**Pipe Penetrations** 

### Floor and wall penetrations

Floor Penetration Type BDF (**p**. **76**) + Floor Penetration Type BDF - KG 2000 (**p**. **77**) + Floor Penetration Type BDF - thermally insulated (**p**. **77**) + Rodding Eye for **KRASO**® Type BDF (**p**. **77**) + Universal Funnel (**p**. **78**) + Wall Penetration Type B (**p**. **82**) + Wall Penetration Type B - KG 2000 (**p**. **83**) + Wall Penetration Type B - thermally insulated - (**p**. **83**) + Wall Penetration Type SML (**p**. **83**) + Wall Penetration Type FR (**p**. **84**) + Wall Penetration Type FR - KG 2000 (**p**. **85**) + Wall Penetration Type Universal (**p**. **85**) + Wall Penetration Type Universal - KG 2000 (**p**. **85**) + NBR seal (**p**. **85**) + Wall Penetration Type B/SF 5 (**p**. **86**) + Wall Penetration Type B/SF 5 - KG 2000 (**p**. **86**) + Wall Penetration Type DFW (**p**. **87**) + Wall Penetration Type DFW - KG 2000 (**p**. **87**) + Slip-on Sleeve (**p**. **93**) + 15° | 30° | 45° Bend (**p**. **93**) + 15° | 30° | 45° Bend - KG 2000 (**p**. **93**) + DWS - System (**p**. **94**) + DWS - Accessories (**p**. **94**) + Flange Pipe Type KG (**p**. **105**) + Flange Pipe Type KG 2000 (**p**. **106**)

### Drains

Floor Drain (**p**. 96) + Floor Drain - KG 2000 (**p**. 96) + Floor Drain - thermally insulated - (**p**. 97) + Floor Drain Type FS - frost proof (**p**. 97) + Floor Drain Type FS - KG 2000 - frost proof (**p**. 98) + Floor Drain - Accessories (**p**. 98) + Floor Drain Type FS - RS - frost proof - backwater safe (**p**. 99) + Basement Drain (**p**. 100) + Basement Drain - KG 2000 (**p**. 101) + Drains - Accessories (**p**. 101) + Yard/Parking Level Drain (**p**. 102) + Type LES (**p**. 103)

### Casings

Casing Type DFW/FE (**p**. **88**) + Casing Type FE/SF 5 (**p**. **88**) + Casing E/FE/KF (**p**. **89**) + Casing K/FE/KF (**p**. **89**) + Casing Type FE (**p**. **90**) + Casing Type FE/MI (**p**. **90**) + Fibre Cement Casing (**p**. **91**) + Casing Type E/FE (**p**. **92**) + VA - tubular sleeve (**p**. **92**) + Casing Type E/FE/M (**p**. **92**) + Flange Pipe Type FE (**p**. **105**)

### Wall Collar

Wall Collar (p. 79) + Wall Collar Universal (p. 80) + Wall Collar Lightning Protection Duo (p. 81)



KRASO<sup>®</sup> Floor Penetration Type BDF Check the installation video (just scan the QR code!)

# KRASO<sup>®</sup> Floor Penetration Type BDF Simple, tight and approved

+ KRASO<sup>®</sup> 4 Seal – MPA-tested up to 10 bar!

WU

W1 -E

FLANGE

+ IAF-tested: Radon-tight!

**10** bar

EW BUILDIN

Rn

- + Made of dimensionally stable and pressure-resistant solid wall material: low abrasion, easy installation at low temperatures
- + In accordance with DIN EN 1401 (KG) or DIN EN 14758 (KG 2000)
- + Also available in KG 2000: polypropylene (PP), mineral-filled, smooth walls, long-lasting
- + Also available with oil- and bitumen resistant KRASO® Foil Flange
- + Formed plug-in sleeve on one side for connection to KG/HT pipes
- + Including KRASO<sup>®</sup> Cover as building period protective cover
- + Also available as thermally insulated floor penetration!
- + DafStB waterproof concrete guideline: stress class 1 + 2, with foil flange DIN 18533 W1-E

### KRASO<sup>®</sup> Floor Penetration Type BDF

in accordance with DIN EN 1401, for connection to KG/HT pipes, also available with **KRAS0**<sup>®</sup> Foil Flange, oil- and bitumen resistant, surrounding approx. 15 cm. For the integration of the foil flange, we recommend our adhesive and sealant **KRAS0**<sup>®</sup> PU 50 | **DafStB waterproof concrete guide**line: stress class 1 + 2, with foil flange DIN 18533 W1-E

Type / Item	KRAS0 <sup>®</sup> Type BDF • KRAS0 <sup>®</sup> Type BDF with foil flange											
Diameter DN	<b>110 125 160 200 250 315 400 500</b>											
Delivery length (in cm)		50										
KRASO® Type BDF	39€	42€	51€	67€	132€	203 €	256 €	395€				
KRASO® Type BDF with foil flange	74€	80€	87€	118€	187€	256 €	414€	563€				
KRASO® PU 50	22€											

<u>Scope of supply:</u> KRASO<sup>®</sup> Type BDF or KRASO<sup>®</sup> Type BDF with foil flange, KRASO<sup>®</sup> Cover as building period protective cover Further diameters and lengths from 50 cm available on request!





#### KRASO<sup>®</sup> Floor Penetration Type BDF - KG 2000 LG1

in accordance with DIN EN 14758, for the connection to system KG 2000 lines, also available with **KRASO**<sup>®</sup> Foil Flange, oil- and bitumen resistant, surrounding approx. 15 cm. For the integration of the foil flange, we recommend our adhesive and sealant **KRASO**<sup>®</sup> PU 50 | DafStB waterproof concrete guideline: stress class 1 + 2, with foil flange DIN 18533 W1-E

Type / Item	KR	KRASO® Type BDF - KG 2000 • KRASO® Type BDF - KG 2000 with foil flange							
Diameter DN	110	110      125      160      200      250      315      400      500							
Delivery length (in cm)		50							
KRASO <sup>®</sup> Type BDF - KG 2000	50 €	56€	74 €	107€	255 €	343 €	448€	612€	
KRASO® Type BDF - KG 2000 with foil flange	84 € 92 € 109 € 156 € 309 € 398 € 596 € 794 €						794 €		
KRASO <sup>®</sup> PU 50	22€								

Scope of supply: KRASO<sup>®</sup> Type BDF - KG 2000 or KRASO<sup>®</sup> Type BDF - KG 2000 with foil flange, KRASO<sup>®</sup> Cover as building period protective cover Further diameters and lengths from 50 cm on request!





### KRASO® Floor Penetration Type BDF - thermally insulated -

in accordance with DIN EN 14758, for connection to KG/HT pipes or KG 2000 lines, with thermally insulated body surrounding approx. 5 cm, **KRASO**<sup>®</sup> Cover as an installation aid | DafStB waterproof concrete guideline: stress class 1 + 2

Type / Item	KRASO® Type BDF - thermally insulated -							
Diameter DN	110      125      160      200      250      315      400      500							
Delivery length (in cm)	50							
KRASO® Type BDF - thermally insulated -	189 € 201 € 224 € 307 € 492 € 616 € 711 € 833 €							

<u>Scope of supply:</u> KRASO<sup>®</sup> Type BDF - thermally insulated -, KRASO<sup>®</sup> Cover as building period protective cover Further diameters and lengths on request!



### Rodding eye for KRASO® Type BDF LG1

15 x 15 cm - screwable -



Diameter DN	110
Rodding eye for KRASO® Type BDF	292 €



# **KRASO<sup>®</sup> Universal Funnel** The floor penetration for more flexibility

+ KRASO® 4 Seal – MPA-tested up to 10 bar!

WU 1+2

W1 -E

Rn

Radon tight

+ IAF-tested: Radon-tight!

4 Seal **10** bar

EW BUILDING

- + Break-resistant, KG 2000 system compatible
- + Displaced fall pipes can be corrected easily up to 45 degrees!

Rn

Rn

Rn

Rn

Rn

Rn

- + Integrated plug-in sleeve with Diameter DN 110 and threefold reinforced lip ring
- + Surrounding connection/trowel flange with textured surface
- + Optionally available: screwable stainless steel flange for fixed-loose flange construction
- + Easy installation: ready-to-use, lugs, including walkable building period protective cover
- + DafStB waterproof concrete guideline: stress class 1 + 2, DIN 18533 W1-E

### KRASO<sup>®</sup> Universal Funnel LG1

for the installation in waterproof concrete base plates for the connection of displaced KG/HT pipes and for the connection to KG/KG 2000 lines, with one-sided spigot, walkable building period protective cover. Optionally available: screwable **KRASO**<sup>®</sup> Stainless Steel Clamping Flange for the connection to non-adhesive foils | DafStB waterproof concrete guideline: stress class 1 + 2

Type / Item	KRAS0 <sup>®</sup> Universal Funnel
Line: Diameter DN	110
KRAS0 <sup>®</sup> Universal Funnel	53€
KRAS0® Stainless Steel Clamping Flange	70€

<u>Scope of supply:</u> KRASO<sup>®</sup> Universal Funnel, walkable building period protective cover, additional protective cover Optionally available: KRASO<sup>®</sup> Stainless Steel Flange



# KRASO<sup>®</sup> Wall Collar Fast, simple and tight

- + The fast, simple and tight solution for sealing pipes in waterproof concrete structures base plate and wall!
- + Water pressure tight connection of pipelines: MPA-tested up to 5 bar!
- + Radon-tight according to FHRK leaflet MB 101!
- + Resistant to methane gas!
- + For all smooth pipes in DN 110, DN 125, DN 160 and DN 200!
- + Tool-free assembly simple and fast: Simply pull the **KRASO®** Wall Collar over the pipe!
- + Including KRASO<sup>®</sup> Cover as building period protective cover!
- + DafStB waterproof concrete guideline: stress class 1 + 2



### KRASO<sup>®</sup> Wall Collar LG1

for water pressure tight connection of pipelines with a smooth surface (KG, KG 2000, HT) in waterproof concrete structures: base plate and wall, MPA-tested up to 5 bar| DafStB waterproof concrete guideline: stress class 1 + 2

Type / Item	KRAS0 <sup>®</sup> Wall Collar								
Diameter pipeline	DN 110 DN 125 DN 160 DN 200								
KRASO® Wall Collar	15€	15€ 17€ 22€							

<u>Scope of supply:</u> KRASO<sup>®</sup> Wall Collar, KRASO<sup>®</sup> Cover as period protective cover Further special designs available on request!



### **KRASO<sup>®</sup> Wall Collar Universal** Simple, tight, universally usable!

- + The fast, simple and tight solution for sealing pipes in waterproof concrete structures base plate and wall!
- + Stepless onion ring technology! Scope of application 10 50 mm or 50 90 mm! For all smooth cables and pipes!
- + Water pressure tight connection of pipelines: MPA-tested up to 5 bar!
- Radon-tight according to FHRK leaflet MB 101! +
- + Resistant to methane gas!
- + With Torque Control Wrench KRASO® DKS: for safe and easy tightening of straps
- + DafStB waterproof concrete guideline: stress class 1 + 2

### KRASO<sup>®</sup> Wall Collar Universal

Type / Item	KRASO® Wall Collar Universal 10 - 50	KRASO® Wall Collar Universal 50 - 90		
Scope of application	10 - 50 mm	50 - 90 mm		
KRASO <sup>®</sup> Wall Collar Universal	21€	24 €		

Scope of supply: KRASO® Wall Collar Universal with Torque Control Wrench KRASO® DKS, 2 stainless steel straps Further special designs available on request!



## **KRASO<sup>®</sup> Wall Collar** Simple and fast sealing!

- + The fast, simple and tight solution for sealing pipes in waterproof concrete structures - base plate and wall!
- + Water pressure tight connection of pipelines: MPA-tested up to 5 bar!
- + Radon-tight according to FHRK leaflet MB 101!
- **Resistant to methane gas!** +
- + With Torque Control Wrench KRASO® DKS: for safe and easy tightening of straps
- + DafStB waterproof concrete guideline: stress class 1 + 2

### KRASO<sup>®</sup> Wall Collar LG1

Type / Item		KRAS0 <sup>®</sup> Wall Collar									
Diameter pipe	DN 25	DN 25 DN 32 DN 40 DN 50 DN 63 DN 75 DN 80 DN 90									
KRASO® Wall Collar	16€	16 € 16 € 16 € 16 € 19 € 19 € 19 € 19 €									

Scope of supply: KRASO® Wall Collar with Torque Control Wrench KRASO® DKS, 2 stainless steel straps

Further special designs available on request!





## **KRASO<sup>®</sup> Wall Collar Lightning Protection Duo** Double the benefit, half the storage!

- + For the water pressure tight integration of earthing cables with factory-sealed openings: square earthing strap (30 x 3,5 mm) and earthing wire (ø 8 10 mm)
- + With Torque Control Wrench KRASO® DKS: for safe and easy tightening of straps
- + MPA-tested up to 5 bar!
- + Resistant to methane gas!
- + Radon-tight according to FHRK leaflet MB 101!
- + DafStB waterproof concrete guideline: stress class 1 + 2

#### KRASO<sup>®</sup> Wall Collar Lightning Protection Duo LG1

Type / Item	KRASO <sup>®</sup> Wall Collar Lightning Protection Duo
KRASO® Wall Collar Lightning Protection Duo	22€

<u>Scope of supply</u>: KRASO<sup>®</sup> Wall Collar Lightning Protection Duo with Torque Control Wrench KRASO<sup>®</sup> DKS, 2 stainless steel straps Further special designs available on request!



**KRASO®** Wall Penetration Type B Check the installation video (just scan the QR code!)



## **KRASO<sup>®</sup> Wall Penetration Type B** The proven wall penetration made of solid wall material

- + KRASO® 4 Seal MPA-tested up to 10 bar!
- + IAF-tested: Radon-tight!
- + Dimensionally and pressure resistant solid wall material: low abrasion, easy installation at low temperatures
- + In accordance with DIN EN 1401 (KG) or DIN EN 14758 (KG 2000)
- + Also available in KG 2000: polypropylene (PP), mineral-filled, smooth walls, long-lasting
- + Formed plug-in-sleeve on both sides for connection to KG/HT pipes
- + Including two KRASO® Covers as an installation aid!
- + Also available as thermally insulated wall penetration!
- + DafStB waterproof concrete guideline: stress class 1 + 2

### KRAS0® Wall Penetration Type B LG1

in accordance with DIN EN 1401, for installation in waterproof concrete walls for connection to KG/HT pipes on both sides, with water pressure tight surrounding **KRASO**<sup>®</sup> 4 Seal | **DafStB waterproof concrete guideline: stress class 1 + 2** 

Type / Item		KRASO® Type B						
Diameter DN	110	110      125      160      200      250      315 <sup>1</sup> 400 <sup>1</sup> 500 <sup>1</sup>						
Available standard wall thicknesses in cm		20 · 24 · 25 · 30 · 35 · 36,5 · 40 · 45 · 50						
KRASO® Type B	52 €	52 € 62 € 69 € 97 € 239 € 395 € 473 € 571 €					571€	
Surcharge: special dimensions up to 50 cm	21€ 34€							

<sup>1</sup> Only usable as push-through sleeve, because the plug-in length is not suitable for double-sided usage according to EN 1401-1

Scope of supply: KRASO® Type B, 2 KRASO® Covers as an installation aid





### KRASO<sup>®</sup> Wall Penetration Type B - KG 2000 LG1

in accordance with DIN EN 14758, for installation in waterproof concrete walls for connection to system KG 2000 pipes, with water pressure tight surrounding, thermally welded **KRASO®** 4 Seal, formed plug-in sleeve on both sides, 2 **KRASO®** Covers as an installation aid | **DafStB waterproof** concrete guideline: stress class 1 + 2

Type / Item		KRASO <sup>®</sup> Type B - KG 2000							
Diameter DN	110	110      125      160      200      250      315 <sup>1</sup> 400 <sup>1</sup> 500 <sup>12</sup>							
Available standard wall thicknesses in cm		20 · 24 · 25 · 30 · 35 · 36,5 · 40 · 45 · 50							
KRASO <sup>®</sup> Type B - KG 2000	72€	81€	111€	169€	287€	476€	617€	1.067 €	
Surcharge: special dimensions up to 50 cm	21€ 34€								

<sup>1</sup> Only usable as push-through sleeve because the plug-in length according to EN 1401-1 is not suitable for double-sided usage

<sup>2</sup> For product technical reasons wall thickness 20 cm with KRAS0<sup>®</sup> 3 Seal

Scope of supply: KRASO® Type B - KG 2000, 2 KRASO® Covers as an installation aid

Further diameters and wall thicknesses available on request!





### KRASO® Wall Penetration Type B - thermally insulated - LG1

in accordance with DIN EN 14758, for installation in waterproof concrete walls, thermally welded **KRASO**<sup>®</sup> 4 Seal on both sides, formed plug-in sleeve on both sides, 2 **KRASO**<sup>®</sup> Covers as an installation aid and thermally insulated body surrounding approx. 5 cm | **DafStB waterproof concrete guideline: stress class 1 + 2** 

Type / Item	KRASO® Type B - thermally insulated -						
Diameter DN	110      125      160      200      250      315 <sup>1</sup> 400 <sup>1</sup> 500 <sup>1</sup>						
Available standard wall thicknesses in cm	20 · 24 · 25 · 30 · 35 · 36,5 · 40 · 45 · 50						
KRASO® Type B - thermally insulated -	249 € 275 € 302 € 352 € 533 € 799 € 925 € 1.646 €						

<sup>1</sup> Only usable as push-through sleeve, because the plug-in length is not suitable for double-sided usage according to EN 1401-1

Scope of supply: KRASO® Type B - thermally insulated -, 2 KRASO® Covers as an installation aid

Further diameters and wall thicknesses available on request!





#### KRASO<sup>®</sup> Wall Penetration Type SML IG1

grey iron waste water pipe according to DIN EN 877 for installation in waterproof concrete walls for connection to SML pipes on both sides, with water pressure tight surrounding **KRASO®** 4 Seal and styrofoam recess core on both sides | **DafStB waterproof concrete guideline: stress class 1 + 2** 

Type / Item	KRASO® Type SML						
Diameter DN	110      125      160      200      250						
Available standard wall thicknesses in cm			24 · 25 · 30				
KRASO <sup>®</sup> Type SML	84 €	84 € 100 € 126 € 227 € 332 €					
Surcharge: per every or partial 10 cm	12 € 13 € 16 € 38 € 44 €						

Scope of supply: KRASO® Type SML incl. 2 styrofoam recess cores at the sides

Further diameters and wall thicknesses available on request! Also available in TML and KML for an additional charge!

PIPE PENETRATIONS







# **KRASO<sup>®</sup> Wall Penetration Type FR** Always the right flow direction

- + One flow direction!
- + Flexible yet water tight connection to the pipe system: stresses caused by settling of KG pipes are minimised!
- + KRASO<sup>®</sup> 4 Seal MPA-tested up to 10 bar!
- + IAF-tested: Radon-tight!
- + Dimensionally and pressure resistant solid wall material: low abrasion, easy installation at low temperatures
- + In accordance with DIN EN 1401 (KG) or DIN EN 14758 (KG 2000)
- + Also available in KG 2000: polypropylene (PP), mineral-filled, smooth walls, long-lasting
- + DafStB waterproof concrete guideline: stress class 1 + 2

### KRASO® Wall Penetration Type FR - flow direction Ig1

in accordance with DIN EN 1401, for installation in waterproof concrete walls, for connection to KG/HT pipes on both sides | DafStB waterproof concrete guideline: stress class 1 + 2

Type / Item	KRASO® Type FR						
Diameter DN	110 125 160						
Available standard wall thicknesses in cm		$20^1\cdot 24\cdot 25\cdot 30$					
KRASO <sup>®</sup> Type FR	55€ 64€ 73€						

 $^{\rm 1}\,\rm 20~cm$  wall thickness: only DN 110 available

Scope of supply: KRASO® Type FR, 2 KRASO® Covers as an installation aid





### KRASO<sup>®</sup> Wall Penetration Type FR - KG 2000

in accordance with DIN EN 14758, for installation in waterproof concrete walls for connection to KG 2000 pipes on both sides, with water pressure tight surrounding, thermally welded **KRASO**® 4 Seal , formed plug-in sleeve on one side, one-sided spigot and 2 **KRASO**® Covers as an installation aid | **DafStB waterproof concrete guideline: stress class 1 + 2** 

Type / Item	KRASO® Type FR - KG 2000					
Diameter DN	110 125 160					
Available standard wall thicknesses in cm		24 · 25 · 30				
KRASO® Type FR - KG 2000	72€ 81€ 111€					

Scope of supply: KRASO® Type FR - KG 2000, 2 KRASO® Covers as an installation aid



cross section





### KRASO® Wall Penetration Type Universal LG1

in accordance with DIN EN 1401, for installation in waterproof concrete walls, for connection to KG/HT pipes on both sides (**Uni B**) or for pipes to be pushed through (**Uni D**), with water pressure tight surrounding **KRASO**<sup>®</sup> 4 Seal, with markings for a simple shortening on-site to standard wall thicknesses | **DafStB waterproof concrete guideline: stress class 1 + 2** 

Type / Item	KRAS0 <sup>®</sup> Type Universal B • KRAS0 <sup>®</sup> Type Universal D					
Diameter DN	110	125	160			
for wall thicknesses from to (in cm)	12 - 30	12 - 30	17,5 - 36,5			
KRASO <sup>®</sup> Type Universal B KRASO <sup>®</sup> Type Universal D	52€	62€	69 €			

Scope of supply: KRASO® Type Universal B with formed plug-in sleeve on both sides, 2 KRASO® Covers as an installation aid • KRASO® Type Universal D with integrated push-through sleeve, 2 KRASO® Covers as an installation aid

Further diameters and wall thicknesses available on request!





### KRASO® Wall Penetration Type Universal - KG 2000 LG1

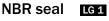
in accordance with DIN EN 14758, for installation in waterproof concrete walls, for connection to KG 2000 pipes on both sides (**Uni B - KG 2000**) or for pipes to be pushed through (**Uni D - KG 2000**), with water pressure tight surrounding, thermally welded **KRASO**® 4 Seal, with markings for a simple shortening on-site to standard wall thicknesses | **DafStB waterproof concrete guideline:** stress class 1 + 2

Type / Item	KRAS0 <sup>®</sup> Type Universal B - KG 2000 • KRAS0 <sup>®</sup> Type Universal D - KG 2000						
Diameter DN	110	110 125					
for wall thicknesses from to (in cm)	15 - 30	17,5 - 30	20 - 36,5				
KRASO® Type Universal B - KG 2000 KRASO® Type Universal D - KG 2000	88€	104€	138€				

Scope of supply: KRAS0® Type Universal B - KG 2000 with formed plug-in sleeve on both sides, 2 KRAS0® Covers as an installation aid • KRAS0® Type Universal D - KG 2000 with integrated push-through sleeve, 2 KRAS0® Covers as an installation aid

Further diameters and wall thicknesses in KG 2000 available on request!

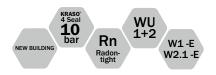






oil-resistant lip seal ring for system KG and KG 2000

Type / Item	NBR seal							
Diameter DN	110	125	160	200	250	315	400	500
NBR seal KG	1,85€	2.50 €	3,20 €	5,10€	12,10 €	16,70€	31€	79€
NBR seal KG 2000	5,35€	12€	24 €	37€	79€	130€	155€	195€





### **KRASO<sup>®</sup> Wall Penetration Type B/SF 5** Secure connection to bitumen and reactive sealings

- + Dimensionally stable and pressure-resistant solid wall material: low abrasion, installation even at lower temperatures
- + Pipe and pipe material in accordance with DIN EN 1401 (KG) or DIN EN 14758 (KG 2000)
- + KRASO® 4 Seal MPA-tested up to 10 bar!
- + IAF-tested: Radon-tight!
- + Surrounding approx. 5 cm trowel flange for secure connection of bitumen thick coating such as KMB or reactive sealings: roughened or tissue coated
- Also available: trowel flange made of PP with dovetail groove as KRASO<sup>®</sup> Type B/SF 5 KG 2000 for the secure gripping of bitumen thick coating
- + DafStB waterproof concrete guideline: stress class 1 + 2, DIN 18533 W1 -E and W2.1 -E



trowel flange roughened trowel flange tissue coated



dovetail groove - for the secure gripping of bitumen thick coating and reactive sealings with **KRAS0® Type B/SF 5** - KG 2000

### KRASO<sup>®</sup> Wall Penetration Type B/SF 5 LG1

for installation in waterproof concrete walls for connection to KG/HT pipes on both sides, with trowel flange on one side, roughened (**KRASO**<sup>®</sup> Type B/SF 5 - R) or tissue coated (**KRASO**<sup>®</sup> Type B/SF 5 - G) for the secure connection of bitumen thick coating (eg.g. KMB) and reactive sealings, surrounding approx. 5 cm, formed plug-in sleeve on both sides, 2 **KRASO**<sup>®</sup> Covers as an installation aid | **DafStB waterproof concrete guideline:** stress class 1 + 2, DIN 18533 W1 -E and W2.1 -E

Type / Item	KRASO® Type B/SF 5							
Diameter DN	110	110      125      160      200      250      315						
Available standard wall thicknesses in cm		20 · 24 · 25 · 30 · 35 · 36,5 · 40 · 45 · 50						
KRASO® Type B/SF 5 - R	78€	94 €	107€	137€	306 €	488 €		
KRASO® Type B/SF 5 - G	86€	98€	111€	143€	311€	497 €		

Scope of supply: KRASO® Type B/SF 5 - R with trowel flange on one side SF/5, roughened, 2 KRASO® Covers as an installation aid • KRASO® Type B/SF 5 - G with trowel flange on one side SF/5, tissue coated, 2 KRASO® Covers as an installation aid

Further diameters and wall thicknesses available on request!





### KRASO® Wall Penetration Type B/SF 5 - KG 2000 IG1

for installation in waterproof concrete walls for the connection to KG 2000 pipes on both sides, with trowel flange on one side with dovetail groove for the secure connection of bitumen thick coating and reactive sealings, formed plug-in sleeve on both sides, 2 KRASO<sup>®</sup> Covers as an installation aid | DafStB waterproof concrete guideline: stress class 1 + 2, DIN 18533 W1 -E and W2.1 -E

Type / Item	KRASO <sup>®</sup> Type B/SF 5 - KG 2000							
Diameter DN	110      125      160      200      250      315							
Available standard wall thicknesses in cm		20 · 24 · 25 · 30 · 35 · 36,5 · 40 · 45 · 50						
KRAS0® Type B/SF 5 - KG 2000	146 € 162 € 186 € 246 € 499 € 747 €							

Scope of supply: KRASO® Type B/SF 5 - KG 2000, 2 KRASO® Covers as an installation aid



### **KRASO<sup>®</sup> Wall Penetration Type DFW** Easy and secure sealing in precast walls

+ For the installation in triple wall elements: stop occuring water at the outer shell!

 KRASO® Type DFW 4: KRASO® 2 Seal on both sides– MPA-tested up to 3.5 bar!
 KRASO® Type DFW 6: KRASO® 2 Seal on one side, central KRASO® 4 Seal – MPA-tested up to 10 bar!
 KRASO® Type DFW 8: KRASO® 2 Seal on both sides, central KRASO® 4 Seal – MPA-tested up to 10 bar!

- + IAF-tested: Radon-tight!
- + Pipe and pipe-material in accordance with DIN EN 1401 (KG) or DIN EN 14758 (KG 2000)
- + DafStB waterproof concrete guideline: stress class 1 + 2

### KRASO® Wall Penetration Type DFW - triple wall - especially for precast elements IG1

in accordance with DIN EN 1401, for the installation in triple walls, for connection to KG/HT pipes on both sides, with formed plug-in sleeve on both sides, 2 **KRASO**<sup>®</sup> Covers as an installation aid | **DafStB waterproof concrete guideline: stress class 1 + 2** 

Type / Item		KRASO <sup>®</sup> Type DFW							
Diameter DN	110	110      125      160      200      250      315 <sup>1</sup>							
Available standard wall thicknesses in cm		20 · 24 · 25 · 30 · 35 · 36,5 · 40 · 45 · 50							
KRASO <sup>®</sup> Type DFW 4	67€	78€	88€	118€	295 €	487€			
KRASO® Type DFW 6	73€	82€	93€	130€	327 €	539€			
KRASO <sup>®</sup> Type DFW 8	93€	107€	122 €	160€	409 €	672€			
Surcharge: special dimensions up to 50 cm		21€				1€			

<sup>1</sup> Only usable as push-through sleeve because the plug-in length according to EN 1401-1 is not suitable for double-sided usage

Scope of supply: KRAS0® Type DFW 4, KRAS0® Type DFW 6 or KRAS0® Type DFW 8, 2 KRAS0® Covers as an installation aid

#### Further diameters and wall thicknesses available on request!





### KRASO® Wall Penetration Type DFW - KG 2000 - triple wall - especially for precast elements IG1

in accordance with DIN EN 14758, for the installation in triple walls, for the connection to KG 2000 pipes on both sides, with formed plug-in sleeve on both sides, 2 **KRASO**<sup>®</sup> Covers as an installation aid | **DafStB waterproof concrete guideline: stress class 1 + 2** 

Type / Item	KRASO® Type DFW - KG 2000								
Diameter DN	110	125	160	200	250	315 <sup>1.2</sup>			
Available standard wall thicknesses in cm		20 · 24 · 25 · 30 · 35 · 36,5 · 40 · 45 · 50							
KRASO <sup>®</sup> Type DFW 4 - KG 2000	95€	104 €	147€	216€	368 €	609€			
KRASO® Type DFW 6 - KG 2000	104€	116€	161€	239€	409 €	673€			
KRASO® Type DFW 8 - KG 2000	130€	144€	202 €	298€	509 €	841€			
Surcharge: special dimensions up to 50 cm	21€				34	4€			

<sup>1</sup> Only usable as push-through sleeve because the plug-in length according to EN 1401-1 is not suitable for double-sided usage

<sup>2</sup> For product-technical reasons wall thickness 20 cm with KRASO® 3 Seal

Scope of supply: KRASO® Type DFW 4 - KG 2000, KRASO® Type DFW 6 - KG 2000 or KRASO® Type DFW 8 - KG 2000, 2 KRASO® Covers as an installation aid





### KRASO® Casing Type DFW/FE - triple wall - especially for precast elements - LG1

for the installation into triple walls, thick-walled plastic casing true diameter for concreting, as a recess for retrofit installation of cables or pipes using a sealing insert (not included in the scope of supply), with water pressure tight surrounding **KRASO**<sup>®</sup> 2 Seal on both sides (**KRASO**<sup>®</sup> Type DFW/FE 4), **KRASO**<sup>®</sup> 2 Seal on one side and water pressure tight surrounding **KRASO**<sup>®</sup> 4 Seal in the middle (**KRASO**<sup>®</sup> Type DFW/FE 6), **KRASO**<sup>®</sup> 2 Seal on both sides and central water pressure tight surrounding **KRASO**<sup>®</sup> 4 Seal (**KRASO**<sup>®</sup> Type DFW/FE 6), **KRASO**<sup>®</sup> 2 Seal on both sides and central water pressure tight surrounding **KRASO**<sup>®</sup> 4 Seal (**KRASO**<sup>®</sup> Type DFW/FE 8), 2 **KRASO**<sup>®</sup> Covers as an installation aid, ID = InternalDiameter true diameter casing] **DafStB waterproof concrete guideline: stress class 1 + 2** 

Type / Item		KRASO <sup>®</sup> Type DFW/FE						
InternalDiameter ID	100	100      125      150      200      250      300						
Available standard wall thicknesses in cm		20 · 24 · 25 · 30 · 35 · 36,5 · 40 · 45 · 50						
KRASO <sup>®</sup> Type DFW/FE 4	44€	48 €	53€	79€	89 €	95€		
KRASO® Type DFW/FE 6	49€	53 €	60€	86€	101€	107€		
KRASO® Type DFW/FE 8	62€	66 €	73€	109€	125€	130€		

<u>Scope of supply:</u> KRASO<sup>®</sup> Type DFW/FE 4, KRASO<sup>®</sup> Type DFW/FE 6 or KRASO<sup>®</sup> Type DFW/FE 8, 2 KRASO<sup>®</sup> Covers as an installation aid Further diameters and wall thicknesses available on request!





### **KRASO® Casing Type FE/SF 5** Thick-walled plastic casing - true diameter. Secure connection of bitumen thick coating/reactive sealings

- + Thick-walled true diameter plastic casing for concreting
- + As a recess for retrofit installation of cables or pipes using a sealing insert
- + Approx. 5 cm surrounding trowel flange on one side for a secure connection of bitumen thick coating and reactive sealings: roughened or tissue coated
- + **KRASO**<sup>®</sup> 4 Seal MPA-tested up to 10 bar! IAF tested: Radon-tight! Gas- and odour-tight – high-quality in terms of TA-Air!
- + Tested in accordance with FHRK test specification GE 102!
- + Also available: KRASO<sup>®</sup> Casing Type FE/SF 5 KG 2000 with trowel flange made of PP with dovetail groove for the secure connection of bitumen thick coating and reactive sealings
- + DafStB waterproof concrete guideline: stress class 1 + 2, DIN 18533 W1 -E and W2.1 -E







dovetail groove - for the secure connection of bitumen thick coating and reactive sealings KRASO® Casing Type FE/SF 5 - KG 2000

### KRASO® Casing Type FE/SF 5

for concreting, with trowel flange on one side, roughened (**KRASO**<sup>®</sup> Type FE/SF 5 R) or tissue coated (**KRASO**<sup>®</sup> Type FE/SF 5 - G), surrounding approx. 5 cm, 2 **KRASO**<sup>®</sup> Covers as an installation aid, ID = InternalDiameter true diameter casing | **DafStB waterproof concrete guideline: stress class** 1 + 2, DIN 18533 W1 - E and W2.1 - E

Type / Item	KRAS0® Type FE/SF 5								
InternalDiameter ID	100	100      125      150      200      250      300							
Available standard wall thicknesses in cm		20 · 24 · 25 · 30 · 35 · 36,5 · 40 · 45 · 50							
KRASO® Type FE/SF 5 - R	64€	70 €	78€	107€	124 €	138€			
KRASO® Type FE/SF 5 - G	68€	77€	83€	111€	128€	143€			

Scope of supply: KRAS0® Type FE/SF 5 - R with trowel flange on one side SF/5, roughened, 2 KRAS0® Covers as an installation aid • KRAS0® Type FE/SF 5 - G with trowel flange on one side SF/5, tissue coated, 2 KRAS0® Covers as an installation aid



# **KRASO® Casings with bonding flange** Simple integration into the sealing of larger areas

- + True diameter casing with surrounding **bonding flange according to DIN 18533** for a simple and fast integration into the sealing of larger areas ("black tank").
- + As a recess for the retrofit installation of cables or pipes using a sealing insert!
- + Available in non-corrosive stainless steel or with thick-walled true diameter plastic casing
- + DIN 18533 W1 -E and W2.1 -E

### KRASO<sup>®</sup> Casing E/FE/KF LG1

#### stainless steel/true diameter casing/ bonding flange

stainless steel true diameter casing with stainless steel bonding flange, surrounding approx. 12 cm, according to DIN 18533, for concreting, made of non-corrosive stainless steel V2A, for the installation of cables or pipes using a sealing insert (not included in the scope of supply), with 2 **KRA-SO**<sup>®</sup> Covers as an installation aid. ID = InternalDiameter true diameter casing | DIN 18533 W1 -E and W2.1 -E

Type / Item		KRAS0 <sup>®</sup> Casing E/FE/KF										
InternalDiameter ID	80	80 100 125 150 200 250 300										
Available standard wall thicknesses in cm		20 • 24 • 25 • 30										
Diameter bonding flange		surrounding 120 mm										
KRASO <sup>®</sup> Casing E/FE/KF	153€	153 € 198 € 218 € 251 € 288 € 386 € 454 €										
Surcharge: per each additional 10 cm	22€	28€	32€	36€	42€	55€	64€					

Scope of supply: KRASO® Casing E/FE/KF, 2 KRASO® Covers as an installation aid

Further diameters and wall thicknesses available on request! Also available in V4A at an additional charge!



### KRASO<sup>®</sup> Casing K/FE/KF - electrogalvanised [G1

- plastic/true diameter casing/bonding flange

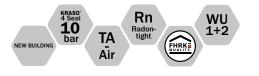
thick-walled true diameter plastic casing with electrogalvanised bonding flange, surrounding approx. 12 cm, according to DIN 18533, for concreting, for the installation of cables or pipes using a sealing insert (not included in the scope of supply), 2 **KRASO**<sup>®</sup> Covers as an installation aid ID = InternalDiameter true diameter casing | **DIN 18533 W1 -E and W2.1 -E** 

Type / Item		KRASO® Casing K/FE/KF - electrogalvanised									
InternalDiameter ID	80	80 100 125 150 200 250 300									
Available standard wall thicknesses in cm		20 • 24 • 25 • 30									
Diameter bonding flange		surrounding 120 mm									
KRASO <sup>®</sup> Casing K/FE/KF - electrogalvanised -	115€	148€	164 €	189€	216€	290 €	345€				
Surcharge: per each additional 10 cm	1,30€	1,40€	2,10€	2,30 €	4,70 €	8,20 €	14,10 €				

Scope of supply: KRASO® Casing K/FE/KF - electrogalvanised, 2 KRASO® Covers as an installation aid







# KRASO<sup>®</sup> Casing Type FE and FE/MI These casings convince!

- + Thick-walled true diameter plastic casing for concreting
- KRASO<sup>®</sup> 4 Seal MPA-tested up to 10 bar!
  Gas- and odour-tight high-quality in terms of TA-Air!
- + IAF-tested: Radon-tight!
- + Tested in accordance with FHRK test specification GE 102!
- Material and processing: weatherproof, impact-resistant plastic,
  KRASO<sup>®</sup> 4 Seal joined monolithically to the plastic pipe by vulcanization
- + Every diameter and every wall thickness available at short notice! If necessary, the size can be adapted individually on the construction-site!
- + Low weight: easy handling, simple installation, low transport costs!
- + Including installation covers! No pre-treatment required!
- + DafStB waterproof concrete guideline: stress class 1 + 2



KRASO<sup>®</sup> Casing Type FE/MI with fixed claw

LG 1

# KRASO® Casing Type FE - true diameter casing • KRASO® Casing Type FE/MI - true diameter casing with inner core

recess for retrofit installation of cables or pipes using a sealing insert (not included in the scope of supply) • plastic - true diameter casing with reinforced inner core, with eyelets, shear key and enclosed fixed claw as an installation aid, ID = InternalDiameter true diameter casing | DafStB waterproof concrete guideline: stress class 1 + 2

Type / Item		KRASO® Casing Type FE KRASO® Casing Type FE/MI														
InternalDiameter in mm	80	100	125	150	200	250	300	350	400	450	500	600	700	800	900	1000
Available standard wall thick- nesses in cm		20 · 24 · 25 · 30 · 35 · 36,5 · 40 · 45 · 50														
	40 €	41€	43€	47€	69€	80 €	86€	231€	253€	272€	288 €	445€	589€	694 €	877€	927€
Available standard wall thick- nesses in cm		60 · 70 · 80 · 90 · 100														
	55€	56 €	63€	67€	94 €	125€	157€	271€	309€	344 €	364 €	529€	709€	846 €	1.081€	1.167

<u>Scope of supply:</u> KRASO<sup>®</sup> Casing Type FE, 2 KRASO<sup>®</sup> Covers as an installation aid • KRASO<sup>®</sup> Casing Type FE/MI, fixed claw as an installation aid Further diameters and wall thicknesses available on request!





### for DN 250 to DN 800

700

284 €

337€

350 €

416€

482€

502€

548€

649€

811€

1.075€

1.338€

1.606€

75.80 € 102.40 € 133.80 €

800

327€

388 €

403 €

480 €

556€

579€

633€

786€

939 €

1.245€

1.551€

1.861€

#### **KRASO<sup>®</sup>** Fibre Cement Casing LG 6

100

39€

45€

46 €

52€

59 €

65€

67€

78€

80

37€

43€

44 €

50€

57€

62 €

64 €

74€

124 €

149€

4.10€

5 bar

NEW BUILDING

Type / Item InternalDiameter

> 20 24

> 25 30

> 35

36.5

40

50

100

120

optional: KRASO

Installation Formwork aid

in mm Available stan dard wall thick nesses in cm

Wι

fibre cement casing for the installation in waterproof concrete walls for installation of pipes or cables using a sealing inserts (not included in the scope of supply) | DafStB waterproof concrete guideline: stress class 1 + 2

250

78€

91€

93€

97€

106€

112€

117€

121€

143€

173€

246 €

295€

15,70€

KRASO® Catalogue 01	2024	

#### 60 83€ 86 € 102€ 112€ 121€ 103€ 108€ 131€ 147€ 151€ 80 130 €

156€

4.90 €

Further diameters and wall thicknesses available on request!

150

50€

56€

58€

63€

71€

82 €

86€

104 €

194 €

233€

7.50 €

200

60€

69€

71€

76€

86€

93€

95€

104 €

203€

244 €

9.80€

300

82 €

97€

99€

117€

130€

140€

145€

160€

177€

199€

311€

373€

19.40€

KRAS0<sup>®</sup> Fibre Cement Casing

350

100€

117€

122€

144€

166€

173€

189€

233€

277€

352 €

440 €

528€

26.20€

400

138€

162€

168€

199€

229€

238€

259€

320 €

381€

484 €

605€

726€

33.40€

450

157€

185€

192€

227 €

262€

272€

296 €

366€

436€

549€

692 €

500

187€

219€

227 €

269 €

310€

322 €

350€

433 €

515€

654 €

817 €

980€

600

213€

250€

259€

306€

352€

366 €

398€

491€

584 €

742€

927 €

1.112€

W	ith homogeneous connection to the concrete
+	Casing made of fibre cement as a recess in waterproof concrete walls ("white tank")
+	For concreting: the surrounding external profile ensures a homogeneous and water pressure tight connection to the concrete
+	MPA-tested up to 5 bar!
+	Radon-tight – according to FHRK leaflet MB 101

- + Corresponds to the expansion range ("expansion coefficient") of waterproof concrete
- Optionally available: KRASO® Installation/Formwork aid +

**KRASO<sup>®</sup>** Fibre Cement Casing

Water pressure tight penetration

- Fire protection class A1 according to DIN EN 13501-1 +
- + DafStB waterproof concrete guideline: stress class 1 + 2

125

45€

52 €

54 €

58€

66€

76€

79€

93€

172€

206€

6.10€

### 91





### KRASO® Casing Type E/FE - stainless steel/true diameter casing IG1

stainless steel casing for concreting, as a recess for retrofit installation of pipes and cables using a sealing insert (not included in the scope of supply), made of non-corrosive stainless steel V2A, with water pressure tight and gas- and odour-tight, surrounding **KRASO**<sup>®</sup> 4 Seal and 2 **KRASO**<sup>®</sup> Covers as an installation aid, ID = InternalDiameter true diameter casing | **DafStB waterproof concrete guideline: stress class 1 + 2** 

Type / Item		KRASO® Type E/FE									
InternalDiameter ID	80	80 100 125 150 200 250 300									
Available standard wall thicknesses in cm		20 • 24 • 25 • 30									
KRASO <sup>®</sup> Type E/FE	146€	189€	208 €	240 €	274€	367€	437€				
Surcharge: per each additional 10 cm	23€	28€	32 €	37€	42€	56 €	64€				

Scope of supply: KRASO® Casing Type E/FE, 2 KRASO® Covers as an installation aid

Further diameters and wall thicknesses available on request! Also available in V4A at an additional charge!





### VA - tubular sleeve LG1

stainless steel tubular sleeve for concreting, as non-water pressure tight recess for retrofit installation of pipes and cables using sealing insert (not included in the scope of supply), made of non-corrosive stainless steel V2A, ID = InternalDiameter true diameter

Type / Item		VA - tubular sleeve										
InternalDiameter ID	80	80 100 125 150 200 250 300										
Available standard wall thicknesses in cm		20 • 24 • 25 • 30										
VA - tubular sleeve	61€	78€	88 €	99€	114 €	151€	180€					
Surcharge: per each additional 10 cm	23 €	28€	32€	37€	42€	56€	64€					

<u>Scope of supply:</u> VA - tubular sleeve made of non-corrosive stainless steel V2A with 2 KRASO® Covers as an installation aid Further diameters and wall thicknesses available on request! Also available in V4A at an additional charge!





### KRASO® Casing Type E/FE/M - stainless steel/true diameter casing/middle flange IG1

stainless steel casing for concreting with middle flange, surrounding approx. 10 cm, as a recess for retrofit installation of pipes and cables using a sealing insert (not included in the scope of supply), made of non-corrosive stainless steel V2A, ID = InternalDiameter true diameter casing

Type / Item		KRASO® Type E/FE/M									
InternalDiameter ID	80	80 100 125 150 200 250 300									
Available standard wall thicknesses in cm		20 • 24 • 25 • 30									
KRASO® Type E/FE/M	191€	191 € 244 € 272 € 312 € 357 € 478 € 564 €									
Surcharge: per each additional 10 cm	23€	28€	32€	37€	42€	56€	64€				

Scope of supply: KRASO® Casing Type E/FE/M, 2 KRASO® Covers as an installation aid

Further diameters and wall thicknesses available on request! Also available in V4A at an additional charge!





### KRASO<sup>®</sup> Slip-on Sleeve LG1

in accordance with DIN EN 1401, for installation in waterproof concrete walls for KG/HT pipes to be pushed through, with water pressure tight surrounding **KRASO**<sup>®</sup> 4 Seal | DafStB waterproof concrete guideline: stress class 1 + 2

Type / Item				KRASO® Sli	p-on Sleeve						
Diameter DN	110	10      125      160      200      250      315      400      500									
KRASO <sup>®</sup> Slip-on Sleeve	40 €	46 €	53€	67€	142€	215€	306 €	573€			

Also available as double sleeve with internal stop on request!





### KRASO<sup>®</sup> Slip-on Sleeve - KG 2000 LG1

in accordance with DIN EN 14758, for installation in waterproof concrete walls for KG 2000 pipes to be pushed through, with water pressure tight surrounding, thermally welded **KRASO**<sup>®</sup> 4 Seal | DafStB waterproof concrete guideline: stress class 1 + 2

Type / Item			KRA	SO® Slip-on	Sleeve - KG 2	2000	-			
Diameter DN	110	<b>10 125 160 200 250 315 400 500</b>								
KRAS0 <sup>®</sup> Slip-on Sleeve - KG 2000	52€	60 €	78€	129€	209€	269 €	365€	691€		

Also available as double sleeve with internal stop on request!





**PIPE PENETRATIONS** 

### KRASO<sup>®</sup> 15° | 30° | 45° Bend IG1

in accordance with DIN EN 1401, for installation in waterproof concrete walls for the connection to KG/HT pipes, with water pressure tight surrounding **KRAS0**<sup>®</sup> 4 Seal and formed plug-in sleeve on one side | **DafStB waterproof concrete guideline: stress class 1 + 2** 

Type / Item		KRASO® 15°   30°   45° Bend        110 <sup>1</sup> 125 <sup>1</sup> 160 <sup>1</sup> 200 <sup>1</sup> 250      315      400      500									
Diameter DN	<b>110</b> <sup>1</sup>										
KRASO® 15°   30°   45° Bend	29€	34€	39€	73€	124€	192€	330 €	721€			

 $^{\tt 1}$  for technical production reasons partly  $\textbf{KRAS0}^{\texttt{\$}}$  3 Seal





### KRASO<sup>®</sup> 15° | 30° | 45° Bend - KG 2000 LG1

in accordance with DIN EN 14758, for installation in waterproof concrete walls for the connection to KG 2000 pipes, with water pressure tight surrounding, thermally welded **KRASO**<sup>®</sup> 4 Seal and formed plug-in sleeve on one side | DafStB waterproof concrete guideline: stress class 1 + 2

Type / Item		KRAS0 <sup>®</sup> 15°   30°   45° Bend - KG 2000								
Diameter DN	<b>110</b> <sup>1</sup>	10 <sup>1</sup> 125 <sup>1</sup> 160 <sup>1</sup> 200 <sup>1</sup> 250      315 <sup>2</sup> 400 <sup>2</sup> 500								
KRAS0 <sup>®</sup> 15°   30°   45° Bend - KG 2000	44€	55€	75€	111€	255€	409 €	589 €	1.148€		

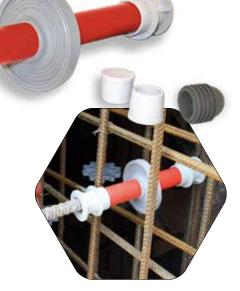
<sup>1</sup> for technical production reasons partly KRASO® 3 Seal

<sup>2</sup> not available as 30° bend





## **KRASO<sup>®</sup> Tie Point DWS - System** Simple and quick use, water pressure tight up to 10 bar!



- + Water pressure tight tie point as spacer for the formwork of waterproof concrete walls.
- + Delivery ready-to-use according to wall thickness no assembly necessary on the construction-site!
- + Simple installation no time-consuming adhesion of blanking plugs and expensive reworking!
- + 10 bar water pressure tightness internally and externally due to vulcanised locking disc and sealing and blanking plugs for simple locking
- + Fireproof according to F 180!
- + DafStB waterproof concrete guideline: stress class 1 + 2



### KRASO® DWS - System - water pressure tight tie point LG1

| DafStB waterproof concrete guideline: stress class 1 + 2

Type / Item					-	KI	RASO® DV	VS - Syste	em				
Wall thicknesses i	n cm	15	17,5	20	24	25	30	35	36,5	40	45	50	60
KRASO® DWS - System		4,30 €	4,40 €	4,40 €	4,50 €	4,50 €	4,60 €	4,70 €	4,70€	4,80 €	4,90 €	5,00€	5,30 €
Packing Unit:	50 pcs. 50 pcs. 100 pcs.	- KR/	- red <b>KRASO®</b> Distance Pipe 22/3 - <b>KRASO®</b> Sealing Plugs - blanking plugs			26 with <b>K</b>	RASO® Lo	ocking Dis	c and as	sembled	caps		

Any wall thickness available at short term! Also available for system tie point 26/30!

# KRAS0<sup>®</sup> DWS - Accessories

			2010 - Carl - Ca
Type / Item	Insertion Tool	Blanking Plugs	KRASO <sup>®</sup> Sealing Plugs
Packing Unit	1 pcs.	100 pcs.	50 pcs.
KRAS0 <sup>®</sup> DWS - Accessories	12€	10€	9€







# **KRASO<sup>®</sup> Drains for interior and exterior use** Inside and outside – tight and dry

- For interior areas, basements, yards and parking levels:
  KRASO<sup>®</sup> Drains for a reliable and water pressure tight drainage of pressing water!
- + IAF-tested: Radon-tight!
- + Walkable and fit for traffic, frost proof and odour-tight, backwater safe and thermally insulated: various versions for different needs!
- + High-quality components for a secure installation and use: solid wall material with thermally welded **KRASO®** 4 Seal , plastic or stainless steel grates
- + Additional accessories available as completion for individual needs
- + DafStB waterproof concrete guideline: stress class 1 + 2, with foil flange DIN 18533 W1-E

### **KRASO®** Drains - according to DIN EN 1253





KRASO<sup>®</sup> Floor Drain

KRASO<sup>®</sup> Floor Drain with foil flange



KRASO® Floor Drain - KG 2000



KRASO® Floor Drain - thermally insulated -

### KRASO® Floor Drains - frost proof/backwater safe



KRASO<sup>®</sup> Floor Drain Type FS frost proof



KRASO® Floor Drain Type FS - KG 2000 with foil flange frost proof



KRASO® Floor Drain Type FS - RS frost proof backwater safe -



KRASO® Floor Drain Type FS - RS with foil flange frost proof - backwater safe



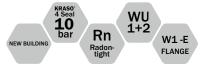


### KRASO<sup>®</sup> Floor Drain LG1

according to DIN EN 1253 – for the installation in interior areas without traffic, for the drainage of grey water, drainage capacity: 1.79 l/s, with water pressure tight surrounding **KRASO**<sup>®</sup> 4 Seal . Also available with **KRASO**<sup>®</sup> Foil Flange, oil- and bitumen resistant (d = approx. 50 cm). For the integration of the foil flange, we recommend our adhesive and sealant **KRASO**<sup>®</sup> PU 50. | **DafStB waterproof concrete guideline: stress class 1 + 2**, with foil flange DIN 18533 W1-E

Type / Item	KRAS0 <sup>®</sup> Floor Drain • KRAS0 <sup>®</sup> Floor Drain with foil flange	
Drainage capacity	1.79 l/s	
Height	drain approx. 110 mm	
Insert frame steplessly rotatable and height-adjustable from 30 - 70 mm		
Plastic grate (standard)	class K3 (withstands loads up to 300 kg), 15 x 15 cm	
Connection	KG/HT - pipes either DN 50 or DN 110 vertical	
KRAS0 <sup>®</sup> Floor Drain	89€	
KRAS0® Floor Drain with foil flange	130€	
KRASO® PU 50	22€	

<u>Scope of supply:</u> **KRASO**<sup>®</sup> Floor Drain, plastic grate class K3, odour stopper, sludge trap filter, building period protective cover • **KRASO**<sup>®</sup> Floor Drain with foil flange, plastic grate class K3, odour stopper, sludge trap filter, building period protective cover





### KRASO<sup>®</sup> Floor Drain - KG 2000 LG1

according to DIN EN 1253 – for the installation interior areas without traffic, for the drainage of grey water, drainage capacity: 1.79 l/s, with water pressure tight surrounding, thermally welded **KRASO**<sup>®</sup> 4 Seal . Also available with **KRASO**<sup>®</sup> Foil Flange, oil- and bitumen resistant (d = approx. 50 cm). For the integration of the foil flange, we recommend our adhesive and sealant **KRASO**<sup>®</sup> PU 50. | **DafStB waterproof concrete guideline: stress class 1 + 2, with foil flange DIN 18533 W1-E** 

Type / Item	KRASO® Floor Drain - KG 2000 • KRASO® Floor Drain - KG 2000 with foil flange	
Drainage capacity	1.79 l/s	
Height	drain approx. 110 mm	
Insert frame	steplessly rotatable and height-adjustable from 30 - 70 mm	
Plastic grate	class K3 (withstands loads up to 300 kg), 15 x 15 cm	
Connection	KG 2000/HT pipes either DN 50 or DN 110 vertical	
KRASO <sup>®</sup> Floor Drain - KG 2000	113€	
KRASO <sup>®</sup> Floor Drain - KG 2000 with foil flange	152€	
KRASO® PU 50	22€	

Scope of supply: KRAS0<sup>®</sup> Floor Drain - KG 2000, plastic grate class K3, odour stopper, sludge trap filter, building period protective cover • KRAS0<sup>®</sup> Floor Drain - KG 2000 with foil flange, plastic grate class K3, odour stopper, sludge trap filter, building period protective cover





### KRASO<sup>®</sup> Floor Drain - thermally insulated - LG1

according to DIN EN 1253 – for the installation in interior areas without traffic, for the drainage of grey water, drainage capacity: 1.79 l/s, with water pressure tight surrounding thermally welded **KRASO®** 4 Seal | **DafStB waterproof concrete guideline: stress class 1 + 2**, with foil flange DIN 18533 W1-E

Type / Item	KRASO® Floor Drain - thermally insulated -		
Drainage capacity	1.79 l/s		
Height	drain approx. 110 mm		
Insert frame	steplessly rotatable and height-adjustable from 30 - 70 mm		
Stainless steel grate	class K3 (withstands loads up to 300 kg), 15 x 15 cm		
Connection	either KG/HT - pipes or KG 2000 pipes DN 50 or DN 110 vertical		
KRASO® Floor Drain - thermally insulated -	315€		

Scope of supply: KRASO® Floor Drain - thermally insulated -, stainless steel grate class K3, with odour stopper and sludge trap filter, building period protective cover





### KRASO® Floor Drain Type FS - frost proof LG1

for the installation in exterior areas without traffic, for the drainage of grey water, drainage capacity: 1.67 l/s, with water pressure tight surrounding **KRASO**<sup>®</sup> 4 Seal . Also available with **KRASO**<sup>®</sup> Foil Flange, oil- and bitumen resistant (d = approx. 50 cm). For the integration of the foil flange, we recommend our adhesive and sealant **KRASO**<sup>®</sup> PU 50. | DafStB waterproof concrete guideline: stress class 1 + 2, with foil flange DIN 18533 W1-E

Type / Item	KRASO® Type FS • KRASO® Type FS with foil flange	
Drainage capacity	1.67 l/s	
Height	drain approx. 110 mm	
Insert frame	steplessly rotatable and height-adjustable from 30 - 70 mm	
Stainless steel grate	class K3 (withstands loads up to 300 kg), 15 x 15 cm	
Connection	KG/HT - pipes DN 110 vertical	
KRASO® Type FS	186€	
KRASO® Type FS with foil flange	228€	
KRASO <sup>®</sup> PU 50	22€	

Scope of supply: KRASO<sup>®</sup> Floor Drain Type FS, screwable stainless steel grate class K3, frost proof odour barrier, sludge trap filter and building period protective cover • KRASO<sup>®</sup> Floor Drain Type FS with foil flange, screwable stainless steel grate class K3, frost proof odour barrier, sludge trap filter and building period protective cover





### KRASO<sup>®</sup> Floor Drain Type FS - KG 2000 - frost proof

for the installation in exterior areas without traffic, for the drainage of grey water, drainage capacity: 1.67 I/s, with water pressure tight surrounding, thermally welded **KRASO**® 4 Seal . Also available with **KRASO**® Foil Flange, oil- and bitumen resistant (d = approx. 50 cm). For the integration of the foil flange, we recommend our adhesive and sealant **KRASO**® PU 50. **J DafStB waterproof concrete guideline: stress class 1 + 2, with foil flange DIN 18533 W1-E** 

Type / Item	KRASO® Type FS - KG 2000 • KRASO® Type FS - KG 2000 with foil flange	
Drainage capacity	1.67 l/s	
Height	drain approx. 110 mm	
Insert frame	steplessly rotatable and height-adjustable from 30 - 70 mm	
Stainless steel grate	class K3 (withstands loads up to 300 kg), $15 \times 15$ cm	
Connection	KG 2000/HT pipes DN 110 vertical	
KRASO® Type FS - KG 2000	208 €	
KRAS0® Type FS - KG 2000 with foil flange	251€	
KRASO® PU 50	22€	

Scope of supply: KRASO® Floor Drain Type FS - KG 2000, screwable stainless steel grate class K3, frost proof odour barrier, sludge trap filter and building period protective cover • KRASO® Floor Drain Type FS - KG 2000 with foil flange, screwable stainless steel grate class K3, frost proof odour barrier, sludge trap filter and building period protective cover

# NEW BUILDING

### KRASO<sup>®</sup> Floor Drain - Accessories LG1

	0		<b>(</b>
Type / Item	Insert frame extension	Insert frame extension with foil flange	Insert frame extension - fit for traffic up to 1.5 t
Item description	height > 140 mm	height > 140 mm foil flange (d = approx. 50 cm)	steplessly height-adjustable from 15 - 120 mm, all visible parts made of stainless steel, stainless steel grate massive, screwed, 150 x 150 mm, fit for traffic up to 1.5 t, L 15
KRASO <sup>®</sup> Floor Drain - Accessories	21€	61€	180€

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Type / Item	Insert frame	Stainless steel grate	Stainless steel grate - screwable -
Item description	all visible parts made of stainless steel incl. stainless steel grate	class K3	incl. Insert frame with threaded sleeves
KRASO <sup>®</sup> Floor Drain - Accessories	158€	36€	63€

Type / Item	Raising element for thin-bed mortar	Spare parts kit	Floor Drain Insert frame with building period protective cover
Item description	screed structure height from 25 - 130 mm	including: backflow seal, odour stopper, sludge trap filter, Insert frame and plastic grate	for industry floors treated with a power trowel
KRAS0 <sup>®</sup> Floor Drain - Accessories	114€	49€	107€



## **KRASO® Floor Drain Type FS - RS** frost proof - backwater safe

- + For installation in outdoor areas for areas without traffic, for the drainage of grey water, drainage capacity: 0.4 I/s.
- + Winterproof due to frost proof backwater double stopper
- + KG 2000: high impact strength and durability
- + Screwable stainless steel grate: class K3 up to max. 300 kg.
- + DafStB waterproof concrete guideline: stress class 1 + 2, with foil flange DIN 18533 W1-E





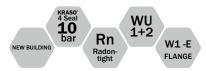


### KRASO® Floor Drain Type FS - RS - frost proof backwater safe

for the installation in exterior areas without traffic. Also available with **KRASO**<sup>®</sup> Foil Flange, oil- and bitumen resistant (d = approx. 50 cm). For the integration of the foil flange, we recommend our adhesive and sealant **KRASO**<sup>®</sup> PU 50. | **DafStB waterproof concrete guideline: stress class 1 + 2**, with foil flange DIN 18533 W1-E

Type / Item	KRASO® Type FS - RS • KRASO® Type FS - RS with foil flange
Drainage capacity	0.4 l/s
Height	drain approx. 195 mm
Insert frame	steplessly rotatable and height-adjustable from 30 - 70 mm
Stainless steel grate	class K3 (withstands loads up to 300 kg), 15 x 15 cm
Connection	KG/HT - pipes either DN 50 or DN 110 vertical
KRASO® Type FS - RS	338€
KRASO <sup>®</sup> Type FS - RS with foil flange	374 €
KRASO <sup>®</sup> PU 50	22€

Scope of supply: KRAS0<sup>®</sup> Floor Drain Type FS - RS, screwable stainless steel grate class K3, frost proof backwater double stopper, with 2 automatically closing caps, one of them as emergency valve/closable by one hand, sludge trap filter and building period protective cover • KRAS0<sup>®</sup> Floor Drain Type FS - RS with KRAS0<sup>®</sup> Foil Flange, screwable stainless steel grate class K3, frost proof backwater double stopper, with 2 automatically closing caps, one of them as emergency valve/closable by one hand, sludge trap filter and building period protective cover



## **KRASO<sup>®</sup> Basement Drain** For a dry basement

- + KRASO® Basement Drain with integrated, removable backwater and odour stopper!
- + For the connection of up to 3 intake pipes!
- + Drainage capacity: 1.8 | per second!
- + With height-adjustable insert frame from 30 to 60 mm
- + Either with plastic or stainless steel grate.
- + With water pressure tight surrounding, thermally welded **KRASO® 4 Seal:** Water pressure tight up to 10 bar!
- + Also available in KG 2000: made of polypropylene (PP), mineral-filled, smooth walls, long-lasting.
- + DafStB waterproof concrete guideline: stress class 1 + 2, with foil flange DIN 18533 W1-E

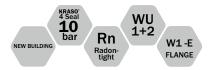


### KRASO<sup>®</sup> Basement Drain IG 1

for the installation in areas without traffic and for the connection of up to 3 intake pipes. Also available with **KRASO**<sup>®</sup> Foil Flange, oil- and bitumen resistant (d = approx. 50 cm). For the integration of the foil flange, we recommend our adhesive and sealant **KRASO**<sup>®</sup> PU 50. | **DafStB waterproof** concrete guideline: stress class 1 + 2, with foil flange DIN 18533 W1-E

Type / Item	KRASO <sup>®</sup> Basement Drain with plastic grate	KRASO <sup>®</sup> Basement Drain with stainless steel grate			
Drainage capacity	1,8 l/s				
Height	drain appro	drain approx. 250 mm			
Insert frame	steplessly rotatable and height-adjustable from 30 - 60 mm				
Slot grate	class K3, 20 x 20 cm, plastic (black)	class K3, 20 x 20 cm, stainless steel			
Connection	3 intake pipes: 2 x DN 50, 1 x DN 70, either for KG, HT or KG 2000 pipes				
KRAS0 <sup>®</sup> Basement Drain	431€	545€			
KRASO® Basement Drain with foil flange	560 € 673 €				
KRASO® PU 50	22€				

Scope of supply: KRASO® Basement Drain with removable backwater stopper, integrated odour stopper, sludge trap filter and insert frame (telescopically height-adjustable from 30 to 60 mm and rotatable), two intakes DN 50, one intake DN 70, all intakes and drains either for KG, HT or KG 2000 pipes, with slot grate 20 x 20 cm made of black plastic or stainless steel, class K3 • KRASO® Basement Drain with foil flange, with removable backwater stopper, integrated odour stopper, sludge trap filter and insert frame (telescopically height-adjustable from 30 to 60 mm and rotatable), two intakes DN 50, one intake DN 70, all intakes and drains either for KG, HT or KG 2000 pipes, with slot grate 20 x 20 cm made of black plastic or stainless steel, class K3 • KRASO® basement Drain with foil flange, with removable backwater stopper, integrated odour stopper, sludge trap filter and insert frame (telescopically height-adjustable from 30 to 60 mm and rotatable), two intakes DN 50, one intake DN 70, all intakes and drains either for KG, HT or KG 2000 pipes, with slot grate 20 x 20 cm made of black plastic or stainless steel, class K3 300 kg





### KRASO<sup>®</sup> Basement Drain - KG 2000 LG1

for the installation in areas without traffic and for the connection of up to 3 intake pipes, for the drainage of grey water, drainage capacity: 1.8 l/s, with water pressure tight surrounding, thermally welded **KRASO**<sup>®</sup> 4 Seal, lateral **KRASO**<sup>®</sup> Drainage Bows DN 110 with **KRASO**<sup>®</sup> 3 Seal. Also available with **KRASO**<sup>®</sup> Foil Flange, oil- and bitumen resistant (d = approx. 50 cm). For the integration of the foil flange, we recommend our adhesive and sealant **KRASO**<sup>®</sup> PU 50. **J** DafStB waterproof concrete guideline: stress class 1 + 2, with foil flange DIN 18533 W1-E

Type / Item	KRASO <sup>®</sup> Basement Drain - KG 2000 with plastic grate	KRASO <sup>®</sup> Basement Drain - KG 2000 with stainless steel grate				
Drainage capacity	1.8 l/s					
Height	drain approx. 250 mm					
Insert frame	steplessly rotatable and height-adjustable from 30 - 60 mm					
Slot grate	class K3, 20 x 20 cm, plastic (black) class K3, 20 x 20 cm, stai					
Connection	3 intake pipes: 2 x DN 50, 1 x DN 70	), either for KG, HT or KG 2000 pipes				
KRAS0® Basement Drain - KG 2000	539€	682 €				
KRAS0® Basement Drain - KG 2000 with foil flange	668€ 781€					
KRASO <sup>®</sup> PU 50	22€					

Scope of supply: KRASO<sup>®</sup> Basement Drain - KG 2000 with removable backwater stopper, integrated odour stopper, sludge trap filter and insert frame (telescopically height-adjustable from 30 to 60 mm and rotatable), two intakes DN 50, one intake DN 70, all intakes and drains either for KG, HT or KG 2000 pipes, with slot grate 20 x 20 cm made of black plastic or stainless steel, class K3 •

**KRASO**<sup>®</sup> Basement Drain - KG 2000 with foil flange with removable backwater stopper, integrated odour stopper, sludge trap filter and insert frame (telescopically height-adjustable from 30 to 60 mm and rotatable), two intakes DN 50, one intake DN 70, all intakes and drains either for KG, HT or KG 2000 pipes, with slot grate 20 x 20 cm made of black plastic or stainless steel, class K3 300 kg



### KRASO<sup>®</sup> Drains - Accessories LG1



Type / Item	Insert frame extension	Insert frame extension
Item description	for KRASO® Basement Drain, KRASO® Yard Drain Type 12.5, height-adjustable from 46 - 130 mm, also suitable for KRASO® Yard/Parking Level Drain Type 1.5 with stainless steel grate	for <b>KRAS0®</b> Yard/Parking Level Drain Type 1.5 <sup>1.</sup> height-adjustable from min. 25 - 130 mm
KRASO® Drains - accessories	30 €	99€

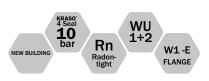
 $^{\rm 1}$  not suitable for  ${\rm KRAS0}^{\rm e}$  Yard/Parking Level Drain Type 1.5 with stainless steel grate



### KRASO<sup>®</sup> PU 50 LG1

high-quality, permanently elastic and strong PU-sealant, also usable on moist surfaces, recommended for all products with **KRASO**<sup>®</sup> Foil Flange, colour black, 290 ml - cartridge for cartridge press

Type / Item	PU sealant
KRASO® PU 50	22€



# **KRASO® Yard/Parking Level Drain** The high-performance drain for e.g. underground car parks

- + KRASO® Yard/Parking Level Drain with 4.3 l/s drainage capacity according to DIN EN 1253.
- + With frost proof odour barrier and removable sand trap basket.
- + Load class A to 1.5 t or load class B up to 12.5 t.
- + Connection either for KG, HT or KG 2000 pipes DN 110.
- + With water pressure tight surrounding, thermally welded **KRASO® 4 Seal :** Water pressure tight up to 10 bar!
- + DafStB waterproof concrete guideline: stress class 1 + 2, with flange DIN 18533 W1-E



KRASO® Yard/Parking Level Drain Type 1.5



KRASO<sup>®</sup> Yard/Parking Level Drain Type 1.5 with stainless steel grate with foil flange



KRASO® Yard/Parking Level Drain Type 1.5 with trowel flange with dovetail groove (only for welding sheets, not for resin coating)



KRAS0® Yard/Parking Level Drain Type 12.5



KRASO® Yard/Parking Level Drain Type 1.5 with stainless steel grate



KRASO® Yard/Parking Level Drain Type 12.5 with stainless steel grate

### KRASO® Yard/Parking Level Drain LG1

for the installation in areas with traffic

Type / Item	KRASO® Yard/Parking Level Drain Type 1.5	KRASO <sup>®</sup> Yard/Parking Level Drain Type 12.5		
Drainage capacity	4.3	3 l/s		
Load class	load class A 15	load class B to 12.5 t		
Base plate thickness	min. 20 cm	min. 15 or 20 cm		
Connection	either for KG, HT or K	G 2000 pipes DN 110		
KRASO® Yard/Parking Level Drain	282€	511€		
KRASO® Yard/Parking Level Drain with trowel flange with dovetail groove	471€	-		
KRASO <sup>®</sup> Yard/Parking Level Drain with stainless steel grate	444 € -			
KRASO® Yard/Parking Level Drain with stainless steel grate with foil flange	632€	-		
KRASO® Yard/Parking Level Drain with stainless steel grate	-	708€		

Scope of supply: KRAS0® Yard/Parking Level Drain Type 1.5 with frost proof odour barrier, removable sand trap basket, with slot grate approx. 24 x 24 cm, cast iron, load class A to 1.5 t, vertical discharge • KRAS0® Yard/Parking Level Drain Type 12.5 with frost proof odour barrier, removable sand trap basket, with support frame made of eco-cast, 26 x 26 cm, with slot grate, load class B up to 12.5 t, vertical discharge

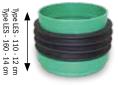


# KRASO® Type LES Light shaft drainage system for concrete shafts

- + Flexible drainage system for precast elements and in-situ concrete
- + Various components for individual demands
- + Also available for retrofit installation
- + DafStB waterproof concrete guideline: stress class 1 + 2



KRAS0® Type LES DN 160 - Basis for precast elements with water pressure tight surrounding, thermally welded KRAS0® 2 Seal. For later installation of LES - vario - connection, LES leaf sieve and LES - odour barrier



KRASO<sup>®</sup> Type LES DN 160 - Basis for in-situ concrete

with water pressure tight surrounding, thermally welded **KRASO**® 4 Seal . For later installation of LES - vario - connection, LES leaf sieve and LES - odour barrier



PIPE PENETRATIONS

KRASO® Type LES DN 160 - Vario connection

connection either to drainage DN 50 / DN 110 or to drainage DN 110. Connection possible to LES - backwater double stopper



LES DN 160 - odour barrier removable, frost proof



LES DN 160 - backwater double stopper with 2 automatically sealing caps, one of them as emergency valve/closable by one hand, easily accessible and easy to maintain. Can be retrofitted by LES - Vario connection. Drainage capacity: 0.4 I/s Backwater tight up to 5 m water column



LES DN 110 - backwater stopper



LES DN 110 and DN 160 - leaf sieve

### KRASO® Type LES - light shaft drainage system LG1

for concrete shafts | DafStB waterproof concrete guideline: stress class 1 + 2

Type / Item	KRASO® Type LES - 110	KRASO® Type LES - 160
KRASO® Type LES - basis for precast elements	47 €	53€
KRASO® Type LES - basis for in-situ concrete	66€	78€
KRASO® Type LES - vario - connection	45€	53€
LES - odour barrier	36€	36€
LES - backwater stopper	125€	-
LES - backwater double stopper	-	181€
LES - leaf sieve	36€	38€

Also available for retrofit installation!

# The alternative to fixed-loose flange!



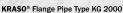
# **KRASO® Flange Pipes** Simple and effective integration into bituminous sealing

- + For new buildings and rehabilitation according to DIN 18533 W1 -E and W2.1 -E
- + Simple and effective integration into bituminous sealing ("black tank"): bitumen thick coating and reactive sealing, sheeting, concrete and brick walls
- + Water pressure tight up to 1.5 bar MPA-tested!
- + Made of dimensionally and pressure stable solid wall material with low abrasion! Installation even at lower temperatures
- + Pipe and pipe material in accordance with DIN EN 1401 (KG) or DIN EN 14758 (KG 2000)



high-quality, permanently elastic and strong PU-sealant! (290 ml - cartridge). Our recommendation for all products with **KRAS0**<sup>®</sup> Foil Flange!



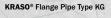




KRASO® Flange Pipe Type FE



KRASO® Type ÜSF





KRASO® Type KMB



KRASO® Type KMB - KG 2000



### KRASO<sup>®</sup> Flange Pipe Type KG LG1

for retrofit installation, for the connection to KG/HT pipes, made of high-quality, dimensionally and pressure stable solid wall material, with formed plug-in sleeve on one side and **KRASO**<sup>®</sup> Foil Flange, oil- and bitumen resistant, surrounding approx. 15 cm. For the integration of the foil flange, we recommend our adhesive and sealant **KRASO**<sup>®</sup> PU 50. | **DIN 18533 W1-E and W2.1-E** 

Type / Item		KRASO <sup>®</sup> Flange Pipe Type KG						
Diameter DN	110	110      125      160      200      250      315      400      500						
Delivery length in cm		50						
KRASO <sup>®</sup> Flange Pipe Type KG	47€	49€	62€	78€	154 €	230 €	293 €	450 €
KRASO <sup>®</sup> PU 50		22€						

Further diameters and lengths from 50 cm available on request!



### KRASO<sup>®</sup> Flange Pipe Type KG 2000 IG1

for retrofit installation, for the connection to KG 2000 pipes, made of high-quality, dimensionally and pressure stable solid wall material, with formed plug-in sleeve on one side and **KRAS0**<sup>®</sup> Foil Flange, oil- and bitumen resistant, surrounding approx. 15 cm. For the integration of the foil flange, we recommend our adhesive and sealant **KRAS0**<sup>®</sup> PU 50. | **DIN 18533 W1 -E and W2.1 -E** 

Type / Item	KRASO <sup>®</sup> Flange Pipe Type KG 2000							
Diameter DN	110	110      125      160      200      250      315      400      500						
Delivery length in cm	50							
KRASO <sup>®</sup> Flange Pipe Type KG 2000	62€	79€	87€	122€	279€	389€	499 €	652 €
KRASO <sup>®</sup> PU 50	22€							

Further diameters and lengths from 50 cm available on request!





### KRASO<sup>®</sup> Flange Pipe Type FE LG1

thick-walled true diameter plastic casing for retrofit installation of pipes and cables using a sealing insert (not included in the scope of supply), with **KRASO**<sup>®</sup> Foil Flange, oil- and bitumen resistant, surrounding approx. 15 cm. For the integration of the foil flange, we recommend our adhesive and sealant **KRASO**<sup>®</sup> PU 50. ID = InternalDiameter flange pipe Type FE | **DIN 18533 W1 -E and W2.1 -E** 

Type / Item	KRASO <sup>®</sup> Flange Pipe Type FE							
InternalDiameter ID	100	100      125      150      200      250      300						
External diameter in mm	110	140	160	210	263	314		
Delivery length in cm		50						
KRASO <sup>®</sup> Flange Pipe Type FE	45 €	49€	56 €	80 €	113€	134€		
KRASO <sup>®</sup> PU 50		22€						

Further diameters and lengths from 50 cm available on request!











### KRASO<sup>®</sup> Type KMB

plug-in flange, for retrofit sealing of KG/HT pipes using **KRAS0**<sup>®</sup> Foil Flange with bitumen thick coating and reactive sealings, with formed plug-in sleeve on one side and **KRAS0**<sup>®</sup> Foil Flange, oil- and bitumen resistant, surrounding approx. 6 cm. For the integration of the foil flange, we recommend our adhesive and sealant **KRAS0**<sup>®</sup> PU 50. | **DIN 18533 W1 -E and W2.1 -E** 

Type / Item	KRASO® Type KMB						
Diameter DN	110      125      160      200						
Plug-in length in cm	7	7,5	8	9			
KRASO <sup>®</sup> Type KMB	49€	52€	63€	80€			
KRASO <sup>®</sup> PU 50	22€						

Further diameters available on request!



### KRASO® Type KMB - KG 2000 LG1

plug-in flange, for retrofit sealing of KG 2000 pipes using **KRASO**<sup>®</sup> Foil Flange with bitumen thick coating and reactive sealings, with formed plug-in sleeve on one side and **KRASO**<sup>®</sup> Foil Flange, oil- and bitumen resistant, surrounding approx. 6 cm. For the integration of the foil flange, we recommend our adhesive and sealant **KRASO**<sup>®</sup> PU 50. | **DIN 18533 W1 -E and W2.1 -E** 

Type / Item	KRASO <sup>®</sup> Type KMB - KG 2000						
Diameter DN	110      125      160      200						
Plug-in length in cm	7	7,5	8	9			
KRASO® Type KMB - KG 2000	60€	60 € 70 € 85 € 122 €					
KRASO <sup>®</sup> PU 50	22€						

Further diameters available on request!





### KRASO<sup>®</sup> Type ÜSF - slip-on flange IG1

for retrofit sealing of installed KG, HT or KG 2000 pipes, using **KRASO**<sup>®</sup> Foil Flange with bitumen sealing (e.g. KMB), with foil flange, oil- and bitumen resistant, surrounding approx. 15 cm. For the integration of the foil flange, we recommend our adhesive and sealant **KRASO**<sup>®</sup> PU 50.] **DIN 18533 W1 -E** and **W2.1 -E** 

Type / Item	KRASO® Type ÜSF						
Diameter DN	110	110      125      160      200      250      315					
KRASO <sup>®</sup> Type ÜSF	87€	95€	113€	208 €	307 €	411€	
KRASO <sup>®</sup> PU 50	22€						

Further diameters available on request!



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