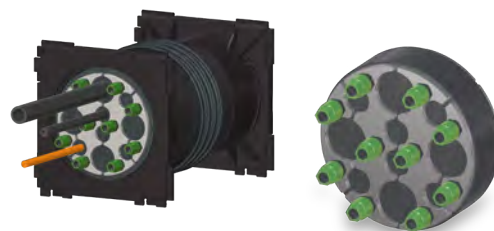


KRASO® System Cover KDS 90 with shrink hose **LG 1**

KRASO® System Cover KDS 90 including shrink hose

Item	KRASO® System Cover KDS 90 with shrink hose
For all pipes and cables according to the table on the right (in mm)	1 x 25 - 95
KRASO® System Cover KDS 90 with shrink hose	43 €

Scope of supply: KRASO® System Cover KDS 90 with shrink hose



KRASO® System Sealing Insert KDS 150 Universal Multiple - split - **LG 1**

for installation of one or several media lines/cables, for installation into the bayonet fitting of **KRASO® Cable Penetration KDS 150**, split design for retrofit installation, **Torque Control Nut KRASO® DKM**, 30 mm seal, external diameter 160 mm, specifically for the use in cable penetrations | **DafStB waterproof concrete guideline: stress class 1 + 2**

Item	KRASO® System Sealing Insert KDS 150 Universal Multiple - split -			
	Universal	Design 1	Design 2	Design 3
Drillings or stepless onion ring technology: external cable diameter from ... to ... in mm	1 x 63, 75, 90 or 110 mm	3 x 6 - 52 mm or blind	4 x 6 - 18 mm or blind 6 x 6 - 33 mm or blind	6 x 6 - 38 mm or blind
KRASO® System Sealing Insert KDS 150 Universal Multiple - split -	119 €	142 €	142 €	142 €

Further special designs available on request!



KRASO® System Sealing Insert KDS 90 Universal **LG 1**

system sealing insert especially for installation in **KRASO® Cable Penetration KDS 90**, 20 mm seal, against pressing water up to 1 bar, **Torque Control Nut KRASO® DKM**, non-corrosive stainless steel V2A. Also usable as blind plug until feed-through of pipes or cables. | **DafStB waterproof concrete guideline: stress class 1 + 2**

Item	KRASO® System Sealing Insert KDS 90 Universal
Stepless onion ring technology: external cable diameter from ... to ... in mm	6 - 52 mm or blind
KRASO® System Sealing Insert KDS 90 Universal	83 €
KRASO® System Sealing Insert KDS 90 Universal - split -	92 €

Further special designs on request!



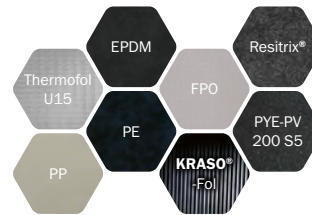
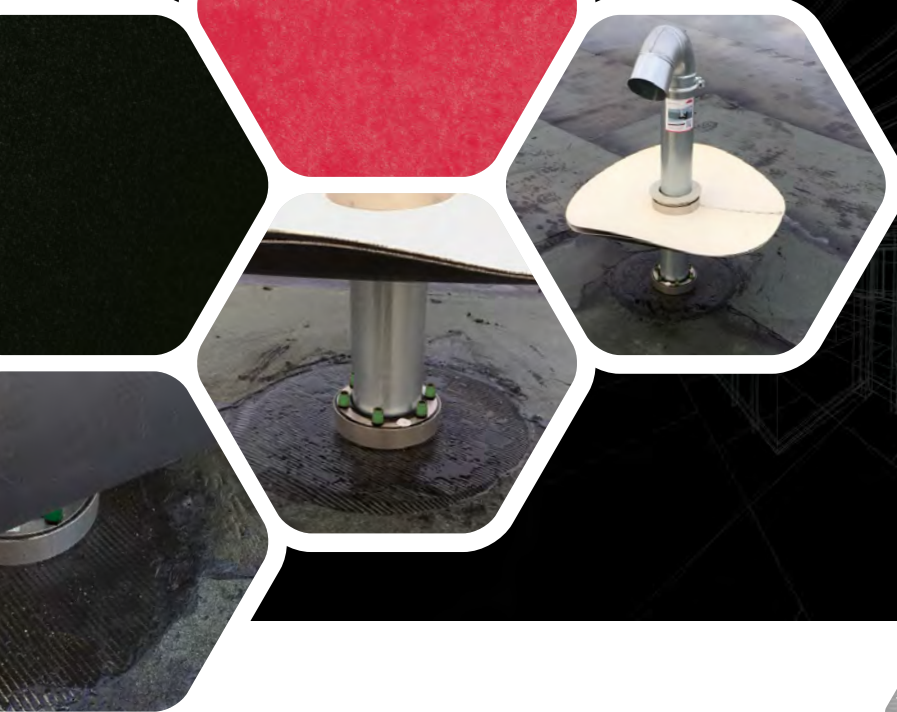
KRASO® Y-Wrench **LG 1**

Y-Wrench to open/close the KDS closure cover, available for **KRASO® Cable Penetration KDS 90** and **KDS 150**

Item	KRASO® Y-Wrench
KRASO® Y-Wrench 90	53 €
KRASO® Y-Wrench 150	62 €



KRASO® Swan Neck
Check the installation video
(Just scan the QR code!)



KRASO® Swan Neck

Innovative, secure, tight – the **KRASO®** Flat Roof Penetration

- + Integration in the roof sealing sheeting using **KRASO® Foil Clamping Flange Type FKF**: oil- and bitumen resistant, water pressure tightness tested up to 2.5 bar
- + **Torque Control Nut KRASO® DKM**: integrated torque limiter - no torque wrench required!
- + UV protection with surrounding peripheral drip edge and anti-twist lock
- + Can be swivelled by 360 degrees!
- + Flat roof penetration available made of galvanised steel, non-corrosive stainless steel V2A or V4A. Also available as thermally insulated version!
- + We can adjust the type of sealing sheets or foils:
e.g. EPDM, Thermofol U15, FPO, Resitrix®, PP, PE, **KRASO®-Fol**, PYE-PV 200 S5 etc.
- + Included in the scope of supply: fastening dowels M8 x 100 V2A and EPDM sealing, adhesive and sealant **KRASO® PU 50**.



KRASO® Swan Neck
- thermally insulated -



KRASO® Swan Neck **LG2**

flat roof penetration for installation of cables using **KRASO® Sealing Insert Universal Multiple - split** - (not included in the scope of supply), integration in the roof sealing sheeting using **KRASO® Foil Clamping Flange Type FKF**

Item	KRASO® Swan Neck			
Nominal Width NW	100*	150*	200*	300**
	Diameter pipe or cable from ... to ... in mm			
Design 1	4 x 6 - 33 mm or blind	3 x 6 - 52 mm or blind	3 x 6 - 28 mm or blind 4 x 6 - 52 mm or blind	e.g. 3 x 0 - 110 mm or 5 x 0 - 85 mm or 9 x 0 - 63 mm
Design 2	3 x 6 - 18 mm or blind 2 x 6 - 33 mm or blind	4 x 6 - 18 mm or blind 6 x 6 - 33 mm or blind	7 x 6 - 18 mm or blind 8 x 6 - 33 mm or blind	
Design 3	8 x 6 - 18 mm or blind	6 x 6 - 38 mm or blind	-	
KRASO® Swan Neck - galvanised -	799 €	937 €	1,290 €	1,776 €
KRASO® Swan Neck - non-corrosive stainless steel V2A -	999 €	1,172 €	1,612 €	2,221 €
Surcharge: second sealing layer	233 €	326 €	408 €	764 €

* **KRASO® Sealing Insert Universal Multiple - split** - (not included in the scope of supply) ** **KRASO® Sealing Insert Type SD-T 300** (not included in the scope of supply)

Scope of supply: **KRASO® Swan Neck**, EPDM seal, **KRASO® Foil Clamping Flange Type FKF**, UV protection, fastening dowels M8 x 100 V2A, adhesive and sealant **KRASO® PU 50**

Further sizes available on request!

KRASO® Swan Neck - thermally insulated - **LG2**

flat roof penetration, for dowel-fixing, for installation of cables using **KRASO® Sealing Insert Universal Multiple - split** - (not included in the scope of supply), can be swivelled by 360°, integration in the roof sealing sheeting using **KRASO® Foil Clamping Flange Type FKF**, oil- and bitumen resistant, **Torque Control Nut KRASO® DKM**, UV protection with surrounding peripheral drip edge and anti-twist lock, foot seal with EPDM seal for the opening of the roof

Item	KRASO® Swan Neck - thermally insulated -			
Nominal Width NW	100*	150*	200*	300**
	Diameter pipe or cable from ... to ... in mm			
Design 1	4 x 6 - 33 mm or blind	3 x 6 - 52 mm or blind	3 x 6 - 28 mm or blind 4 x 6 - 52 mm or blind	e.g. 3 x 0 - 110 mm or 5 x 0 - 85 mm or 9 x 0 - 63 mm
Design 2	3 x 6 - 18 mm or blind 2 x 6 - 33 mm or blind	4 x 6 - 18 mm or blind 6 x 6 - 33 mm or blind	7 x 6 - 18 mm or blind 8 x 6 - 33 mm or blind	
Design 3	8 x 6 - 18 mm or blind	6 x 6 - 38 mm or blind	-	
KRASO® Swan Neck - thermally insulated - galvanised -	1,386 €	1,719 €	2,301 €	2,813 €
KRASO® Swan Neck - thermally insulated - non-corrosive stainless steel V2A -	1,871 €	2,322 €	3,107 €	3,797 €
Surcharge: second sealing layer	317 €	395 €	539 €	887 €

* **KRASO® Sealing Insert Universal Multiple - split** - (not included in the scope of supply) ** **KRASO® Sealing Insert Type SD-T 300** (not included in the scope of supply)

Scope of supply: **KRASO® Swan Neck - thermally insulated -**, EPDM seal, **KRASO® Foil Clamping Flange Type FKF**, UV protection, fastening dowels M8 x 100 V2A, adhesive and sealant **KRASO® PU 50**

Further sizes available on request! Mounting possibility for trapezoidal sheet roofs on request!



KRASO® Sealing Insert Universal
Multiple - split - 100
Design 1



KRASO® Sealing Insert Universal
Multiple - split - 100
Design 3



KRASO® Sealing Insert Universal
Multiple - split - 150
Design 1



KRASO® Sealing Insert Universal
Multiple - split - 150
Design 2



KRASO® Sealing Insert Universal
Multiple - split - 100
Design 2



KRASO® Sealing Insert Universal
Multiple - split - 200
Design 2



KRASO® Sealing Insert Universal Multiple - split - Universally usable – multiply flexible

- + For core drillings and casings
- + Stepless onion ring technology: universally usable for various external diameters of media lines/cables - also for multiple installation! Split design for retrofit installation!
- + **KRASO® Sealing Insert-Quality:** 5 mm thick clamping plates made of non-corrosive stainless steel V2A, 40 mm seal made of specially developed rubber mixture, welded-on studs instead of through bolts
- + **Torque Control Nut KRASO® DKM:** integrated torque limiter - no torque wrench required!
- + MPA-tested: protects reliably against pressing water up to 2.5 bar!
- + Gas- and odour-tight – high-quality in terms of TA-Air!
- + Radon tightness IAF tested - meets the requirements for radon precautionary areas according to FHRK leaflet MB 101!
- + Certified with the quality seal of the FHRK e. V.
- + DafStB waterproof concrete guideline: stress class 1 + 2

KRASO® Sealing Insert Universal Multiple - split - **LG 1**

for the installation of several media lines/cables, split design for retrofit installation | DafStB waterproof concrete guideline: stress class 1 + 2

Item	KRASO® Sealing Insert Universal Multiple - split -			
Core drilling / casing in mm	100	125	150	200
	Stepless onion ring technology: external cable diameter from ... to ... in mm			
Design 1	4 x 6 - 33 mm or blind	6 x 6 - 28 mm or blind	3 x 6 - 52 mm or blind	3 x 6 - 28 mm or blind 4 x 6 - 52 mm or blind
Design 2	3 x 6 - 18 mm or blind 2 x 6 - 33 mm or blind	-	4 x 6 - 18 mm or blind 6 x 6 - 33 mm or blind	7 x 6 - 18 mm or blind 8 x 6 - 33 mm or blind
Design 3	8 x 6 - 18 mm or blind	-	6 x 6 - 38 mm or blind	-
KRASO® Sealing Insert Universal Multiple - split -	107 €	115 €	162 €	251 €

Further arrangements available at short notice!



KRASO® Foil Clamping Flange Type FKF - optical fibre Optical fibre connection – fast and easy

- + Simple, quick and cost-effective solution – no core drilling required: a simple 10 mm diameter hole is sufficient!
- + Universally applicable: masonry with area sealing or wall made of waterproof concrete
- + 10 cm surrounding, oil and bitumen-resistant foil flange with self-adhesive butyl sealing membrane
- + Easy installation thanks to **Torque Control Nut KRASO® DKM**
- + Suitable for “black and white tanks”



CABLE PENETRATIONS

KRASO® Foil Clamping Flange Type FKF - optical fibre with pressure roller



KRASO® Foil Clamping Flange Type FKF - optical fibre **LG 1**

utility connection entry of optical fibre cables without core drilling, with foil flange 1.2 mm, in accordance with DIN 16937, oil- and bitumen resistant, approx. 10 cm surrounding, 20 mm seal

Item	KRASO® Foil Clamping Flange Type FKF - optical fibre
KRASO® Foil Clamping Flange Type FKF - optical fibre	49 €

Scope of supply: KRASO® Foil Clamping Flange Type FKF - optical fibre, pressure roller



KRASO® Products with SHI product passport Low in pollutants and eligible for funding – QNG-ready for sustainable construction!

The **sustainable building quality seal** is a government seal that confirms that a building meets ecological, social and economic sustainability requirements. To this end, the construction products used must also meet specified criteria and pollutant requirements.

We take responsibility for our environment and our customers.

Therefore we have had our products tested for harmful substances by the **Sentinel Holding Institute (SHI)**, thereby fulfilling the requirements for KfW funding eligibility under the QNG building seal. Our products carry the SHI seal 'QNG-ready' and are listed in the SHI database.

Why is this important for you?

- + **Reduced pollution:** testing by the Sentinel Holding Institute (SHI) confirms that our products meet strict criteria for harmful substances – for greater safety, a healthier living environment and well-being within your own home.
- + **Economic efficiency:** our products have been tested and certified for the avoidance of harmful substances. Thanks to KfW eligibility under the government's Quality Seal for Sustainable Buildings (QNG), you benefit from financial advantages – a future-oriented step that combines safety, quality and cost-effectiveness.



Click here for
KRASO® Products
in the **SHI database**



As a central digital document, the **SHI product passport** brings together the most important product-related criteria and standards from:

- ✓ DGNB
- ✓ QNG
- ✓ BNB
- ✓ BREEAM

This means quick material selection with up-to-date data and secure documentation!