



# MASTERTEC

SPECIAL ARTICLES FOR REINFORCED CONCRETE CONSTRUCTION

## PRESSURE WATER-TIGHT SERVICE DUCTS

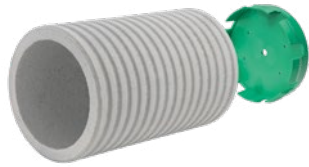
PRODUCT RANGE

PRODUCT GROUP 4

2024/2025

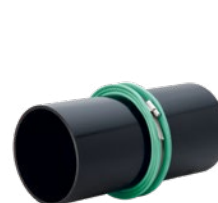


# PRESSURE WATER-TIGHT SERVICE DUCTS



**FIX formwork aid & Master-Home-Connect**

pages 4 – 13



**Lining pipes & accessories**

pages 14 – 23



**Gasket inserts, modular seals, FLEX 2000**

pages 24 – 33



**RONDO sealing collars**

pages 34 – 38



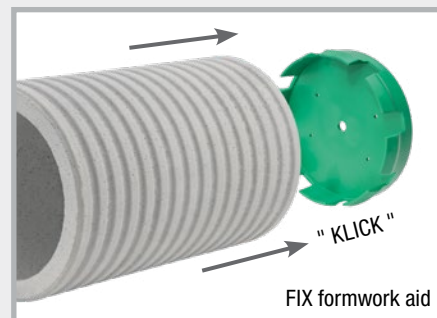
**Pipe bushings and ground drains**

pages 39 – 46

# FIX formwork aid

**NEW!** Fastening system for lining pipes and fixed earthing terminals at the construction site and at the precast plant

For nailing to wood and plastic formworks and for fastening to steel formworks using FIX Magnet



All parts of the FIX formwork range are reusable

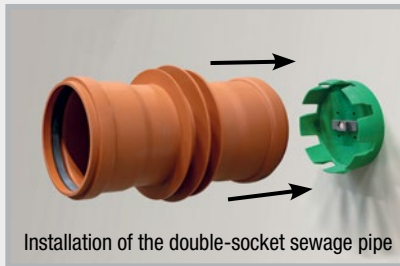
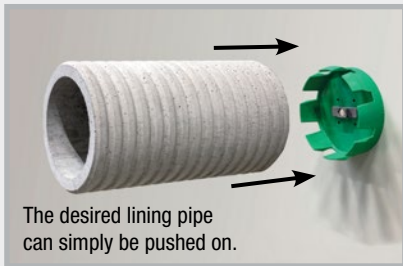
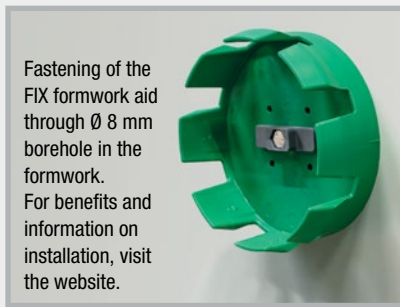
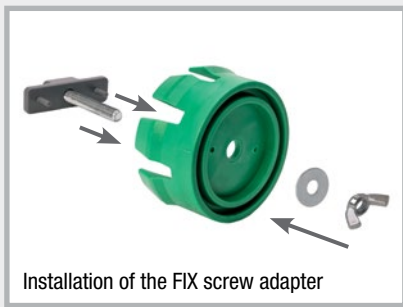
Art.Gr.  
**420**

Art. no.	Description	PU	Weight per pc.	
091410	<b>FIX Magnet</b> for formwork aid Power Magnet for all FIX formwork aids, incl. screw and wing nut	25 pcs.	0.14 kg	
090804	<b>FIX EFP formwork aid</b> for fixed earthing terminals M10/12 and M12, cone height 11 mm	25 pcs.	0.03 kg	
090806	<b>FIX 80 formwork aid</b> for lining pipes ID 79-84 mm	25 pcs.	0.10 kg	
090810	<b>FIX 100 formwork aid</b> for lining pipes ID 99-104 mm Sewage pipe DN 110	25 pcs.	0.15 kg	
090814	<b>FIX 110 formwork aid</b> for lining pipes ID 109-114 mm for the socket of KG and KG 2000 sewage pipes DN 110	25 pcs.	0.16 kg	
090816	<b>FIX 125 formwork aid</b> for lining pipes ID 124-129 mm for the socket of KG and KG 2000 sewage pipes DN 125	25 pcs.	0.20 kg	
090818	<b>FIX 150 formwork aid</b> for lining pipes ID 149-154 mm Sewage pipe DN 160	25 pcs.	0.25 kg	
090822	<b>FIX 200 formwork aid</b> for lining pipes ID 199-206 mm	25 pcs.	0.38 kg	
090824	<b>FIX screw adapter incl. screw set</b> The screw adapter allows the FIX formwork aid to be fastened to the formwork shell. In the process, the screw connection is on the outside of the formwork, making stripping the formwork after concreting much easier.	1 set	0.04 kg	
090826	<b>FIX removal aid</b> The removal aid makes pulling out the formwork aid easier	1 pc.	0.08 kg	

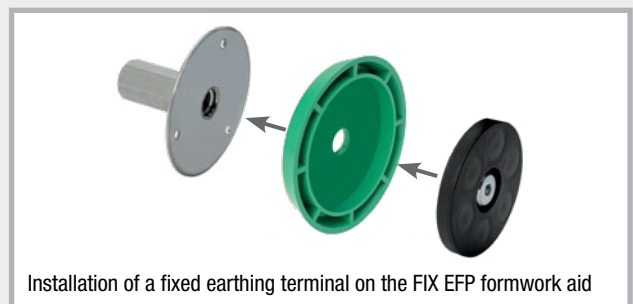
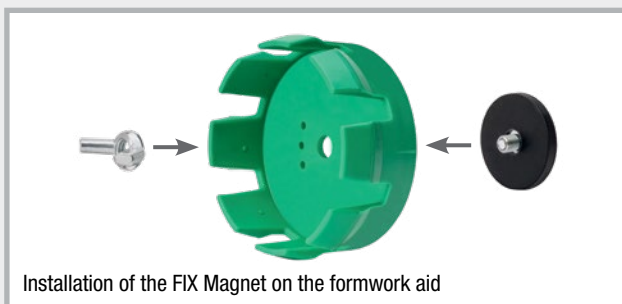


# Installation of the FIX formwork aid for all common lining pipes

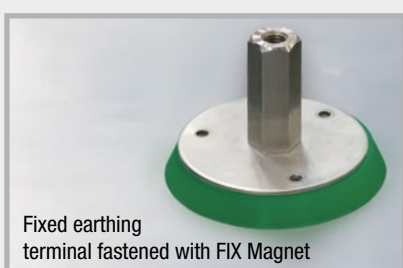
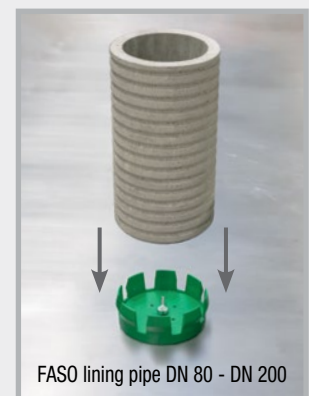
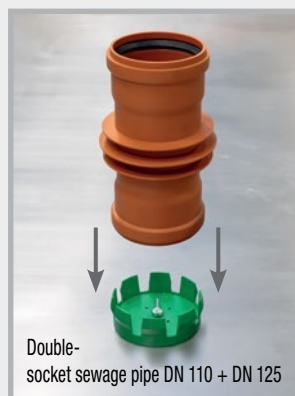
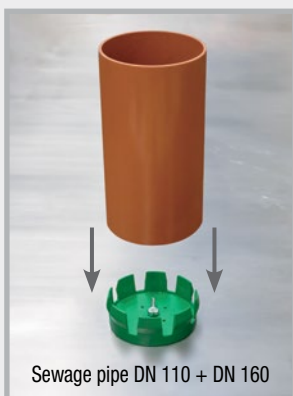
## Wooden or plastic formwork



## Steel formwork

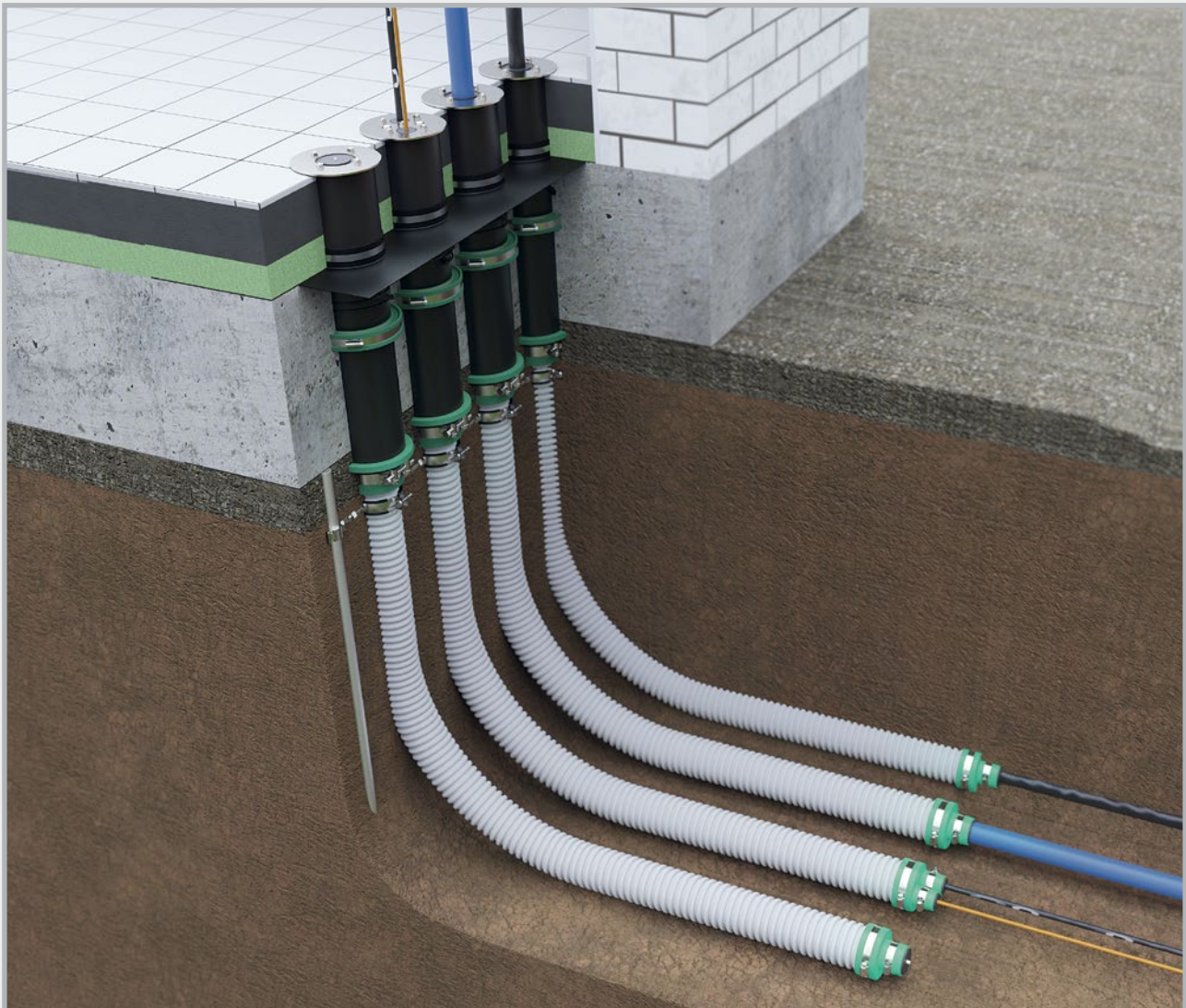


Position the FIX formwork aid using the FIX Magnet and simply push on the desired lining pipe.



# Master-Home-Connect (MHC)

Service duct system for house connections  
for electricity, water and telecommunications



Certified service duct system according to DVGW VP 601  
03/2007 chapter 4.5  
Impermeability to gas and water of the installed service duct



Each individual component has been tested additionally for  
pressure water-tightness




Test for impermeability to radon when installed


**NEW!** Master-Home-Connect single-utility Solo

for on-site cable conduit, for floor slab installation

Art.Gr.  
**410**

Art. no.	Description	PU	Weight per set
<b>080034</b>	<b>MHC single-utility Solo</b> The <b>MHC single-utility Solo</b> set comprises: – 0.6 m lining pipe (with protective cover for the duration of construction) incl. sealing collar, with factory-installed Connector and installation scale – MHC Solo gasket insert – Solid ground stake $\varnothing$ 20 mm – Dual-thread clamp and connecting clamp – 1 set each of MHC Solo and Duo spacers – Solo cable conduit end cap with Multi insert	1 set	7.42 kg
			

**NEW!** Master-Home-Connect single-utilityincl. cable conduit  $\varnothing$  75 mm, for floor slab installationArt.Gr.  
**410**


Art. no.	Description	PU	Weight per set
	The basic equipment of <b>MHC single-utility</b> comprises: – 0.6 m lining pipe (with protective cover for the duration of construction) incl. sealing collar, with factory-installed Connector and installation scale – MHC Solo gasket insert – Solid ground stake $\varnothing$ 20 mm – Dual-thread clamp and connecting clamp – 1 set each of MHC Solo and Duo spacers – Solo cable conduit end cap with Multi insert		
			
<b>080035</b>	<b>MHC single-utility 3 m</b> The <b>MHC single-utility 3 m</b> set contains the above basic equipment and in addition – 3.0 m cable conduit $\varnothing$ 75 mm (external)	1 set	9.14 kg
<b>080036</b>	<b>MHC single-utility 5 m</b> The <b>MHC single-utility 5 m</b> set contains the above basic equipment and in addition – 5.0 m cable conduit $\varnothing$ 75 mm (external)	1 set	10.28 kg
<b>080037</b>	<b>MHC single-utility 10 m</b> The <b>MHC single-utility 10 m</b> set contains the above basic equipment and in addition – 10.0 m cable conduit $\varnothing$ 75 mm (external)	1 set	13.13 kg



## **NEW!** MHC multi-utility triple sets

Art.Gr.  
**410**


for floor slab installation

Art. no.	Description	PU	Weight per set
	<p>The basic equipment of <b>MHC multi-utility triple set</b> comprises:</p> <ul style="list-style-type: none"> <li>– 3 x 0.6 m lining pipes (with protective cover for the duration of construction) incl. sealing collar, with factory-installed Connector and installation scale</li> <li>– 2 x MHC Solo gasket inserts</li> <li>– 1 x MHC Multi gasket insert for telecommunications line</li> <li>– 2 x solid ground stakes <math>\varnothing</math> 20 mm and connection clamps</li> <li>– 3 x dual-thread clamps</li> <li>– 2 sets Duo spacers</li> <li>– 2 x Solo cable conduit end caps with Multi insert</li> <li>– 1 x Duo cable conduit end cap with Multi insert</li> </ul>		
<b>080038</b>	<p><b>MHC multi-utility triple/3 metre</b></p> <p>The <b>MHC multi-utility triple/3 metre</b> set contains the above basic equipment and in addition:</p> <ul style="list-style-type: none"> <li>– 3 x 3.0 m cable conduits outside <math>\varnothing</math> 75 mm</li> </ul>	1 set	25.34 kg
<b>080039</b>	<p><b>MHC multi-utility triple/5 metre</b></p> <p>The <b>MHC multi-utility triple/5 metre</b> set contains the above basic equipment and in addition:</p> <ul style="list-style-type: none"> <li>– 3 x 5.0 m cable conduits outside <math>\varnothing</math> 75 mm</li> </ul>	1 set	28.76 kg
<b>080040</b>	<p><b>MHC multi-utility triple/10 metre</b></p> <p>The <b>MHC multi-utility triple/10 metre</b> set contains the above basic equipment and in addition:</p> <ul style="list-style-type: none"> <li>– 3 x 10.0 m cable conduits outside <math>\varnothing</math> 75 mm</li> </ul>	1 set	37.31 kg

## **NEW!** MHC multi-utility quadruple sets

Art.Gr.  
**410**

for floor slab installation

Art. no.	Description	PU	Weight per set
	<p>The basic equipment of <b>MHC multi-utility quadruple set</b> comprises:</p> <ul style="list-style-type: none"> <li>– 4 x 0.6 m lining pipes (with protective cover for the duration of construction) incl. sealing collar, with factory-installed Connector and installation scale</li> <li>– 3 x MHC Solo gasket inserts</li> <li>– 1 x MHC Multi gasket insert for telecommunications line</li> <li>– 2 x solid ground stakes <math>\varnothing</math> 20 mm and connection clamps</li> <li>– 4 x dual-thread clamps</li> <li>– 3 sets MHC Duo spacers</li> <li>– 3 x Solo cable conduit end caps with Multi insert</li> <li>– 1 x Duo cable conduit end cap with Multi insert</li> </ul>		
<b>080041</b>	<p><b>MHC multi-utility quadruple/3 metre</b></p> <p>The <b>MHC multi-utility quadruple/3 metre</b> set contains the above basic equipment and in addition:</p> <ul style="list-style-type: none"> <li>– 4 x 3.0 m cable conduits outside <math>\varnothing</math> 75 mm</li> </ul>	1 set	30.48 kg
<b>080042</b>	<p><b>MHC multi-utility quadruple/5 metre</b></p> <p>The <b>MHC multi-utility quadruple/5 metre</b> set contains the above basic equipment and in addition:</p> <ul style="list-style-type: none"> <li>– 4 x 5.0 m cable conduits outside <math>\varnothing</math> 75 mm</li> </ul>	1 set	35.04 kg
<b>080043</b>	<p><b>MHC multi-utility quadruple/10 metre</b></p> <p>The <b>MHC multi-utility quadruple/10 metre</b> set contains the above basic equipment and in addition:</p> <ul style="list-style-type: none"> <li>– 4 x 10.0 m cable conduits outside <math>\varnothing</math> 75 mm</li> </ul>	1 set	46.44 kg











**NEW!** MHC single-utility – wall – Solo

for wall installation

Art.Gr.  
410

Art. no.	Description	PU	Weight per set
<b>080044</b>	<b>MHC single-utility – wall – Solo</b> The <b>MHC single-utility – wall – Solo</b> set comprises: – 0.365 m lining pipe (with protective cover for the duration of construction) incl. sealing collar and length scale – Connector for connecting the cable conduit – MHC Solo gasket insert – 1 set each of MHC Solo and Duo spacers – Solo cable conduit end cap with Multi insert	1 set	3.78 kg
<b>080045</b>	<b>MHC single-utility – wall – Multi</b> The <b>MHC single-utility – wall – Multi</b> set comprises: – 0.365 m lining pipe (with protective cover for the duration of construction) incl. sealing collar and length scale – Connector for connecting the cable conduit – MHC Multi gasket insert for telecommunications line – 1 set each of MHC Solo and Duo spacers – Duo cable conduit end cap with Multi insert	1 set	3.80 kg

**NEW!** Master-Home-Connect accessoriesArt.Gr.  
410

Art. no.	Description	PU	Weight per pc.	
<b>080052</b>	<b>MHC Solo end cap (Set)</b> 1 media line: 4-40 mm	1 set	0.25 kg per set	
<b>080053</b>	<b>MHC Duo end cap (Set)</b> up to 2 media lines: each 4-25 mm	1 set	0.25 kg per set	
<b>080047</b>	<b>MHC Multi gasket insert</b> up to 4 media lines: 2 x 4-25 mm + 2 x 10 mm	1 pc.	0.81 kg	
<b>080046</b>	<b>MHC Solo gasket insert</b> 1 media line: 4-40 mm	1 pc.	0.79 kg	
<b>080050</b>	<b>MHC Solo spacer</b>	1 set	0.02 kg per set	
<b>080051</b>	<b>MHC Duo spacer</b>	1 set	0.04 kg per set	
<b>080012</b>	<b>Cable conduit Ø 75 mm</b>	1 m	0,53 kg per m	
<b>080033</b>	<b>Foil flange for MHC,</b> quadruple, size: 800 x 250 mm, suitable for on-site adjustment	1 pc.	0.47 kg	

# Master-Home-Connect (MHC)

## Individual components



### Lining pipe

Plastic lining pipe with length of 0.6 m and pre-installed RONDO Base sealing collar, Connector connection seal and length scale. The sealing collar seals off the transition between the concrete and lining pipe so that it is impermeable to pressurised water and gas.

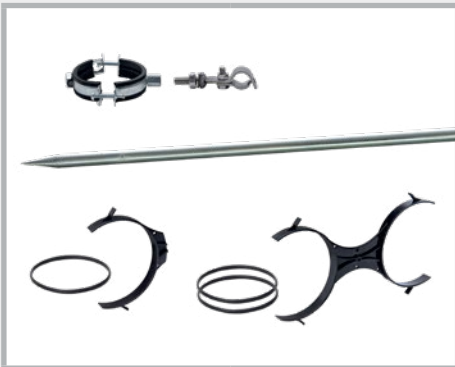
The Connector connection seals connect the cable conduits DN 75 mm so that they are pressure water-tight.



### Cable conduit

Pressure-resistant protective conduit DN 75 mm for electrical, water and telecommunications lines laid in the soil.

Alongside its excellent pressure resistance, the protective conduit which is classified as N750 according to DIN EN 61386-24, provides perfect insertion properties thanks to the sliding, green inner layer.



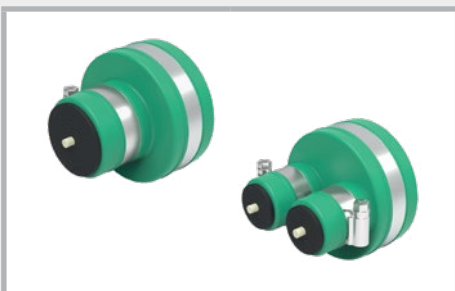
### Fastening material

**Dual-thread clamps** for positioning multiple cable conduits with defined spacing in a row or as a package.

**Connection clamp** for connection of the dual-thread clamps to the ground stake.

**Solid ground stake** for positioning the dual-thread clamps in the ground.

**MHC Solo and Duo spacers** for connection and plumb alignment of the lining pipes.



### MHC end caps

Rubber end seal for waterproofing the ends of the cable conduit at the transition point.

The Multi insert allows adaptation to the media line being inserted.

**MHC Solo end cap (set):** 1 media line 4-40 mm

**MHC Duo end cap (set):** up to 2 media lines, each 4-25 mm



### MHC gasket inserts

Gasket insert for waterproofing the transition of the lining pipe to the inserted media line.

The gasket insert can be adapted to all common medium pipes thanks to the Multi inserts which can be adjusted to the medium pipe.

**MHC Solo gasket insert:**

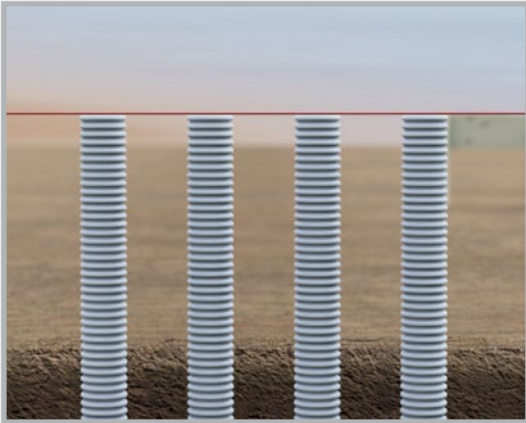
1 media line 4-40 mm

**MHC Multi gasket insert:**

up to 4 media lines 2 x 4-25 mm + 2 x 10 mm

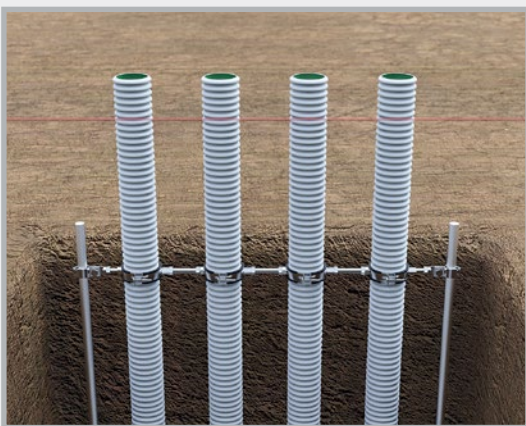
The 130 mm pressure plate covers the transition area between the lining pipe and floor covering with its projection.

# Master-Home-Connect (MHC) Installation



## Laying the cable conduit

The cable conduits are directed from the transition point up to the desired insertion point under the floor slab, and up to at least the height of the top edge of the floor slab with a bending radius  $> 350$  mm.



## Fastening the cable conduit

The cable conduits are connected with the spacing in a row defined for the installation using the dual-thread clamps. The connection clamp is used to establish a connection between the dual-thread clamps and the ground stake on both sides, which is driven into the soil beforehand. The height position of the connection clamp is positioned at least 400 mm underneath the top edge of the floor slab, and secured with screws.



## Sealing the cable conduit/backfilling

The ends of the cable conduit are sealed with the supplied construction protective covers. The trench for the cable conduits can then be filled with suitable filling material and waterproofed in layers.



## Installation of the MHC lining pipe

The cable conduits are then cut 360 mm underneath the top edge of the floor slab. The end of the MHC lining pipe, which is equipped with the Connector, is pushed over the end of the cable conduit, and secured by tightening the metal clamp.

The plumb position of the lining pipe is not yet relevant at this point.



# Master-Home-Connect (MHC) Installation



## Connection of the MHC lining pipes

The MHC lining pipes are connected to each other using Duo spacers. For this purpose, the pipes are clipped into the spacers and secured using the supplied rubber fastening straps.



The spacers are positioned at the height of the upper layer of reinforcement.



## Floor slab substrate

The substrate for the floor slab can subsequently be prepared in the form of gravel or grit bedding. When concreting a blinding layer, the MHC service duct must be shuttered. As a result, the elastic bearing remains in place for subsequent plumb alignment.



## Preparation of the floor slab

The formwork of the floor slab is put in place. The reinforcement of the floor slab is inserted.

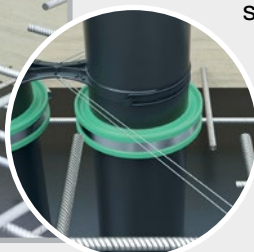


## Plumb alignment/concreting

After inserting the upper layer of reinforcement, the MHC lining pipes are aligned plumb.

The securing holes of the spacers can be used to secure the plumb position to the upper layer of reinforcement using tie wire.

After alignment and securing, the floor slab can be concreted.





# Master-Home-Connect (MHC) Installation



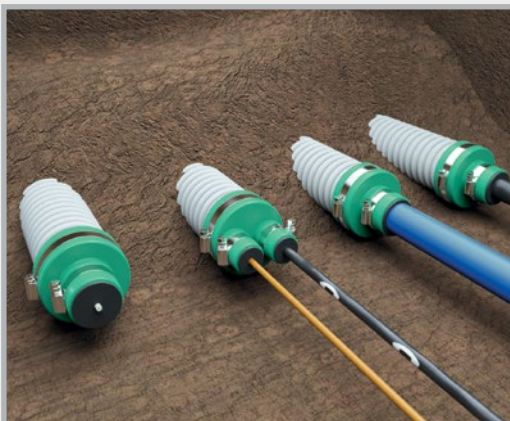
## Connection of the floor slab vapour barrier

A foil flange seal made of PVC foil with a thickness of 1.5 mm, suitable for the MHC service duct system, for the integration of the surface-wide vapour barrier on the floor slab, is available. It is designed in the factory for the quadruple row arrangement. The foil flange is pushed over the lining pipes from the inside of the structure and clamped to the pipe body with fastening straps. The surface waterproofing is processed on the flange. When using fewer than 4 lining pipes, the foil flange can be cut off on site.



## Floor construction

The planned floor construction, generally comprising thermal insulation, impact sound insulation, underfloor heating as applicable, screed and covering layer, can then be applied. The length of the lining pipes is designed for a floor construction with a slab-to-floor height of up to 250 mm. For a visually appealing result, for a floor construction < 250 mm, cutting off the projecting lining pipes to the level of the top edge of the finished floor is recommended. This can be done before or after preparing the floor construction.



## Installation of end caps/ insertion of media lines

The end caps are pushed onto the cable conduits at the transition point and the media lines are inserted.

**Solo end cap:** 1 media line 4-40 mm

**Duo end cap:** 2 media lines each 4-25 mm

The end caps are secured both to the cable conduit and the media line using the supplied clamps.



## Installation of the MHC gasket insert

Finally, the MHC gasket inserts are installed from the inside of the structure:

**MHC Solo gasket insert:** 1 media line 4-40 mm

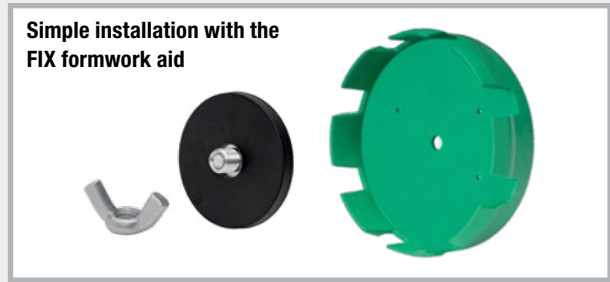
**MHC Multi gasket insert:**

up to 2 media lines 2 x 4-25 mm + 2 x 10 mm

You will find detailed installation instructions for adapting to the media line on page 28, and for installation of the gasket insert on page 30.

# Lining pipes

Pressure water-tight recess pipes for installation flush with formwork



**UniCut lining pipe** page 15



**FASO lining pipes** pages 16 – 18



**WELLO active lining pipe** page 19



**DURO Plus High-pressure lining pipe** page 20



**MKD cable bushing** page 21



**STEELO lining pipe Lining pipe accessories MASTERTEC Connector closure plug + connection seal** page 22

For the subsequent, professional introduction of pipes and lines into buildings, the use of lining pipes is essential. The components are manufactured for the corresponding wall thickness, enable installation flush with the formwork and form a pressure water-tight bond with the surrounding concrete component.

They leave a circular recess with a smooth surface in the wall, into which pipes and cables can subsequently be fed and sealed with MASTER-Ring gasket inserts or MASTER-SEAL modular seals.

# UniCut lining pipe

**NEW!** The lining pipe for stock keeping.  
24 installation options with 3 products

- Suitable for wall thickness 200 to 500 mm
- Easy on-site cutting on saw groove or in fixed length
- Pressure water-tight “Novo” waterstop
- Trowel flange for the connection of the outer seal
- Suitable for gasket inserts and modular seals
- Supplied with 2 closure plugs



## Dimensions

Art. no.	Description	Wall thickness/ length mm	PU	Weight per pc.	Order FIX formwork aid separately
082504	UniCut lining pipe DN 100 Fixed length	200	1 pc.	0.87 kg	
082505	UniCut lining pipe DN 100 Fixed length	240	1 pc.	0.95 kg	
082506	UniCut lining pipe DN 100 Fixed length	250	1 pc.	0.97 kg	
082507	UniCut lining pipe DN 100 Fixed length	300	1 pc.	1.07 kg	
082508	UniCut lining pipe DN 100 Fixed length	350	1 pc.	1.17 kg	
082509	UniCut lining pipe DN 100 Fixed length	365	1 pc.	1.20 kg	
082511	UniCut lining pipe DN 100 Fixed length	400	1 pc.	1.27 kg	
082510	<b>UniCut lining pipe DN 100 Stock length</b>	500	1 pc.	1.42 kg	
082512	UniCut lining pipe DN 150 Fixed length	200	1 pc.	1.10 kg	
082513	UniCut lining pipe DN 150 Fixed length	240	1 pc.	1.22 kg	
082514	UniCut lining pipe DN 150 Fixed length	250	1 pc.	1.25 kg	
082516	UniCut lining pipe DN 150 Fixed length	300	1 pc.	1.40 kg	
082517	UniCut lining pipe DN 150 Fixed length	350	1 pc.	1.55 kg	
082518	UniCut lining pipe DN 150 Fixed length	365	1 pc.	1.59 kg	
082519	UniCut lining pipe DN 150 Fixed length	400	1 pc.	1.70 kg	
082515	<b>UniCut lining pipe DN 150 Stock length</b>	500	1 pc.	1.89 kg	
082521	UniCut lining pipe DN 200 Fixed length	200	1 pc.	1.33 kg	
082522	UniCut lining pipe DN 200 Fixed length	240	1 pc.	1.49 kg	
082523	UniCut lining pipe DN 200 Fixed length	250	1 pc.	1.53 kg	
082524	UniCut lining pipe DN 200 Fixed length	300	1 pc.	1.72 kg	
082525	UniCut lining pipe DN 200 Fixed length	350	1 pc.	1.92 kg	
082526	UniCut lining pipe DN 200 Fixed length	365	1 pc.	1.98 kg	
082527	UniCut lining pipe DN 200 Fixed length	400	1 pc.	2.12 kg	
082520	<b>UniCut lining pipe DN 200 Stock length</b>	500	1 pc.	2.35 kg	



With saw grooves for cutting to length at the construction site



With waterstop



Fastening using the trowel flange

# FASO lining pipe



## Lining pipe made of fibre cement for lead-through of pipes and cables



- Tested based on the German WU directive for Water-Impermeable Concrete Buildings against pressurised water and non-pressurised water
- The external corrugation joins homogeneously with the concrete and is water-tight. No additional external waterproofing is required.
- Diameter DN 50 to DN 800 immediately available in stock for delivery in all lengths
- Suitable for gasket inserts and modular seals

### Special lengths

- Any intermediate lengths can be supplied – we charge the price of the next higher stock length
- DN 50 to DN 800 can be extended up to 1600 mm.
- DN 50 to DN 400 available for delivery with closure plug, please order separately.
- We will inform you whether delivery is to be made by freight forwarder or courier.

FASO inner Ø mm	outer Ø mm	Standard lengths												Order closure plug or FIX formwork aid separately
		200 mm	240 mm	250 mm	300 mm	350 mm	365 mm	400 mm	500 mm	600 mm	800 mm	1000 mm	1200 mm	
DN 50 Weight/pc.	90	080020 1.82 kg	080021 2.18 kg	080022 2.27 kg	080023 2.73 kg	080024 3.18 kg	080025 3.32 kg	080026 3.64 kg	080027 4.55 kg	080028 5.46 kg	080029 7.27 kg	080030 9.09 kg	080031 10.91 kg	
DN 80 Weight/pc.	120	080210 2.58 kg	080211 3.09 kg	080212 3.22 kg	080213 3.86 kg	080214 4.51 kg	080215 4.70 kg	080216 5.15 kg	080217 6.44 kg	080218 7.73 kg	080918 10.30 kg	080950 12.88 kg	080219 15.46 kg	
DN 100 Weight/pc.	140	080220 3.39 kg	080221 4.07 kg	080222 4.24 kg	080223 5.09 kg	080224 5.94 kg	080225 6.19 kg	080226 6.78 kg	080227 8.48 kg	080228 10.18 kg	080921 13.33 kg	080952 16.96 kg	080229 20.35 kg	
DN 125 Weight/pc.	165	080230 3.81 kg	080231 4.57 kg	080232 4.76 kg	080233 5.71 kg	080234 6.66 kg	080235 6.95 kg	080236 7.62 kg	080237 9.52 kg	080238 11.42 kg	080922 15.45 kg	080954 19.04 kg	080239 22.85 kg	
DN 150 Weight/pc.	190	080240 4.32 kg	080241 5.18 kg	080242 5.40 kg	080243 6.48 kg	080244 7.56 kg	080245 7.88 kg	080246 8.64 kg	080247 10.80 kg	080248 12.96 kg	080924 17.27 kg	080956 21.59 kg	080249 25.91 kg	
DN 200 Weight/pc.	250	080250 7.18 kg	080251 8.62 kg	080252 8.98 kg	080253 10.78 kg	080254 12.57 kg	080255 13.11 kg	080256 14.37 kg	080257 17.96 kg	080258 21.55 kg	080926 28.74 kg	080958 35.92 kg	080259 43.10 kg	
DN 250 Weight/pc.	300	080260 8.94 kg	080261 10.73 kg	080262 11.17 kg	080263 13.41 kg	080264 15.64 kg	080265 16.31 kg	080266 17.88 kg	080267 22.35 kg	080268 26.82 kg	080928 35.76 kg	080960 44.70 kg	080269 53.64 kg	
DN 300 Weight/pc.	350	080270 10.07 kg	080271 12.09 kg	080272 12.59 kg	080273 15.11 kg	080274 17.63 kg	080275 18.38 kg	080276 20.14 kg	080277 25.18 kg	080278 30.22 kg	080930 40.29 kg	080962 50.36 kg	080279 60.43 kg	
DN 350 Weight/pc.	400	080280 11.59 kg	080281 13.91 kg	080282 14.49 kg	080283 17.39 kg	080284 20.28 kg	080285 21.15 kg	080286 23.18 kg	080287 28.98 kg	080288 34.77 kg	080932 46.36 kg	080964 57.96 kg	080289 69.55 kg	
DN 400 Weight/pc.	460	080290 15.76 kg	080291 18.91 kg	080292 19.70 kg	080293 23.64 kg	080294 27.58 kg	080295 28.77 kg	080296 31.52 kg	080297 39.41 kg	080298 47.29 kg	080934 63.05 kg	080966 78.81 kg	080299 94.57 kg	
DN 450 Weight/pc.	510	080300 18.08 kg	080301 21.70 kg	080302 22.60 kg	080303 27.12 kg	080304 31.64 kg	080305 33.00 kg	080306 36.16 kg	080307 45.20 kg	080308 54.24 kg	080936 72.33 kg	080968 90.41 kg	080309 108.49 kg	No closure plug available DN 450 – DN 800
DN 500 Weight/pc.	570	080310 23.70 kg	080311 28.44 kg	080312 29.63 kg	080313 35.56 kg	080314 41.48 kg	080315 43.26 kg	080316 47.41 kg	080317 59.26 kg	080318 71.11 kg	080938 94.82 kg	080970 118.52 kg	080319 142.22 kg	
DN 600 Weight/pc.	670	080320 28.32 kg	080321 33.98 kg	080322 35.39 kg	080323 42.47 kg	080324 49.55 kg	080325 51.67 kg	080326 56.63 kg	080327 70.79 kg	080328 84.94 kg	080940 113.26 kg	080972 141.57 kg	080329 169.88 kg	
DN 700 Weight/pc.	780	080330 38.22 kg	080331 45.86 kg	080332 47.77 kg	080333 57.32 kg	080334 66.88 kg	080335 69.74 kg	080336 76.43 kg	080337 95.54 kg	080338 114.65 kg	080942 152.86 kg	080974 191.08 kg	080339 229.29 kg	
DN 800 Weight/pc.	880	080340 42.17 kg	080341 50.61 kg	080342 52.72 kg	080343 63.26 kg	080344 73.80 kg	080345 76.96 kg	080346 84.35 kg	080347 105.43 kg	080348 126.52 kg	080944 168.69 kg	080976 210.86 kg	080349 253.03 kg	



# FASO lining pipe, **split**



**NEW!**

**split**

When media lines have already been laid, the split version FASO lining pipes can be installed and bonded afterwards.

- Against pressurised and non-pressurised water
- Diameters DN 50 to DN 400 available for immediate delivery



FASO split inner Ø mm	outer Ø mm	Standard lengths										
		200 mm	240 mm	250 mm	300 mm	350 mm	365 mm	400 mm	500 mm	600 mm	800 mm	1000 mm
<b>DN 50</b> Weight/pc.	<b>90</b>	<b>080020T</b> 1.82 kg	<b>080021T</b> 2.18 kg	<b>080022T</b> 2.27 kg	<b>080023T</b> 2.73 kg	<b>080024T</b> 3.18 kg	<b>080025T</b> 3.32 kg	<b>080026T</b> 3.64 kg	<b>080027T</b> 4.55 kg	<b>080028T</b> 5.46 kg	<b>080029T</b> 7.27 kg	<b>080030T</b> 9.09 kg
<b>DN 80</b> Weight/pc.	<b>120</b>	<b>080210T</b> 2.58 kg	<b>080211T</b> 3.09 kg	<b>080212T</b> 3.22 kg	<b>080213T</b> 3.86 kg	<b>080214T</b> 4.51 kg	<b>080215T</b> 4.70 kg	<b>080216T</b> 5.15 kg	<b>080217T</b> 6.44 kg	<b>080218T</b> 7.73 kg	<b>080918T</b> 10.30 kg	<b>080950T</b> 12.88 kg
<b>DN 100</b> Weight/pc.	<b>140</b>	<b>080220T</b> 3.39 kg	<b>080221T</b> 4.07 kg	<b>080222T</b> 4.24 kg	<b>080223T</b> 5.09 kg	<b>080224T</b> 5.94 kg	<b>080225T</b> 6.19 kg	<b>080226T</b> 6.78 kg	<b>080227T</b> 8.48 kg	<b>080228T</b> 10.18 kg	<b>080921T</b> 13.33 kg	<b>080952T</b> 16.96 kg
<b>DN 125</b> Weight/pc.	<b>165</b>	<b>080230T</b> 3.81 kg	<b>080231T</b> 4.57 kg	<b>080232T</b> 4.76 kg	<b>080233T</b> 5.71 kg	<b>080234T</b> 6.66 kg	<b>080235T</b> 6.95 kg	<b>080236T</b> 7.62 kg	<b>080237T</b> 9.52 kg	<b>080238T</b> 11.42 kg	<b>080922T</b> 15.45 kg	<b>080954T</b> 19.04 kg
<b>DN 150</b> Weight/pc.	<b>190</b>	<b>080240T</b> 4.32 kg	<b>080241T</b> 5.18 kg	<b>080242T</b> 5.40 kg	<b>080243T</b> 6.48 kg	<b>080244T</b> 7.56 kg	<b>080245T</b> 7.88 kg	<b>080246T</b> 8.64 kg	<b>080247T</b> 10.80 kg	<b>080248T</b> 12.96 kg	<b>080924T</b> 17.27 kg	<b>080956T</b> 21.59 kg
<b>DN 200</b> Weight/pc.	<b>250</b>	<b>080250T</b> 7.18 kg	<b>080251T</b> 8.62 kg	<b>080252T</b> 8.98 kg	<b>080253T</b> 10.78 kg	<b>080254T</b> 12.57 kg	<b>080255T</b> 13.11 kg	<b>080256T</b> 14.37 kg	<b>080257T</b> 17.96 kg	<b>080258T</b> 21.55 kg	<b>080926T</b> 28.74 kg	<b>080958T</b> 35.92 kg
<b>DN 250</b> Weight/pc.	<b>300</b>	<b>080260T</b> 8.94 kg	<b>080261T</b> 10.73 kg	<b>080262T</b> 11.17 kg	<b>080263T</b> 13.41 kg	<b>080264T</b> 15.64 kg	<b>080265T</b> 16.31 kg	<b>080266T</b> 17.88 kg	<b>080267T</b> 22.35 kg	<b>080268T</b> 26.82 kg	<b>080928T</b> 35.76 kg	<b>080960T</b> 44.70 kg
<b>DN 300</b> Weight/pc.	<b>350</b>	<b>080270T</b> 10.07 kg	<b>080271T</b> 12.09 kg	<b>080272T</b> 12.59 kg	<b>080273T</b> 15.11 kg	<b>080274T</b> 17.63 kg	<b>080275T</b> 18.38 kg	<b>080276T</b> 20.14 kg	<b>080277T</b> 25.18 kg	<b>080278T</b> 30.22 kg	<b>080930T</b> 40.29 kg	<b>080962T</b> 50.36 kg
<b>DN 350</b> Weight/pc.	<b>400</b>	<b>080280T</b> 11.59 kg	<b>080281T</b> 13.91 kg	<b>080282T</b> 14.49 kg	<b>080283T</b> 17.39 kg	<b>080284T</b> 20.28 kg	<b>080285T</b> 21.15 kg	<b>080286T</b> 23.18 kg	<b>080287T</b> 28.98 kg	<b>080288T</b> 34.77 kg	<b>080932T</b> 46.36 kg	<b>080964T</b> 57.96 kg
<b>DN 400</b> Weight/pc.	<b>460</b>	<b>080290T</b> 15.76 kg	<b>080291T</b> 18.91 kg	<b>080292T</b> 19.70 kg	<b>080293T</b> 23.64 kg	<b>080294T</b> 27.58 kg	<b>080295T</b> 28.77 kg	<b>080296T</b> 31.52 kg	<b>080297T</b> 39.41 kg	<b>080298T</b> 47.29 kg	<b>080934T</b> 63.05 kg	<b>080966T</b> 78.81 kg



**1.** Place the supplied spacers on the cut edge of the lower shell and apply PROTECT Easy 1K (art. no. 040030) on the cut edges (usage: approx. 150 g/m on both sides). The PROTECT Easy 1K concrete adhesive must be ordered separately.



**2.** Fit the upper shell and press it on so that the adhesive is pressed out of the joint. In the process, you must make sure that the spacers remain in position. Smooth the joints inside the lining pipe in order to achieve a clean surface for possible installation of a gasket insert.



**PROTECT Easy 1K (art. no. 040030)**  
**Single-component polymer-based concrete adhesive**  
For water-tight bonding of all fibre cement distance tubes and fibre cement lining pipes.  
**You will find the adhesive on page 94 in our complete catalogue.**



# FASO lining pipe

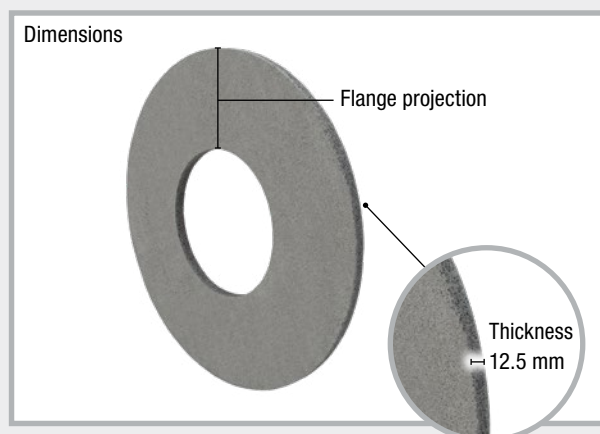
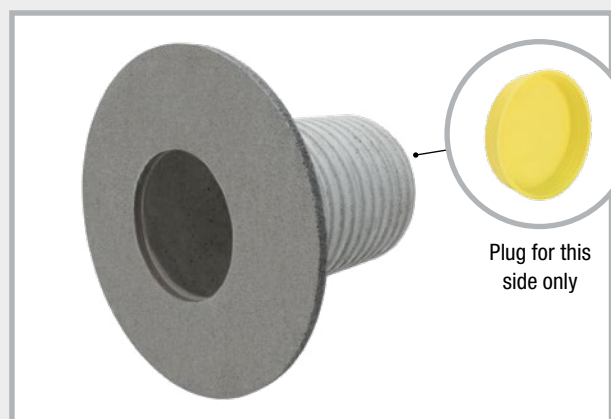
## **NEW!** with installed flange



Art.Gr.  
**407**

- Against pressurised and non-pressurised water
- With adhesive flange according to DIN 18533
- Can be used in conjunction with the following waterproofing materials:
  - Thick coating
  - All common types of external waterproofing
  - Waterproofing slurries
  - Connection of fresh concrete compound foil (FBV) using liquid plastic

FASO inner Ø mm	Flange dimensions: Outer diameter x thickness	Flange projection mm	Standard lengths									Order closure plug or FIX formwork aid separately
			200 mm	240 mm	250 mm	300 mm	350 mm	365 mm	400 mm	500 mm	600 mm	
<b>DN 50</b> Weight/pc.	250 x 12.5 mm	100	<b>080020F</b> 2.42 kg	<b>080021F</b> 2.78 kg	<b>080022F</b> 2.87 kg	<b>080023F</b> 3.33 kg	<b>080024F</b> 3.78 kg	<b>080025F</b> 3.92 kg	<b>080026F</b> 4.24 kg	<b>080027F</b> 5.15 kg	<b>080028F</b> 6.06 kg	
<b>DN 80</b> Weight/pc.	250 x 12.5 mm	85	<b>080210F</b> 3.13 kg	<b>080211F</b> 3.64 kg	<b>080212F</b> 3.77 kg	<b>080213F</b> 4.41 kg	<b>080214F</b> 5.06 kg	<b>080215F</b> 5.25 kg	<b>080216F</b> 5.70 kg	<b>080217F</b> 6.99 kg	<b>080218F</b> 8.28 kg	
<b>DN 100</b> Weight/pc.	300 x 12.5 mm	100	<b>080220F</b> 4.19 kg	<b>080221F</b> 4.87 kg	<b>080222F</b> 5.04 kg	<b>080223F</b> 5.89 kg	<b>080224F</b> 6.74 kg	<b>080225F</b> 6.99 kg	<b>080226F</b> 7.58 kg	<b>080227F</b> 9.28 kg	<b>080228F</b> 10.98 kg	
<b>DN 125</b> Weight/pc.	325 x 12.5 mm	100	<b>080230F</b> 4.71 kg	<b>080231F</b> 5.47 kg	<b>080232F</b> 5.66 kg	<b>080233F</b> 6.61 kg	<b>080234F</b> 7.56 kg	<b>080235F</b> 7.85 kg	<b>080236F</b> 8.52 kg	<b>080237F</b> 10.42 kg	<b>080238F</b> 12.32 kg	
<b>DN 150</b> Weight/pc.	350 x 12.5 mm	100	<b>080240F</b> 5.32 kg	<b>080241F</b> 6.18 kg	<b>080242F</b> 6.40 kg	<b>080243F</b> 7.48 kg	<b>080244F</b> 8.56 kg	<b>080245F</b> 8.88 kg	<b>080246F</b> 9.64 kg	<b>080247F</b> 11.80 kg	<b>080248F</b> 13.96 kg	
<b>DN 200</b> Weight/pc.	400 x 12.5 mm	100	<b>080250F</b> 8.38 kg	<b>080251F</b> 9.82 kg	<b>080252F</b> 10.18 kg	<b>080253F</b> 11.98 kg	<b>080254F</b> 13.77 kg	<b>080255F</b> 14.31 kg	<b>080256F</b> 15.57 kg	<b>080257F</b> 19.16 kg	<b>080258F</b> 22.75 kg	
<b>DN 250</b> Weight/pc.	450 x 12.5 mm	100	<b>080260F</b> 10.34 kg	<b>080261F</b> 12.13 kg	<b>080262F</b> 12.57 kg	<b>080263F</b> 14.81 kg	<b>080264F</b> 17.04 kg	<b>080265F</b> 17.71 kg	<b>080266F</b> 19.28 kg	<b>080267F</b> 23.75 kg	<b>080268F</b> 28.22 kg	
<b>DN 300</b> Weight/pc.	500 x 12.5 mm	100	<b>080270F</b> 11.67 kg	<b>080271F</b> 13.69 kg	<b>080272F</b> 14.19 kg	<b>080273F</b> 16.71 kg	<b>080274F</b> 19.23 kg	<b>080275F</b> 19.98 kg	<b>080276F</b> 21.74 kg	<b>080277F</b> 26.78 kg	<b>080278F</b> 31.82 kg	



The flange is applied to the desired lining pipe on our premises.

# WELLO active lining pipe


**Art.Gr.  
404**

When the use of sealing collars is not possible, lining pipes are installed, which enable the subsequent water-tight lead-through of the medium pipe into the building.

The cost-efficient PE lining pipe is available at short notice ex stock in dia. 100 to 400 mm. Its inner surface is smooth. The corrugated outside ensures a firm bond with the concrete. Two swelling tapes applied centrally around the lining pipe act as waterstops.



Tested for impermeability up to 20 m water column

WELLO inner Ø mm	Standard lengths									Order closure plug or FIX formwork aid separately
	200 mm	240 mm	250 mm	300 mm	350 mm	365 mm	400 mm	500 mm	600 mm	
<b>DN 100</b> Weight/pc.	<b>080130</b> 0.17 kg	<b>080131</b> 0.19 kg	<b>080132</b> 0.20 kg	<b>080133</b> 0.23 kg	<b>080134</b> 0.26 kg	<b>080135</b> 0.26 kg	<b>080136</b> 0.28 kg	<b>080137</b> 0.34 kg	<b>080138</b> 0.40 kg	
<b>DN 125</b> Weight/pc.	<b>080140</b> 0.26 kg	<b>080141</b> 0.30 kg	<b>080142</b> 0.31 kg	<b>080143</b> 0.36 kg	<b>080144</b> 0.41 kg	<b>080145</b> 0.42 kg	<b>080146</b> 0.46 kg	<b>080147</b> 0.56 kg	<b>080148</b> 0.65 kg	
<b>DN 150</b> Weight/pc.	<b>080150</b> 0.29 kg	<b>080151</b> 0.33 kg	<b>080152</b> 0.35 kg	<b>080153</b> 0.40 kg	<b>080154</b> 0.45 kg	<b>080155</b> 0.47 kg	<b>080156</b> 0.51 kg	<b>080157</b> 0.62 kg	<b>080158</b> 0.72 kg	
<b>DN 200</b> Weight/pc.	<b>080160</b> 0.57 kg	<b>080161</b> 0.66 kg	<b>080162</b> 0.68 kg	<b>080163</b> 0.80 kg	<b>080164</b> 0.92 kg	<b>080165</b> 0.95 kg	<b>080166</b> 1.03 kg	<b>080167</b> 1.27 kg	<b>080168</b> 1.50 kg	
<b>*DN 250</b> Weight/pc.	<b>080170</b> 0.86 kg	<b>080171</b> 1.01 kg	<b>080172</b> 1.04 kg	<b>080173</b> 1.23 kg	<b>080174</b> 1.41 kg	<b>080175</b> 1.46 kg	<b>080176</b> 1.59 kg	<b>080177</b> 1.96 kg	<b>080178</b> 2.33 kg	
<b>DN 300</b> Weight/pc.	<b>080180</b> 1.20 kg	<b>080181</b> 1.41 kg	<b>080182</b> 1.46 kg	<b>080183</b> 1.72 kg	<b>080184</b> 1.99 kg	<b>080185</b> 2.06 kg	<b>080186</b> 2.25 kg	<b>080187</b> 2.77 kg	<b>080188</b> 3.30 kg	
<b>*DN 350</b> Weight/pc.	<b>080190</b> 1.67 kg	<b>080191</b> 1.97 kg	<b>080192</b> 2.05 kg	<b>080193</b> 2.42 kg	<b>080194</b> 2.80 kg	<b>080195</b> 2.91 kg	<b>080196</b> 3.17 kg	<b>080197</b> 3.92 kg	<b>080198</b> 4.67 kg	
<b>DN 400</b> Weight/pc.	<b>080200</b> 2.10 kg	<b>080201</b> 2.48 kg	<b>080202</b> 2.57 kg	<b>080203</b> 3.04 kg	<b>080204</b> 3.52 kg	<b>080205</b> 3.66 kg	<b>080206</b> 3.99 kg	<b>080207</b> 4.94 kg	<b>080208</b> 5.89 kg	

Special lengths: Any intermediate lengths can be supplied.  
Maximum length of lining pipe: 2000 mm

\* DN 250 + DN 350 waterproofing with modular seal only

**We recommend installation with closure plugs**

# DURO Plus high-pressure lining pipe



Art.Gr.  
403

DURO Plus are high pressure-resistant lining pipes for secure and permanent routing of pipes and cables in buildings. A sealing collar which can withstand water pressures of up to a 70 m water column is fitted to the lining pipes at the factory and provides reliable protection from radon penetration. The diameters DN 50 to DN 300 are available within a few days. When ordering, please state whether you require the lining pipes with or without plugs.



DURO inner Ø mm	Ø Outside mm	Standard lengths												Order closure plug or FIX formwork aid separately
		200 mm	240 mm	250 mm	300 mm	350 mm	365 mm	400 mm	500 mm	600 mm	800 mm	1000 mm	1200 mm	
DN 50 Weight/pc.	54	090010 0.35 kg	090013 0.37 kg	090016 0.38 kg	090019 0.40 kg	090022 0.42 kg	090025 0.43 kg	090028 0.45 kg	090031 0.49 kg	090034 0.54 kg	090037 0.63 kg	090040 0.73 kg	090043 0.82 kg	
DN 80 Weight/pc.	85	090050 0.31 kg	090053 0.35 kg	090056 0.36 kg	090059 0.41 kg	090062 0.46 kg	090065 0.47 kg	090068 0.51 kg	090071 0.60 kg	090074 0.70 kg	090077 0.89 kg	090080 1.09 kg	090083 1.28 kg	
DN 100 Weight/pc.	110	090110 0.67 kg	090113 0.76 kg	090116 0.79 kg	090119 0.91 kg	090122 1.04 kg	090125 1.07 kg	090128 1.16 kg	090131 1.41 kg	090134 1.65 kg	090137 2.15 kg	090140 2.64 kg	090143 3.13 kg	
DN 125 Weight/pc.	137	090150 0.78 kg	090153 0.90 kg	090156 0.93 kg	090159 1.08 kg	090162 1.23 kg	090165 1.27 kg	090168 1.38 kg	090171 1.67 kg	090174 1.97 kg	090177 2.56 kg	090180 3.16 kg	090183 3.75 kg	
DN 150 Weight/pc.	162	090210 0.91 kg	090213 1.05 kg	090216 1.08 kg	090219 1.26 kg	090222 1.44 kg	090225 1.49 kg	090228 1.61 kg	090231 1.97 kg	090234 2.32 kg	090237 3.03 kg	090240 3.73 kg	090243 4.44 kg	
DN 200 Weight/pc.	214	090250 1.44 kg	090253 1.68 kg	090256 1.74 kg	090259 2.03 kg	090262 2.32 kg	090265 2.41 kg	090268 2.62 kg	090271 3.20 kg	090274 3.79 kg	090277 4.96 kg	090280 6.14 kg	090283 7.31 kg	
DN 250 Weight/pc.	264	090310 1.71 kg	090313 2.00 kg	090316 2.07 kg	090319 2.42 kg	090322 2.77 kg	090325 2.88 kg	090328 3.13 kg	090331 3.83 kg	090334 4.54 kg	090337 5.95 kg	090340 7.37 kg	090343 8.78 kg	
DN 300 Weight/pc.	316	090350 2.57 kg	090353 3.00 kg	090356 3.11 kg	090359 3.66 kg	090362 4.21 kg	090365 4.37 kg	090368 4.75 kg	090371 5.85 kg	090374 6.94 kg	090377 9.13 kg	090380 11.31 kg	090383 13.50 kg	

Special lengths: Any intermediate lengths can be supplied.  
Lengths up to 3000 mm are available.

## We recommend installation with closure plugs



Production possible according to your individual specifications



# MASTERTEC

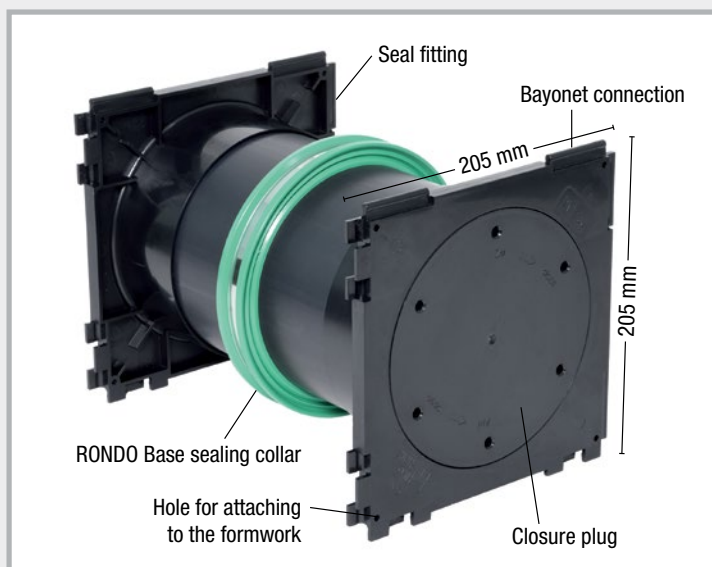
## MKD 150 cable bushing



### Stay flexible with the MKD 150 cable bushing

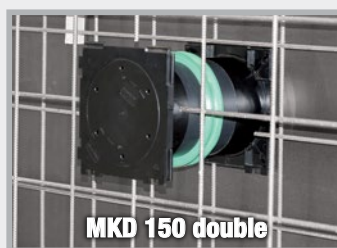
The MKD 150 cable bushing is manufactured in the corresponding wall thickness and consists of 2 seal fittings, a factory-installed high-pressure waterstop and a closure plug which is pressure-tight up to a water column of 30 m. The bayonet connections are compatible with all standard systems.

- Flexible connection of cables in new buildings
- Sealing with RONDO Base sealing collar
- Stable design due to solid wall material
- Compatible with all standard systems

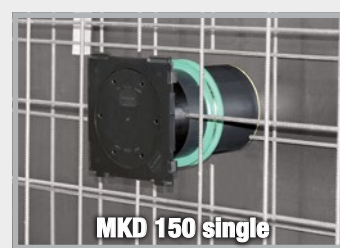


**We recommend using gasket inserts for the waterproofing.**

**You can achieve maximum pressure resistance using this system.**





Seal fitting on both sides



Seal fitting on one side; closure plug on the other side

## Product range

Art.Gr.  
**411**

MKD 150 – double version				MKD 150 – single version			
Art. no.	Wall thickness	PU	Weight per pc.	Art. no.	Wall thickness	PU	Weight per pc.
162410	180 mm	1 pc.	1.30 kg	162460	180 mm	1 pc.	1.10 kg
162415	200 mm	1 pc.	1.40 kg	162465	200 mm	1 pc.	1.20 kg
162420	240 mm	1 pc.	1.50 kg	162470	240 mm	1 pc.	1.30 kg
162425	250 mm	1 pc.	1.60 kg	162475	250 mm	1 pc.	1.40 kg
162430	300 mm	1 pc.	1.70 kg	162480	300 mm	1 pc.	1.50 kg
162435	350 mm	1 pc.	1.90 kg	162485	350 mm	1 pc.	1.70 kg
162440	365 mm	1 pc.	1.95 kg	162490	365 mm	1 pc.	1.80 kg
162445	400 mm	1 pc.	2.10 kg	162495	400 mm	1 pc.	1.90 kg
162400	Key for opening the closure plug						

Other wall thicknesses are available on request

MASTER-RING gasket inserts are available on request. You will need to let us know the outer diameters of the cables and pipes to be led through.

# STEELO stainless steel lining pipe

with watertight centre flange against  
pressurised and non-pressurised water

STEELO lining pipes are manufactured from V2A or V4A stainless steel.  
The centre flange is welded watertight.

■ Very good chemical and thermal resistance



Art.Gr.  
**406**

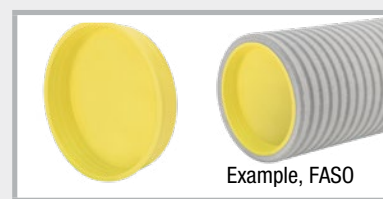
**STEELO V2A lining pipe** available on request

STEELO inner Ø mm	Dimensions						
	200 mm	240 mm	250 mm	300 mm	350 mm	365 mm	400 mm
DN 80	081200	081240	081250	081300	081350	081365	081400
DN 100	082200	082240	082250	082300	082350	082365	082400
DN 125	083200	083240	083250	083300	083350	083365	083400
DN 150	084200	084240	084250	084300	084350	084365	084400
DN 200	085200	085240	085250	085300	085350	085365	085400
DN 250	086200	086240	086250	086300	086350	086365	086400
DN 300	087200	087240	087250	087300	087350	087365	087400

Version V4A = on request

## Accessories for lining pipes

### Closure plug + installation aid for lining pipes



Art.Gr.  
**452**

Example, FASO

	Diameter mm									
	50	80	100	125	150	200	250	300	350	400
Art. no.	090403	090401	090400	090402	090404	090406	090408	090410	090412	090414
Weight/pc.	0.005 kg	0.02 kg	0.02 kg	0.03 kg	0.05 kg	0.08 kg	0.12 kg	0.13 kg	0.40 kg	0.45 kg

## Sewage socket ring for sewage pipe bushings

### Flow direction type

Art.Gr.  
**451**

Art. no.	Type	PU	Weight/pc.
080476	MFR 110	1 pc.	0.05 kg
080477	MFR 125	1 pc.	0.06 kg
080478	MFR 160	1 pc.	0.08 kg
080479	MFR 200	1 pc.	0.13 kg



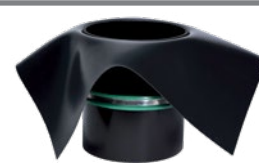
Socket ring on  
DL 110/500

## Foil flange dim. 50 x 50 cm

### for lining pipes incl. mounting strap

Art.Gr.  
**453**

	Lining pipe diameter in mm					
	50	80	100	125	150	200
Art. no.	090388	090389	090390	090391	090392	090393
Weight/pc.	0.19 kg	0.20 kg	0.43 kg	0.45 kg	0.47 kg	0.70 kg



For fixing the foil flange to the component, we recommend the **POWER** swelling tape adhesive.

Foil flange made of 1.5 mm PVC foil, resistant to oil and bitumen, weldable with hot air gun, bondable with solvent welding agent

# MASTERTEC Connector



## Connection seal

With the MASTERTEC Connector connection seal, corrugated cable conduits (corrugated pipes) or sewage pipes can be professionally connected to core drill holes or lining pipes.

- Pressure water-tight: Corrugated pipe: up to 10 m water column  
KG pipe (sewage pipe): up to 20 m water column
- Easy installation
- Adapted to common corrugated pipe outer diameters and sewage pipe Ø 110 mm

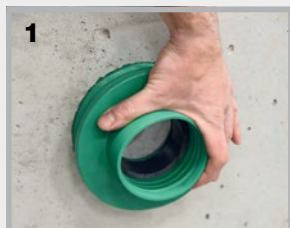


## Dimensions

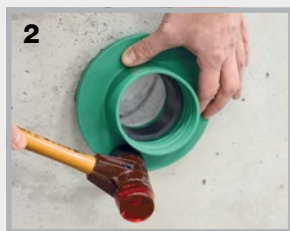
Art.Gr.  
**431**

Art. no.	Type	Ø lining pipe/ core drill hole	Ø connection pipe	PU	Weight per pc.
090850	MC 100 / 75W	100 mm	Corrugated pipe Ø 75 mm	1 pc.	0.57 kg
090852	MC 150 / 90W	150 mm	Corrugated pipe Ø 90 mm	1 pc.	1.01 kg
090854	MC 150 / 110W	150 mm	Corrugated pipe Ø 110 mm	1 pc.	0.91 kg
090856	MC 150 / 110 KG	150 mm	Sewage pipe Ø 110 mm	1 pc.	0.88 kg

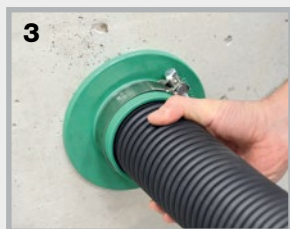
## Installation with corrugated pipe



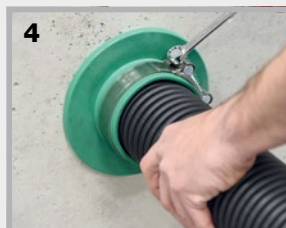
**1.** The connection seal is positioned in the core drill hole/lining pipe, ...



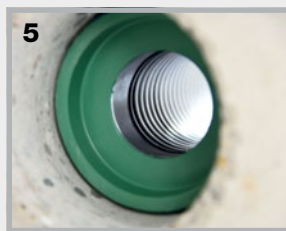
**2.** ... completely hammered in with a rubber mallet, ...



**3.** ... the clamp is placed over the connection seal and the connection pipe pushed in as far as it will go, ...



**4.** ... the clamp is hand-tightened with a ring spanner, ...



**5.** ... the cable conduit is connected to the core drill hole or the lining pipe and is pressure water-tight.

## Installation with sewage pipe



**1.** The installation is the same as for the cable conduit, ...



**2.** ... the sewage pipe is pushed completely through the seal and the clamp is hand-tightened with a ring spanner.

# Gasket inserts, modular seals + FLEX 2000



**MASTER-RING**  
Gasket insert

page 25



**MASTER-RING Supersoft**

page 26



**MASTER-RING blind plug**

page 26



**MASTER-RING Multi**

pages 27 – 28



**MASTER-RING Multi Multiple**

page 29



**MASTER-RING Multiple**

page 30



**FLEX 2000**

page 31



**MASTER-SEAL**  
Modular seal

pages 32 – 33



# MASTER-RING



## Stainless steel V2A gasket inserts

Gasket inserts for lining pipes and core drill holes

- One seal against pressurised and non-pressurised water
- Pressure-tight up to 30 m water column, in fixed and secure position up to 50 m
- Rubber thickness 40 mm
- Steel parts and screws made of V2A stainless steel
- Satisfy the requirements of the FHRK testing principles GE 101



**Installation:** Once the gasket insert has been inserted and the medium pipe has been led through, the screws are tightened crosswise. Give each screw one turn and repeat this procedure several times so the rubber is pressed out uniformly. Maximum torque M6 = 5 Nm, M8 = 10 Nm, M10 = 15 Nm, M12 = 20 Nm. Retighten the nuts after 1-2 hours.

Ø lining pipe/ core drill hole	Medium pipe in mm		Weight per pc.	Closed version	Art.Gr. <b>440</b>	Split version	Art.Gr. <b>441</b>
	from	to		Art. no.	Art. no.		
50	6	12	0.19 kg	<b>120080</b>			
80	20	28	0.39 kg	<b>120100</b>			
80	32	40	0.36 kg	<b>120105</b>			
80	48	50	0.32 kg	<b>120095</b>			
100	15	22	0.58 kg	<b>120107</b>			
100	20	28	0.60 kg	<b>120110</b>			
100	25	32	0.60 kg	<b>120112</b>			
100	32	40	0.58 kg	<b>120115</b>			
100	36	44	0.56 kg	<b>120120</b>			
100	46	56	0.48 kg	<b>120125</b>		<b>120125T</b>	
100	55	65	0.51 kg	<b>120130</b>			
125	55	64	0.74 kg	<b>120145</b>			
125	70	78	0.67 kg	<b>120150</b>			
150	46	54	1.53 kg	<b>120152</b>			
150	56	66	1.31 kg	<b>120153</b>			
150	69	78	1.24 kg	<b>120155</b>			
150	79	91	1.17 kg	<b>120160</b>			
150	85	94	1.07 kg	<b>120165</b>			
150	98	110	0.96 kg	<b>120170</b>		<b>120170T</b>	
200	88	103	2.13 kg	<b>120172</b>			
200	108	115	2.03 kg	<b>120175</b>		<b>120175T</b>	
200	116	126	1.91 kg	<b>120180</b>		<b>120180T</b>	
200	132	141	1.51 kg	<b>120185</b>			
200	135	144	1.48 kg	<b>120190</b>			
200	150	160	1.41 kg	<b>120192</b>		<b>120192T</b>	
250	135	144	2.86 kg	<b>120195</b>			
250	140	149	3.02 kg	<b>120197</b>			
250	150	159	2.69 kg	<b>120200</b>			
250	157	162	2.65 kg	<b>120205</b>		<b>120205T</b>	
250	174	181	2.24 kg	<b>120210</b>			
250	178	187	2.16 kg	<b>120215</b>			
250	197	202	1.84 kg	<b>120216</b>		<b>120216T</b>	
250	204	210	1.77 kg	<b>120218</b>			
300	193	204	3.49 kg	<b>120225</b>			
300	218	226	3.17 kg	<b>120230</b>			
350	224	233	5.44 kg	<b>120235</b>			
350	249	258	4.98 kg	<b>120240</b>			
350	270	282	3.64 kg	<b>120242</b>			
400	270	280	6.14 kg	<b>120245</b>			
400	279	288	6.06 kg	<b>120250</b>			
400	304	313	5.47 kg	<b>120255</b>			
400	314	323	4.57 kg	<b>120260</b>			
400	320	330	4.44 kg	<b>120265</b>			

Additional supply options: Steel parts + screws in V4A stainless steel; rubber made of NBR or compliant with potable water quality standards available on request

# MASTER-RING Supersoft

## Gasket insert for corrugated and thin-walled medium pipes

- Pressure-tight up to 10 m water column
- Soft rubber compound for corrugated and thin-walled medium pipes
- Rubber thickness 2 x 40 mm
- Steel parts and screws made of V2A stainless steel



Art.Gr.  
**437**

Core drill hole mm Lining pipe FASO/ WELLO/DURO Plus	Art. no.	Medium pipe in mm		PU	Weight per pc.
		from	to		
100	<b>120280</b>	46	56	1 pc.	0.73 kg
100	<b>120282</b>	55	65	1 pc.	0.72 kg
150	<b>120284</b>	69	78	1 pc.	1.88 kg
150	<b>120286</b>	85	94	1 pc.	1.57 kg
150	<b>120288</b>	98	110	1 pc.	1.32 kg
200	<b>120290</b>	108	115	1 pc.	3.04 kg
200	<b>120292</b>	119	128	1 pc.	2.52 kg
200	<b>120294</b>	150	160	1 pc.	1.95 kg
250	<b>120296</b>	156	165	1 pc.	3.70 kg

# Stainless steel V2A blind plugs

## for core drill hole and lining pipe

- Pressure-tight up to 15 m water column
- Rubber thickness 40 mm
- Steel parts and screws made of V2A stainless steel

Art.Gr.  
**438**

DN	Art. no.	PU	Weight per pc.
50	<b>120518</b>	1 pc.	0.20 kg
80	<b>120520</b>	1 pc.	0.49 kg
100	<b>120525</b>	1 pc.	0.75 kg
125	<b>120530</b>	1 pc.	1.15 kg
150	<b>120535</b>	1 pc.	2.17 kg
200	<b>120540</b>	1 pc.	3.40 kg
250	<b>120545</b>	1 pc.	5.91 kg
300	<b>120550</b>	1 pc.	8.47 kg

Blind plugs up to DN 1500 mm available on request



# MASTER-RING Multi

## Gasket inserts with "onion ring" technology



A large number of installation options with only 4 sizes

Pressure-resistant: 30 metre water column for closed version  
7.5 metre water column for split version

Pressure plate material: V2A stainless steel

Screws and nuts: V2A stainless steel

Rubber material: EPDM

Width of rubber: 40 mm

Resistances: Excellent resistance to ageing, weathering and ozone



Art.Gr. <b>442</b>				
	<b>MASTER-RING Multi 100 closed</b> Art. no. 120135	<b>MASTER-RING Multi 150 closed</b> Art. no. 120171	<b>MASTER-RING Multi 200 closed</b> Art. no. 120193	<b>MASTER-RING Multi 250 closed</b> Art. no. 120222
<b>Weight/pc.</b>	0.61 kg	1.32 kg	1.73 kg	2.52 kg

Art.Gr. <b>443</b>				
	<b>NEW! MASTER-RING Multi 100 split</b> Art. no. 120135T	<b>NEW! MASTER-RING Multi 150 split</b> Art. no. 120171T	<b>NEW! MASTER-RING Multi 200 split</b> Art. no. 120193T	<b>NEW! MASTER-RING Multi 250 split</b> Art. no. 120222T
<b>Weight/pc.</b>	0.61 kg	1.32 kg	1.73 kg	2.52 kg

Without inner plug	Medium pipe in mm from to <b>18-20 mm</b>	Medium pipe in mm from to <b>62-64 mm</b>	Medium pipe in mm from to <b>108-110 mm</b>	Medium pipe in mm from to <b>158-160 mm</b>
1. ring	21-25 mm	74-76 mm	123-125 mm	168-170 mm
2. ring	26-30 mm	88-90 mm	138-140 mm	178-180 mm
3. ring	31-35 mm	108-110 mm	158-160 mm	198-200 mm
4. ring	36-40 mm			208-210 mm
5. ring	41-45 mm			
6. ring	46-50 mm			
7. ring	51-55 mm			
8. ring	56-60 mm			
9. ring	61-65 mm			

## Installation of MASTER-RING Multi

Once you have determined the outer diameter of the pipe to be waterproofed, prepare the MASTER-RING Multi for installation.

### Example: Multi 100

Example: core drill hole DN 100 and medium pipe with 18 mm outer diameter



1

Only remove the inner plug.

Example: core drill hole DN 100 and medium pipe with 23 mm outer diameter



2

After removing the inner plug, release the first ring ...



3

... and push it through the gasket insert.



4

Pushed-through 1st ring



5

Simply cut off the pushed-through ring using a cutter.



6

Multi 100 ready for installation

### Example: Multi 200

Example: core drill hole DN 200 and medium pipe with 110 mm outer diameter



1

Only remove the inner plug.

Example: core drill hole DN 200 and medium pipe with 125 mm outer diameter



2

Release the first ring and push it through the gasket.



3

Cut off the pushed-through ring using a cutter – the gasket is now ready for installation.

## Protection of the core drill hole with epoxy resin

- With MC-Injekt 1264 compact, you preserve the core drill hole permanently.
- Application on dry substrate





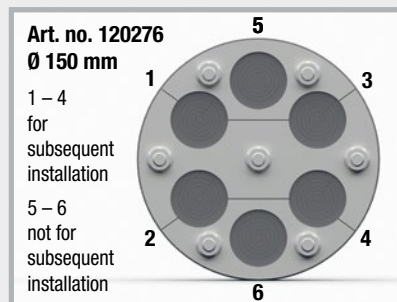
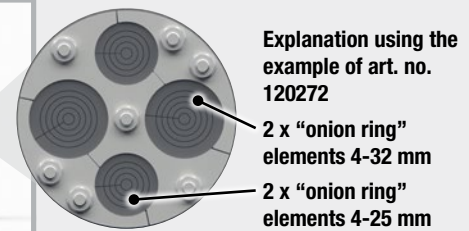
# MASTER-RING Multi Multiple

Steel parts: V2A stainless steel  
 Version: split  
 Rubber material: EPDM  
 Width of rubber: 40 mm  
 Resistances: Excellent resistance to ageing, weathering and ozone



Art.Gr.  
**444**

Ø lining pipe / core drill hole	Art. no.	Media area				Weight per pc.
		Quantity "Onion ring" elements	Ø /mm	Quantity "Onion ring" elements	Ø /mm	
100	<b>120270</b>	3	4-32			0.82 kg
100	<b>120272</b>	2	4-32	2	4-25	0.78 kg
150	<b>120274</b>	3	22-54			1.70 kg
150	<b>120276</b>	6	4-32			1.86 kg
150	<b>120278</b>	2	4-32	2	22-54	1.72 kg



## Installation of Multi Multiple

Example for DN 100 core drill hole and medium pipe outer diameter 15 mm with art. no. 120270



Open the split gasket insert and take out the required segmented plug.



Pull out the ring segment you want to remove and sever it with a cutter.



After cutting the stopper to the required size, reinsert it and the gasket insert can be installed.

# MASTER-RING Multiple

## V2A stainless steel multiple wall duct gasket inserts for cables and pipes

- Pressure-tight up to 10 m water column
- Rubber thickness 40 mm
- Steel parts and screws made of V2A stainless steel

Art.Gr.  
**439**



Split version



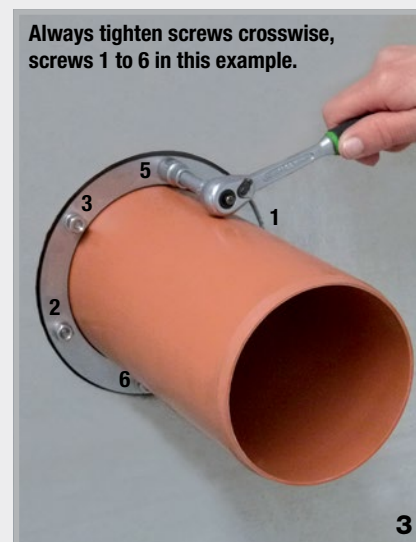
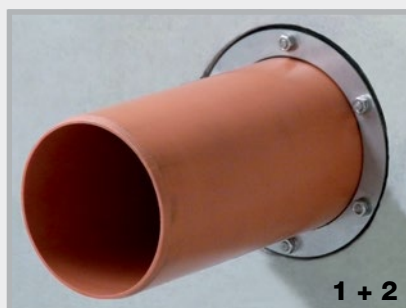
Mounted

Core drill hole Lining pipe FASO / WELLO / DURO Plus	Art. no.	Outer diameter Medium pipe in mm	Weight per pc.
50	<b>120515</b>	4 to 20	0.39 kg
80	<b>120410</b>	4 to 33 or 40 or 42	0.43 kg
100	<b>120415</b>	4 to 33 or 40 or 42 or 50	0.62 kg
125	<b>120420</b>	4 to 33 or 40 or 42 or 50	0.93 kg
150	<b>120425</b>	4 to 33 or 40 or 42 or 50	1.31 kg
	<b>120495</b>	Additional borehole	

As a basic rule, the technical feasibility of the combination of number and diameter of the media in relation to the minimum diameter of the core drill hole or lining pipe must be checked. Please contact our sales office for assistance.

## Tightening the MASTER-RING gasket inserts

1. Insert the gasket insert into the lining pipe or the core drill hole.
2. Push the medium pipe through.
3. Tighten the screws crosswise through one turn. Repeat this process until all screws are tightened with the respective torque. Retighten the screws after 1-2 hours.



Always tighten screws crosswise, screws 1 to 6 in this example.

Nuts	Maximum torque (for dimensionally stable medium pipes)
M6	5 Nm
M8	10 Nm
M10	15 Nm
M12	20 Nm

# FLEX 2000



Plastic, vapour and waterproof sealing compound for waterproofing of pipe and cable bushings below ground level. Also suitable for leakage sealing in case of inflowing water.



**Annular gap sealing (tested by MFPA Leipzig)  
up to 7.5 m water column**

Art.Gr.  
**450**

Art. no.	Description	PU	Secondary packaging	Weight
120610	<b>FLEX 2000 sealing compound</b> Foil bag 850 g	1 pc.	Carton of 20 foil bags	0.88 kg
120620	<b>Cartridge applicator</b> with flexible nozzle	1 pc.		1.06 kg
120630	<b>Flexible nozzle</b>	1 pc.		0.07 kg

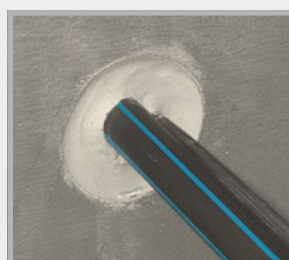
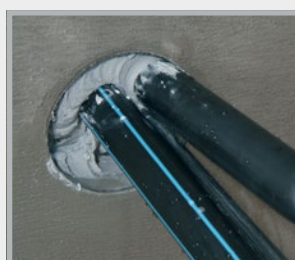
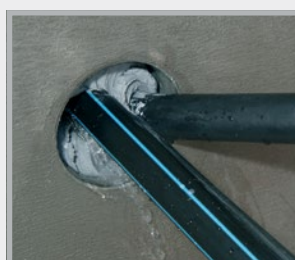
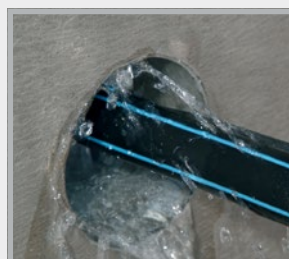


## Technical data

Consistency	Paste-like, non-sagging
Heat resistance	+50°C
Processing temperature	+5°C to +35°C
Usage	Approx. 1.6 kg per litre void
Storage	2 years at 20°C

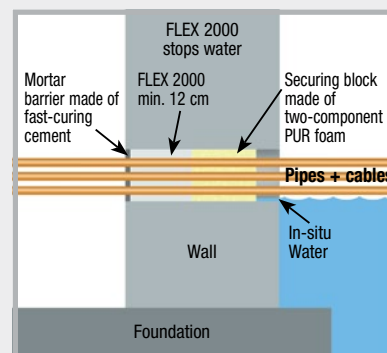
## Substrate

The substrate may be dry, damp or wet. The substrate must be free from grease, tar, oil and loose particles. Suitable substrates are: concrete, brick, mortar, plaster and all other mineral construction materials as well as ceramics, PVC, polyethylene and polypropylene.



## Application

Prior to application, FLEX 2000 is heated to approx. 30-40°C by placing it in warm water for at least 30 minutes to ensure optimum consistency and workability. Clean the inside of the duct using a suitable brush to remove dust, sand, and any loose particles. Before applying FLEX 2000, a securing block of a two-component PUR foam is applied at a depth of approx. 10 cm. The FLEX 2000 foil bag is then placed in the cartridge applicator and the material is pressed through the flexible nozzle into the duct from back to front so that the resulting layer is at least 12 cm thick. After sealing cable bushings, jiggle the cable slightly and press FLEX 2000 into any voids that form. Always ensure that the cable is free of tension and strain after sealing. Finally, the sealing compound set back approx. 1 cm is pressed in well and smoothed with a metal filler knife. As an additional safeguard, the opening of the duct is closed with fast-curing cement. If a new cable is to be installed later on, the mortar barrier is removed and the cable is pushed through the sealing compound. The duct is subsequently sealed using FLEX 2000.



# MASTER-SEAL

## Modular seal



Art.Gr.  
**445**

- Pre-assembled
- Fast and easy installation
- Tested up to 30 m water column
- Can be retrofitted (all gasket inserts are also separable)

Area of installation of core drill hole in mm Lining pipe FASO / WELLO / DURO Plus	Medium pipe Outer Ø mm		Type	Weight	Stainless steel	Galvanised
	from	to			Art. no.	Art. no.
50	11	19	4 x 275	0.08 kg	<b>110250</b>	<b>110600</b>
50	20	25	4 x 200	0.08 kg	<b>110255</b>	<b>110605</b>
80	20	33	4 x 350	0.32 kg	<b>110260</b>	<b>110610</b>
80	34	44	5 x 300	0.30 kg	<b>110265</b>	<b>110615</b>
80	45	49	6 x 250	0.14 kg	<b>110267</b>	<b>110617</b>
80	50	55	7 x 200	0.14 kg	<b>110268</b>	<b>110618</b>
100	27	38	4 x 375	0.50 kg	<b>110270</b>	<b>110620</b>
100	39	50	6 x 350	0.46 kg	<b>110275</b>	<b>110625</b>
100	56	64	6 x 300	0.36 kg	<b>110280</b>	<b>110630</b>
100	65	69	8 x 250	0.19 kg	<b>110281</b>	<b>110631</b>
100	70	75	9 x 200	0.20 kg	<b>110282</b>	<b>110632</b>
125	41	44	4 x 475	1.04 kg	<b>110283</b>	<b>110633</b>
125	45	52	4 x 415	0.96 kg	<b>110284</b>	<b>110634</b>
125	53	63	5 x 375	0.65 kg	<b>110285</b>	<b>110635</b>
125	64	78	7 x 350	0.56 kg	<b>110290</b>	<b>110640</b>
125	79	90	8 x 300	0.48 kg	<b>110295</b>	<b>110645</b>
125	90	94	11 x 250	0.26 kg	<b>110296</b>	<b>110646</b>
125	96	100	11 x 200	0.24 kg	<b>110297</b>	<b>110647</b>
150	58	69	5 x 475	1.30 kg	<b>110298</b>	<b>110648</b>
150	63	76	5 x 415	1.20 kg	<b>110300</b>	<b>110650</b>
150	75	82	6 x 375	0.75 kg	<b>110305</b>	<b>110655</b>
150	88	103	9 x 350	0.68 kg	<b>110310</b>	<b>110660</b>
150	106	115	10 x 300	0.60 kg	<b>110315</b>	<b>110665</b>
150	113	118	14 x 250	0.34 kg	<b>110316</b>	<b>110666</b>
150	120	124	14 x 200	0.31 kg	<b>110317</b>	<b>110667</b>
200	108	118	7 x 475	1.82 kg	<b>110325</b>	<b>110675</b>
200	115	122	7 x 415	1.68 kg	<b>110330</b>	<b>110680</b>
200	125	138	9 x 375	1.12 kg	<b>110335</b>	<b>110685</b>
200	140	153	13 x 350	1.00 kg	<b>110340</b>	<b>110690</b>
200	156	165	14 x 300	0.81 kg	<b>110345</b>	<b>110695</b>
200	164	168	19 x 250	0.46 kg	<b>110346</b>	<b>110696</b>
200	171	174	19 x 200	0.42 kg	<b>110347</b>	<b>110697</b>



Place MASTER-SEAL around the medium pipe and seal



Push MASTER-SEAL into the annular gap



Tighten each screw one by one in a circular direction by turning once until all modules are evenly tightened



MASTER-SEAL installation complete



# MASTER-SEAL

## Modular seal



Art.Gr.  
445

Area of installation of core drill hole in mm Lining pipe FASO / WELLO / DURO Plus	Medium pipe Outer Ø mm		Type	Weight	Stainless steel	Galvanised
	from	to			Art. no.	Art. no.
250	114	130	6 x 500	3.72 kg	110350	110700
250	137	158	8 x 575	3.32 kg	110355	110705
250	159	166	9 x 475	2.34 kg	110360	110710
250	166	178	7 x 400	2.11 kg	110365	110715
250	178	185	12 x 375	1.50 kg	110370	110720
250	182	189	7 x 425	1.75 kg	110371	110721
250	192	200	17 x 350	1.31 kg	110372	110722
250	194	202	9 x 325	1.22 kg	110373	110723
250	208	213	18 x 300	1.04 kg	110374	110724
300	188	204	10 x 575	4.18 kg	110375	110725
300	206	217	12 x 475	3.10 kg	110380	110730
300	215	226	12 x 415	2.88 kg	110385	110735
300	228	236	15 x 375	1.86 kg	110386	110736
300	232	242	9 x 425	2.28 kg	110387	110737
300	244	253	11 x 325	1.49 kg	110388	110738
300	258	263	22 x 300	1.28 kg	110389	110739
350	219	231	9 x 500	5.57 kg	110390	110740
350	239	253	12 x 575	4.99 kg	110395	110745
350	265	275	14 x 415	3.33 kg	110400	110750
350	276	286	18 x 375	2.23 kg	110405	110755
350	314	317	35 x 250	0.84 kg	110408	110758
400	239	256	10 x 650	9.26 kg	110410	110760
400	265	274	11 x 500	6.81 kg	110415	110765
400	314	328	12 x 400	3.62 kg	110420	110770
400	343	350	15 x 325	2.03 kg	110425	110775
450	358	370	19 x 475	4.90 kg	110430	110780
450	366	379	14 x 400	4.23 kg	110435	110785
450	393	405	17 x 325	2.30 kg	110440	110790
500	311	326	8 x 600	14.69 kg	110443	110793
500	340	358	13 x 650	12.04 kg	110445	110795
500	390	407	18 x 575	7.49 kg	110450	110800
500	409	419	21 x 475	5.42 kg	110455	110805
550	390	408	14 x 650	12.96 kg	110460	110810
550	415	435	15 x 500	9.29 kg	110465	110815
550	440	457	20 x 575	8.32 kg	110470	110820
550	457	470	23 x 475	5.93 kg	110475	110825
600	410	440	10 x 600	18.36 kg	110480	110830
600	440	458	16 x 650	14.82 kg	110485	110835
600	490	505	22 x 575	9.15 kg	110490	110840
600	515	528	19 x 400	5.74 kg	110495	110845

Additional sizes available immediately ex stock

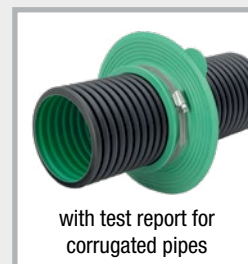
**Installation:** After insertion of the modular seal and lead-through of the medium pipe, the screws are tightened one by one in a clockwise direction. Give each screw one turn and repeat this procedure several times so the rubber is pressed out uniformly.

Maximum torques	TYPE	200/250/275	3 Nm	500/525	60 Nm	650	85 Nm
		300/325/350/375	15 Nm	575	50 Nm	600	130 Nm
		400/415/425/475	35 Nm				

# RONDO Standard

## Sealing collars

Reliable sealing against penetrating water and radon



### Dimensions Technical details pages 37 – 38

100 m water column

Art.Gr. 400

Art. no.	Type	for pipe outer diameters/mm	Suitable for outer dia. from (mm) to (mm)		PU	Secondary packaging	Weight per pc.	Also for corrugated pipes
090890	RO 10	for lightning protection round conductors	8	10	1 pc.	Carton of 100 pcs.	0.12 kg	
090892	RO flat	for earthing strap	30x3.5 + 30x3		1 pc.		0.18 kg	
090988	RO EFP	for hexagon fixed earthing terminal			1 pc.	Bag of 25 pcs.	0.04 kg	
090900	RO 25	25	25	25	1 pc.		0.16 kg	
090902	RO 32	32	31	32	1 pc.		0.20 kg	
090904	RO 40	40	39	42	1 pc.		0.24 kg	✓
090906	RO 50	50	48	53	1 pc.		0.26 kg	✓
090908	RO 63	63	61	64	1 pc.		0.28 kg	✓
090910	RO 75	75	72	80	1 pc.		0.34 kg	✓
090912	RO 90	90	87	92	1 pc.		0.38 kg	✓
090914	RO 110	Sewage pipe DN 100 110	107	115	1 pc.	Carton of 50 pcs.	0.47 kg	✓
090916	RO 125	Sewage pipe DN 125 125	123	130	1 pc.	Carton of 40 pcs.	0.52 kg	✓
090918	RO 140	140	137	147	1 pc.		0.54 kg	
090920	RO 160	Sewage pipe DN 150 160	157	166	1 pc.	Carton of 35 pcs.	0.63 kg	✓
090921	RO 170	170	167	177	1 pc.		0.62 kg	
090922	RO 180	180	177	187	1 pc.		0.66 kg	
090924	RO 200	Sewage pipe DN 200 200	197	207	1 pc.	Carton of 30 pcs.	0.77 kg	✓
090926	RO 225	225	220	230	1 pc.		0.80 kg	
090928	RO 250	Sewage pipe DN 250 250	245	260	1 pc.		0.88 kg	
090930	RO 280	280	275	290	1 pc.		0.96 kg	
090932	RO 315	Sewage pipe DN 300 315	310	324	1 pc.		1.10 kg	
090934	RO 355	355	350	365	1 pc.		1.22 kg	
090936	RO 400	Sewage pipe DN 400 400	395	410	1 pc.		1.38 kg	
090938	RO 450	450	445	460	1 pc.		1.54 kg	
090940	RO 500	Sewage pipe DN 500 500	495	510	1 pc.		1.68 kg	
090942	RO 560	560	555	570	1 pc.		1.90 kg	
090944	RO 630	630	625	640	1 pc.		2.16 kg	
090946	RO 710	710	705	720	1 pc.		2.40 kg	

Other sizes are available on request.

Installation note: The sealing collars are even easier to install if placed in warm water beforehand (10 minutes).

# RONDO Protect

Sealing collars for use in slurry/liquid manure/silage effluent and biogas facilities and where maximum resistance is required.

National technical approval (abZ): Z-74.9-198



with test report for corrugated pipes



## Dimensions Technical details pages 37 – 38

100 m water column

Art.Gr. 409

Art. no.	Type	for pipe outer diameters/mm	Suitable for outer dia. from (mm) to (mm)	PU	Weight per pc.	Also for corrugated pipes
091225	ROPRO 10	for lightning protection round conductors	8      10	1 pc.	0.12 kg	
091226	ROPRO flat	for earthing strap	30x3.5 + 30x3	1 pc.	0.18 kg	
091227	ROPRO 25	25	25      25	1 pc.	0.18 kg	
091228	ROPRO 32	32	31      32	1 pc.	0.20 kg	
091229	ROPRO 40	40	39      42	1 pc.	0.22 kg	✓
091230	ROPRO 50	50	48      53	1 pc.	0.26 kg	✓
091231	ROPRO 63	63	61      64	1 pc.	0.30 kg	✓
091232	ROPRO 75	75	72      80	1 pc.	0.34 kg	✓
091233	ROPRO 90	90	87      92	1 pc.	0.38 kg	✓
091234	ROPRO 110	Sewage pipe DN 100 110	107      115	1 pc.	0.44 kg	✓
091235	ROPRO 125	Sewage pipe DN 125 125	123      130	1 pc.	0.48 kg	✓
091236	ROPRO 140	140	137      147	1 pc.	0.54 kg	
091237	ROPRO 160	Sewage pipe DN 150 160	157      166	1 pc.	0.60 kg	✓
091238	ROPRO 170	170	167      177	1 pc.	0.62 kg	
091239	ROPRO 180	180	177      187	1 pc.	0.66 kg	
091240	ROPRO 200	Sewage pipe DN 200 200	197      207	1 pc.	0.72 kg	✓
091241	ROPRO 225	225	220      230	1 pc.	0.82 kg	
091242	ROPRO 250	Sewage pipe DN 250 250	245      260	1 pc.	0.90 kg	
091243	ROPRO 280	280	275      290	1 pc.	0.98 kg	
091244	ROPRO 315	Sewage pipe DN 300 315	310      324	1 pc.	1.10 kg	
091245	ROPRO 355	355	350      365	1 pc.	1.22 kg	
091246	ROPRO 400	Sewage pipe DN 400 400	395      410	1 pc.	1.36 kg	
091248	ROPRO 450	450	445      460	1 pc.	1.54 kg	
091250	ROPRO 500	500	495      510	1 pc.	1.68 kg	
091252	ROPRO 560	560	555      570	1 pc.	1.88 kg	
091254	ROPRO 630	630	625      640	1 pc.	2.14 kg	
091256	ROPRO 710	710	705      720	1 pc.	2.34 kg	

Installation note: The sealing collars are even easier to install if placed in warm water beforehand (10 minutes).

# RONDO Ecco

The economical sealing collar for waterproofing of pipes and cables



80 m water column

Art.Gr.  
**401**

## Dimensions

Art. no.	Type	Suitable for from to	PU	Secondary packaging	Weight per pc.
091050	RO Ecco 110	107-115 mm	1 pc.	Carton of 80 pcs.	0.26 kg
091053	RO Ecco 125	122-130 mm	1 pc.	Carton of 70 pcs.	0.30 kg
091056	RO Ecco 160	157-170 mm	1 pc.	Carton of 60 pcs.	0.36 kg
091059	RO Ecco 200	197-210 mm	1 pc.	Carton of 50 pcs.	0.42 kg

# RONDO Base

The sealing collar with only one fastening strap



70 m water column

Art.Gr.  
**402**

## Dimensions

Art. no.	Type	for pipe outer diameters/mm	PU	Secondary packaging	Weight per pc.
090978	RO Base 110	110	1 pc.	Carton of 25 pcs.	0.18 kg
090980	RO Base 125	125	1 pc.	Carton of 25 pcs.	0.19 kg
090984	RO Base 160	160	1 pc.	Carton of 25 pcs.	0.20 kg
090990	RO Base 200	200	1 pc.	Carton of 25 pcs.	0.27 kg



# RONDO sealing collars

Water pressure-tight sealing for pipe ducts through concrete parts



## RONDO Standard

page 34

- Pressure water-tight up to 100 m water column
  - Radon-tight
  - Good resistances
  - For corrugated pipes with outer diam. of up to 200 mm
- Pressure water-tight up to 30 m water column



## RONDO Protect

page 35

- Pressure water-tight up to 100 m water column
  - DIBt approval for slurry/liquid manure/silage effluent facilities
  - Also for agricultural buildings
  - Highest resistances
  - For corrugated pipes with outer diam. of up to 200 mm
- Pressure water-tight up to 30 m water column



## RONDO Ecco

page 36

- Pressure water-tight up to 80 m water column



## RONDO Base

page 36

- Pressure water-tight up to 70 m water column

Wherever pipes or other lines are routed through concrete parts, they must be sealed against the permeation of water and/or gases present, such as methane gas or the radioactive radon gas that is sometimes present in the soil.

The RONDO sealing collars create a cost-effective and easy-to-install solution for sealing penetrations. They are available in all common nominal diameters of pipes and lines as standard.



The RONDO, shortly before placement of concrete. The drainpipes are securely and permanently sealed against rising moisture.

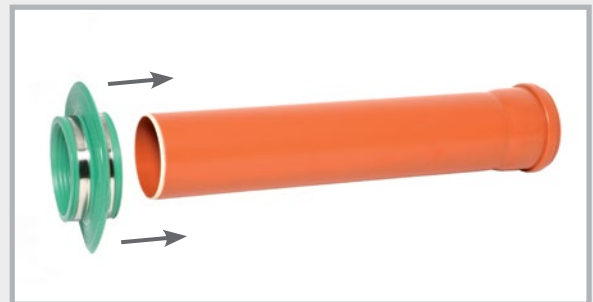
## Technical data

	RONDO Standard	RONDO Protect	RONDO Ecco	RONDO Base
Colour	green	red	green	green
Material	TPE	modified TPE	TPE	TPE
Size	10-710 mm	10-710 mm	110-200 mm	90-315 mm
Height of waterstop	4 cm	4 cm	3 cm	1.5 cm
Number of waterstops	1	1	1	2
Bearing width	6 cm	6 cm	4.5 cm	2.5 cm
Pressure test	<b>100 m water column</b>	<b>100 m water column</b>	<b>80 m water column</b>	<b>70 m water column</b>
<b>Resistance</b>				
Diluted acids	✓	✓	✓	✓
Alkalis	✓	✓	✓	✓
Ground water	✓	✓	✓	✓
Radon	✓	✓	✓	✓
Liquid manure	✓	✓	✓	✓
Slurry	✓	✓	✓	✓
Fermentation mash		✓		
Methane gas		✓		
Animal excretions		✓		
Silage effluent		✓		
Diluted sulphuric acid		✓		
Further resistances are available on request				

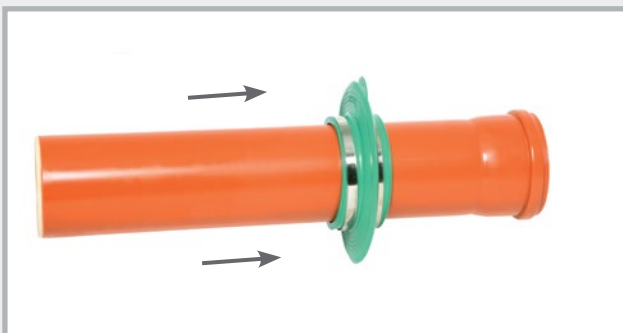
## Installation using the example of the RONDO Standard sealing collar



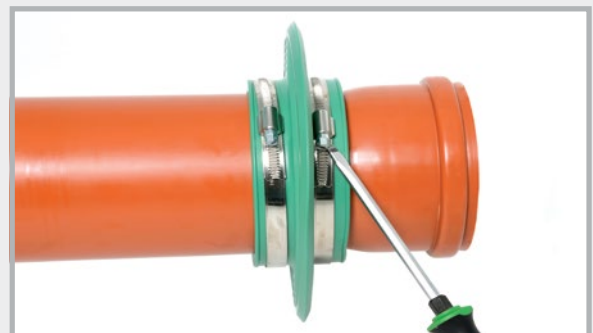
Sewage pipe and RONDO Standard 110



Pushing on the sealing collar



Positioning the sealing collar



Securing by tightening the fastening straps

The surface of the pipe should be cleaned, if dirty.

# Pipe bushing systems

Pressure water-tight installation parts for wall and floor slab penetration of sewer pipes



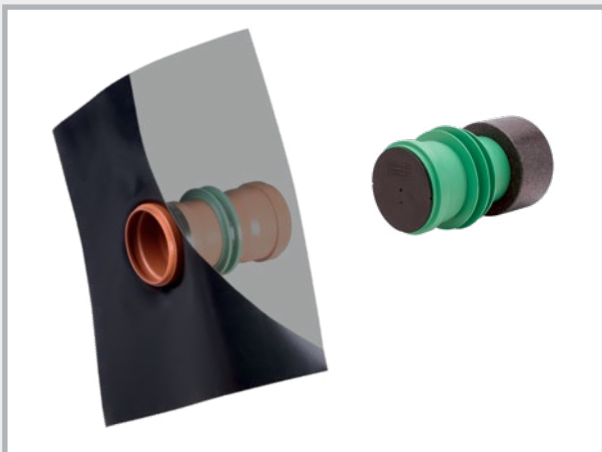
**Pipe bushing  
UniCut**

pages 40 – 41



**Pipe bushing  
Base / Novo**

page 42



**Pipe bushing  
Special versions**

pages 43 – 44

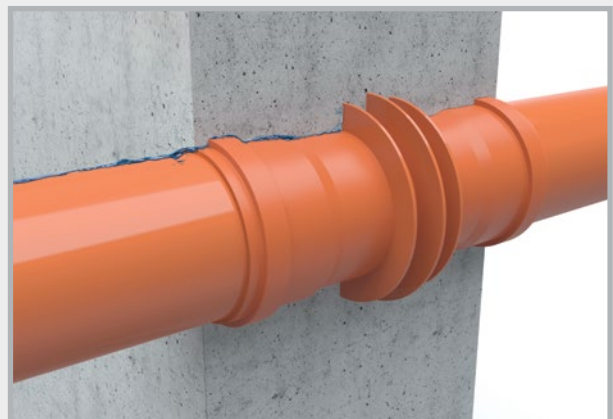


**Ground drains  
+ Accessories**

pages 45 – 46

Sewer pipes are among the most common kinds of pipes to pass through concrete parts.

Our pipe bushing systems offer ready-to-install system solutions for wall and floor slab ducts for the common materials (KG and KG 2000).



Pipe bushing Novo as a pressure water-tight wall duct.

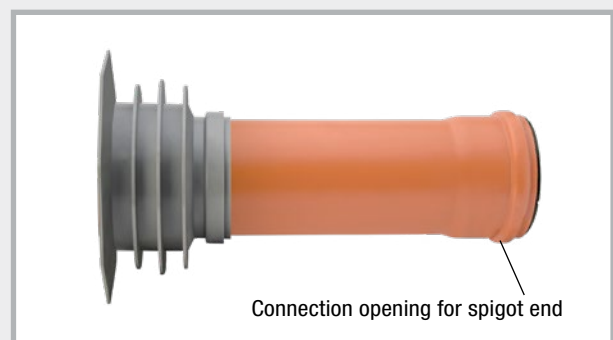
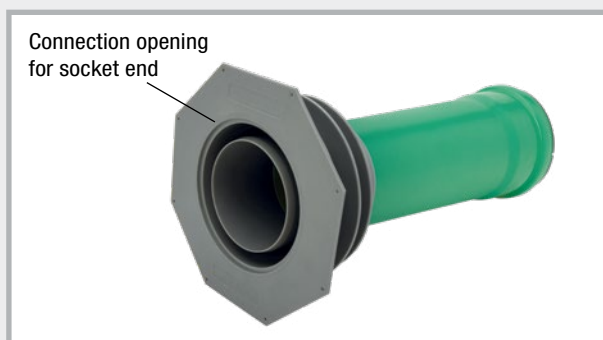
# UniCut pipe bushing

**NEW!** prefabricated for the respective wall thickness

- Diameter: 110 mm
- Prefabricated pipe bushing available in the following wall thicknesses:  
200 / 240 / 250 / 300 / 350 / 365 / 400 mm
- Pressure water-tight “Novo” waterstop
- Trowel flange for the connection of the outer seal
- Nail holes for fixing to the formwork
- Maintains the flow direction
- Supplied with 2 closure plugs



Art. no.	Description	DN mm	Wall thicknesses	PU	Weight per pc.
081520	UniCut pipe bushing, KG	110	200 mm	1 pc.	1.01 kg
081521	UniCut pipe bushing, KG	110	240 mm	1 pc.	1.06 kg
081522	UniCut pipe bushing, KG	110	250 mm	1 pc.	1.07 kg
081523	UniCut pipe bushing, KG	110	300 mm	1 pc.	1.13 kg
081524	UniCut pipe bushing, KG	110	350 mm	1 pc.	1.19 kg
081525	UniCut pipe bushing, KG	110	365 mm	1 pc.	1.20 kg
081526	UniCut pipe bushing, KG	110	400 mm	1 pc.	1.24 kg
081530	UniCut pipe bushing, KG 2000	110	200 mm	1 pc.	1.12 kg
081531	UniCut pipe bushing, KG 2000	110	240 mm	1 pc.	1.19 kg
081532	UniCut pipe bushing, KG 2000	110	250 mm	1 pc.	1.20 kg
081533	UniCut pipe bushing, KG 2000	110	300 mm	1 pc.	1.28 kg
081534	UniCut pipe bushing, KG 2000	110	350 mm	1 pc.	1.36 kg
081535	UniCut pipe bushing, KG 2000	110	365 mm	1 pc.	1.38 kg
081536	UniCut pipe bushing, KG 2000	110	400 mm	1 pc.	1.44 kg



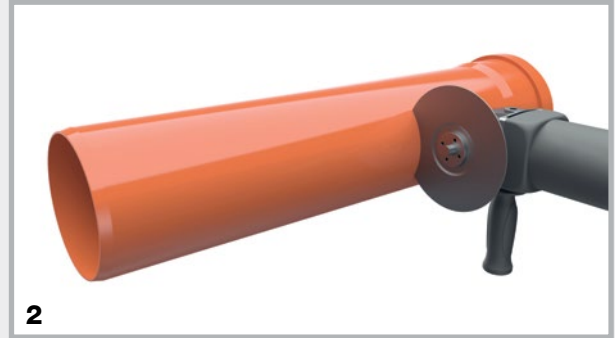
Art. no.	Description	PU	Secondary packaging	Weight per pc.	
081510	UniCut flange part “SOLO” Ø 110 mm with plug and seal, for on-site connection of KG and KG 2000 pipes Ø 110 mm	1 pc.	Carton of 20 pcs.	0.69 kg	



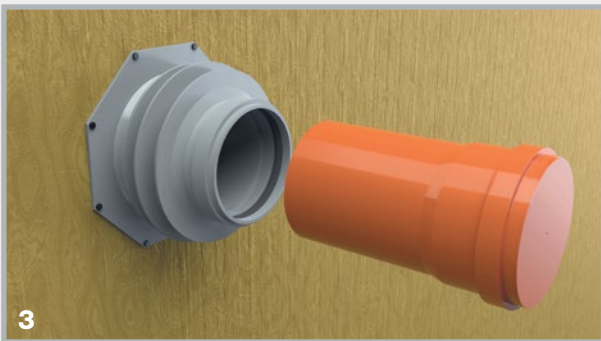
# Installation of UniCut pipe bushing



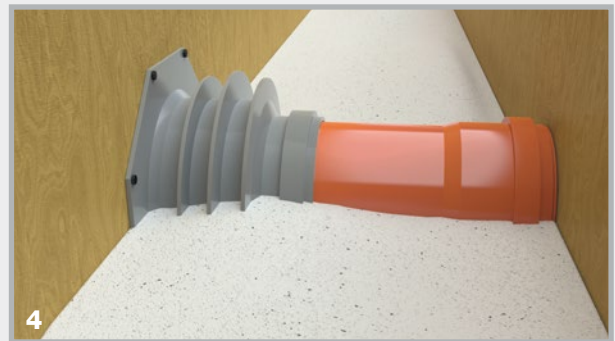
1 Fastening the UniCut pipe bushing



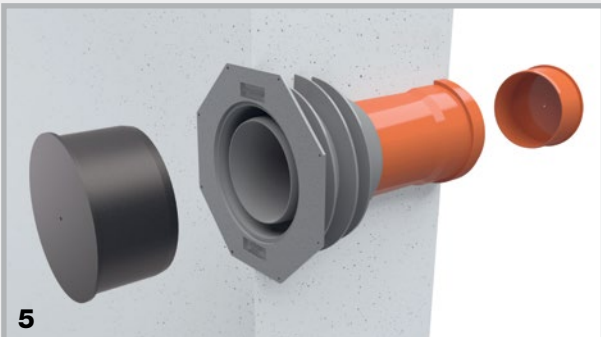
2 Cut the KG or KG 2000 pipe to length:  
Wall thickness minus 8.5 cm



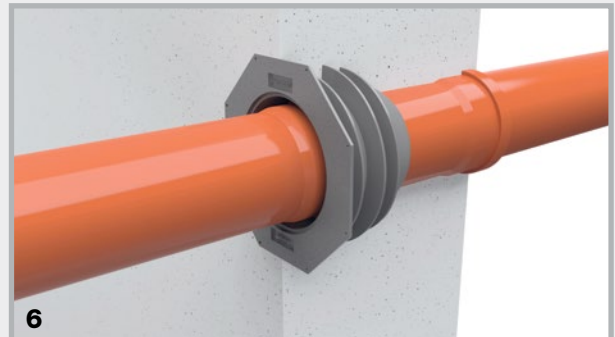
3 Insert the pipe into the UniCut pipe bushing.



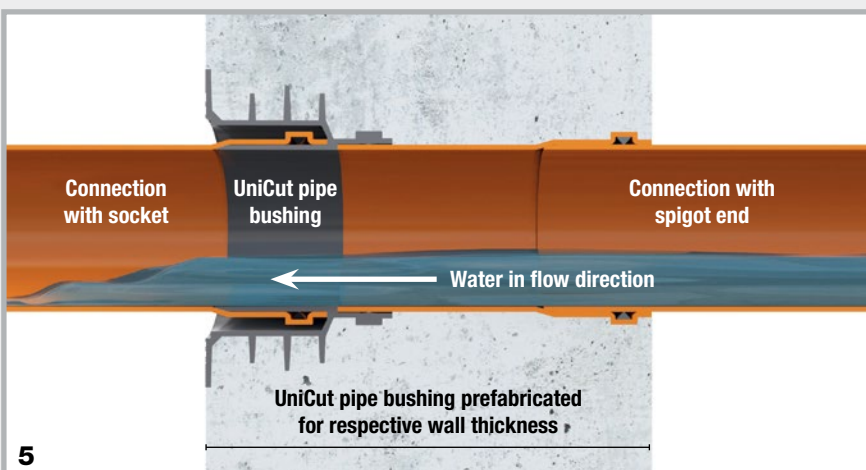
4 Concreting and careful sealing



5 Remove the plugs after concreting



6 The drainpipes in KG or KG 2000 can be inserted on the left into the socket end or on the right into the spigot end.



5

## Function:

When installing the UniCut pipe bushing, the direction of flow of the water is guaranteed.

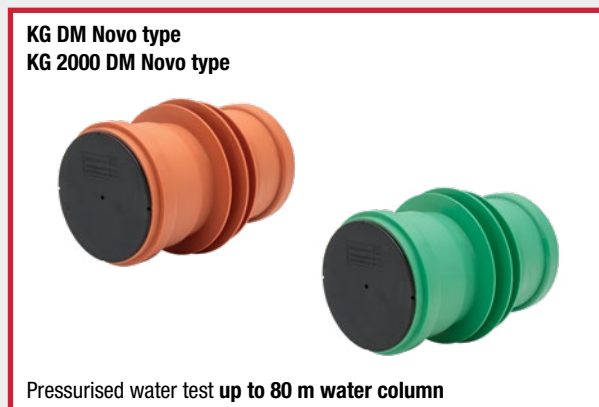
# Sewage pipe bushing systems

## Double socket type (DM)



### Advantages of the Base and Novo double socket

- Delivered as solid wall version
- With lip seal
- Manufactured for corresponding wall thickness
- Radon-tight
- Incl. 2 plugs as installation aid
- Pre-installed waterstop



## KG DM type product range [Technical details page 44](#)

Art.Gr. 412

Sewage pipe Ø DN mm	Wall thicknesses							Order FIX formwork aid separately
	180 mm	200 mm	240 mm	250 mm	300 mm	365 mm	400 mm	
	<b>Base double socket</b>		<b>Novo double socket</b>					
<b>DN 110</b> Weight/pc.	<b>080404</b> 0.76 kg	<b>080405</b> 0.78 kg	<b>080350</b> 0.66 kg	<b>080351</b> 0.67 kg	<b>080352</b> 0.74 kg	<b>080353</b> 0.83 kg	<b>080354</b> 0.85 kg	
<b>DN 125</b> Weight/pc.	<b>080419</b> 0.95 kg	<b>080420</b> 0.99 kg	<b>080355</b> 0.87 kg	<b>080356</b> 0.90 kg	<b>080357</b> 1.01 kg	<b>080358</b> 1.11 kg	<b>080359</b> 1.19 kg	
<b>DN 160</b> Weight/pc.	not producible according to DIN	<b>080433</b> 1.41 kg	<b>080434</b> 1.50 kg	<b>080436</b> 1.58 kg	<b>080438</b> 1.71 kg	<b>080440</b> 2.02 kg	<b>080442</b> 2.31 kg	
<b>DN 200</b> Weight/pc.	not producible according to DIN	<b>080443</b> 2.14 kg	<b>080444</b> 2.39 kg	<b>080445</b> 2.44 kg	<b>080446</b> 2.74 kg	<b>080448</b> 2.99 kg	<b>080450</b> 3.20 kg	

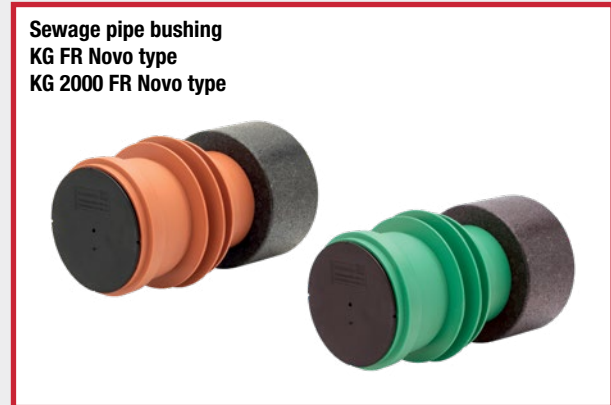
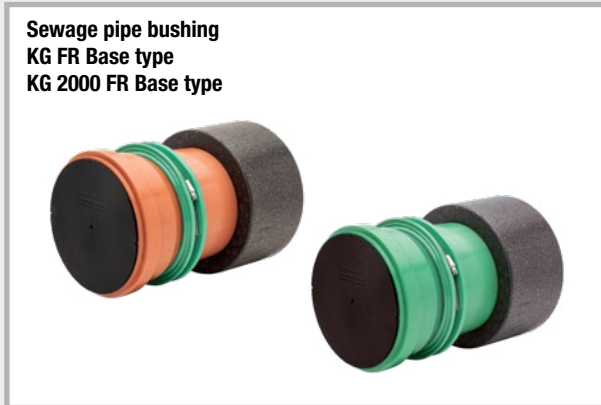
## KG 2000 DM type product range

Art.Gr. 412

KG 2000 Ø DN mm	Wall thicknesses						Order FIX formwork aid separately
	200 mm	240 mm	250 mm	300 mm	365 mm	400 mm	
	<b>Base double socket</b>	<b>Novo double socket</b>					
<b>DN 110</b> Weight/pc.	<b>080750</b> 0.80 kg	<b>080800</b> 0.65 kg	<b>080801</b> 0.67 kg	<b>080802</b> 0.73 kg	<b>080803</b> 0.81 kg	<b>080804</b> 0.86 kg	
<b>DN 125</b> Weight/pc.	<b>080762</b> 1.07 kg	<b>080805</b> 0.88 kg	<b>080806</b> 0.89 kg	<b>080807</b> 1.02 kg	<b>080808</b> 1.10 kg	<b>080809</b> 1.20 kg	
<b>DN 160</b> Weight/pc.	<b>080774</b> 1.69 kg	<b>080776</b> 1.45 kg	<b>080778</b> 1.48 kg	<b>080780</b> 1.84 kg	<b>080782</b> 2.21 kg	<b>080784</b> 2.31 kg	
<b>DN 200</b> Weight/pc.	<b>080786</b> 2.61 kg	<b>080788</b> 2.15 kg	<b>080790</b> 2.24 kg	<b>080792</b> 3.00 kg	<b>080794</b> 3.27 kg	<b>080796</b> 3.49 kg	

The Base double socket version is available for further wall thicknesses.



## Flow direction (FR) type Base + Novo



The flow direction type is manufactured in one piece for the corresponding wall thickness. You can also prepare any wall thickness yourself on the building site with a ground drain and socket ring. The FR type facilitates the wastewater flow in one direction.

### KG FR type product range



Art.Gr.  
414

Sewage pipe Ø DN mm	Wall thicknesses							Order FIX formwork aid separately
	180 mm	200 mm	240 mm	250 mm	300 mm	365 mm	400 mm	
	Base flow direction			Novo flow direction				
<b>DN 110</b> Weight/pc.	<b>090710</b> 0.75 kg	<b>090713</b> 0.80 kg	<b>090716</b> 0.90 kg	<b>090719</b> 0.90 kg	<b>090722</b> 1.00 kg	<b>090725</b> 1.10 kg	<b>090728</b> 1.20 kg	
<b>DN 125</b> Weight/pc.	<b>090731</b> 1.00 kg	<b>090734</b> 1.00 kg	<b>090737</b> 1.10 kg	<b>090740</b> 1.10 kg	<b>090743</b> 1.25 kg	<b>090749</b> 1.45 kg	<b>090752</b> 1.65 kg	
<b>DN 160</b> Weight/pc.	not producible according to DIN	not producible according to DIN	<b>090758</b> 1.85 kg	<b>090761</b> 1.85 kg	<b>090764</b> 2.05 kg	<b>090770</b> 2.25 kg	<b>090773</b> 2.50 kg	
<b>DN 200</b> Weight/pc.	not producible according to DIN	not producible according to DIN	<b>090779</b> 3.00 kg	<b>090782</b> 3.20 kg	<b>090785</b> 3.35 kg	<b>090788</b> 3.60 kg	<b>090791</b> 3.70 kg	

Other wall thicknesses available

### KG 2000 FR type product range

Art.Gr.  
414

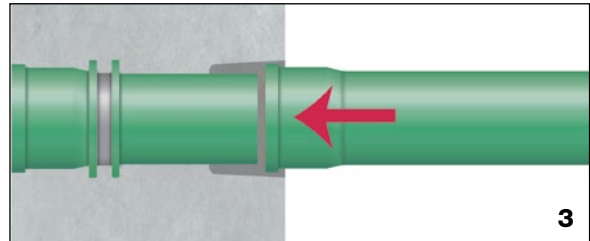
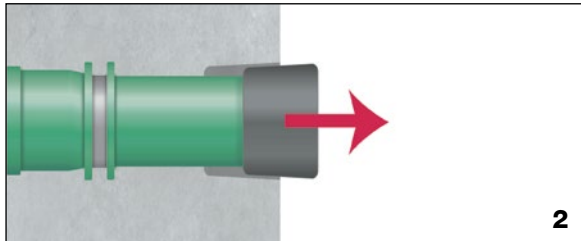
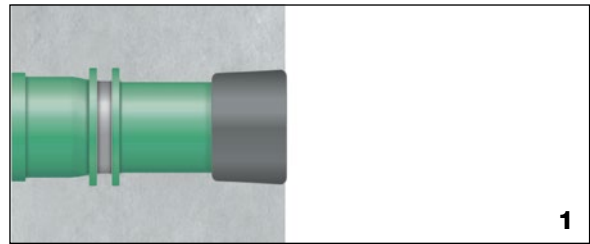
KG 2000 Ø DN mm	Wall thicknesses						Order FIX formwork aid separately
	200 mm	240 mm	250 mm	300 mm	365 mm	400 mm	
	Base flow direction		Novo flow direction				
<b>DN 110</b> Weight/pc.	<b>080820</b> 0.80 kg	<b>080825</b> 0.85 kg	<b>080830</b> 0.90 kg	<b>080835</b> 1.10 kg	<b>080845</b> 1.30 kg	<b>080850</b> 1.40 kg	
<b>DN 125</b> Weight/pc.	<b>080855</b> 1.10 kg	<b>080860</b> 1.20 kg	<b>080865</b> 1.20 kg	<b>080870</b> 1.30 kg	<b>080880</b> 1.50 kg	<b>080885</b> 1.60 kg	
<b>DN 160</b> Weight/pc.	not producible according to DIN	<b>080890</b> 1.80 kg	<b>080895</b> 2.00 kg	<b>080905</b> 2.30 kg	<b>080915</b> 2.60 kg	<b>080920</b> 2.80 kg	
<b>DN 200</b> Weight/pc.	not producible according to DIN	<b>080923</b> 3.10 kg	<b>080925</b> 3.20 kg	<b>080933</b> 3.20 kg	<b>080935</b> 3.70 kg	<b>080945</b> 3.85 kg	

Other wall thicknesses available

## Flow direction (FR) type

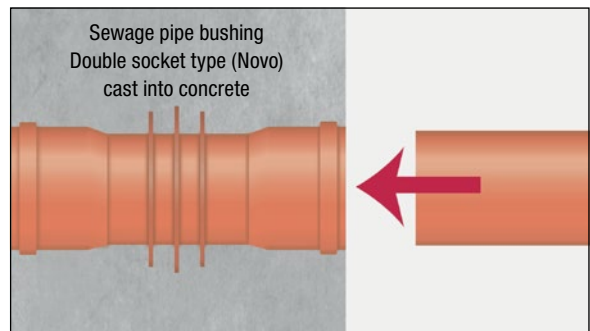
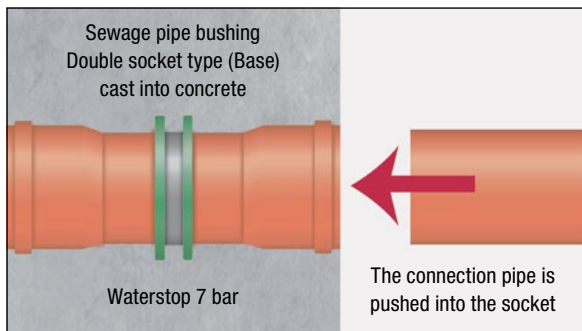
### Function and technology

1. KG 2000 flow direction type pipe bushing, concreted into the wall
2. The socket ring is removed before the next pipe is connected.
3. The next pipe is connected. The flow direction of the water is retained.



## KG type Base and Novo double socket

### Function and technology



The double socket is cast into concrete. After concreting, the closure plugs are removed and the seals inserted. The next pipe can be connected.

## Double socket double wall (DM DW) type

Additional waterstops in the shell area of cavity walls.



Sewage pipe bushing DM DW type



KG 2000 pipe bushing DM DW type



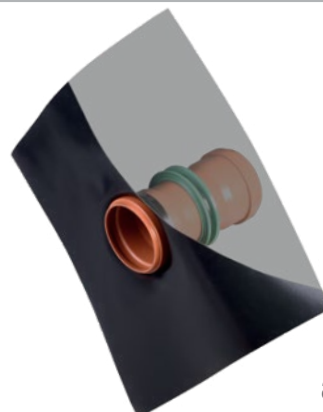
available on request

## Foil flange (FFL) type



In addition to the pressure water and radon-resistant seal in the concrete provided by the RONDO Base, the foil flange enables the pipe bushing to be integrated into an outer sealing level.

**Foil flange made of PVC foil, 1.5 mm,  
Size: 50 x 50 cm,  
weldable with hot air gun,  
bondable with solvent welding agent,  
resistant to oil and bitumen**



available on request



# Ground drains



## KG sewage ground drains Solid wall pipes

KG sewage pipe, 0.5 m long, with waterstop and socket on one end



Art.Gr.  
**418**

Type	Sewage pipe Ø DN mm	Length mm	WITHOUT plug		<b>NEW!</b>	WITH plug		Novo type DN 110 + 125 mm	Base type DN 160 + 200 mm
			Art. no.	Weight per pc.	Art. no.	Weight per pc.			
DL 110/500	110	500	<b>080366</b>	0.88 kg	<b>080366D</b>	0.90 kg			
DL 125/500	125	500	<b>080368</b>	1.14 kg	<b>080368D</b>	1.17 kg			
DL 160/500	160	500	<b>080470</b>	2.03 kg	<b>080470D</b>	2.08 kg			
DL 200/500	200	500	<b>080475</b>	3.21 kg	<b>080475D</b>	3.29 kg			

## KG 2000 sewage ground drains Solid wall pipes

KG 2000 sewage pipe, 0.5 m long, with waterstop and socket on one end

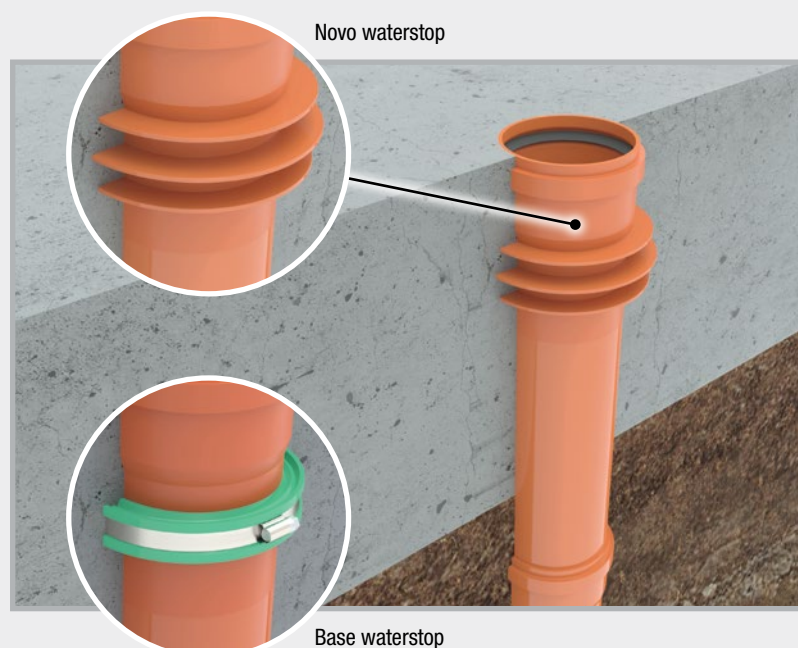


Art.Gr.  
**418**

Type	Sewage pipe Ø DN mm	Length mm	WITHOUT plug		<b>NEW!</b>	WITH plug		Novo type DN 110 + 125 mm	Base type DN 160 + 200 mm
			Art. no.	Weight per pc.	Art. no.	Weight per pc.			
DL2000 110/500	110	500	<b>080827</b>	0.89 kg	<b>080827D</b>	0.91 kg			
DL2000 125/500	125	500	<b>080828</b>	1.12 kg	<b>080828D</b>	1.15 kg			
DL2000 160/500	160	500	<b>080986</b>	2.24 kg	<b>080986D</b>	2.29 kg			
DL2000 200/500	200	500	<b>080989</b>	3.64 kg	<b>080989D</b>	3.72 kg			

## Function and technology

KG and KG 2000 ground drains are used for floor slab penetrations. The ground drains are connected to the sewer base lines and concreted in up to the top edge of the floor slab. The transition from the pipe to the concrete is reliably and permanently sealed against pressing water or gases rising from the ground by the “Novo” or “Base” waterstop.



# Sewage ground drains with foil flange

Foil flange made of PVC foil 1.5 mm, size: 50 x 50 cm, weldable with hot air gun, bondable with solvent welding agent, resistant to oil and bitumen



## KG sewage ground drains with foil flange – solid wall pipes

Sewage pipe, 0.5 m long, with waterstop and socket on one end

Art.Gr.  
**419**

Type	Sewage pipe Ø DN mm	Length mm	WITHOUT plug		<b>NEW!</b>	WITH plug	
			Art. no.	Weight per pc.	Art. no.	Weight per pc.	
DL 110/500 FFL	110	500	<b>080451</b>	1.52 kg	<b>080451D</b>	1.54 kg	
DL 125/500 FFL	125	500	<b>080452</b>	1.81 kg	<b>080452D</b>	1.84 kg	
DL 160/500 FFL	160	500	<b>080454</b>	2.51 kg	<b>080454D</b>	2.56 kg	
DL 200/500 FFL	200	500	<b>080456</b>	4.43 kg	<b>080456D</b>	4.51 kg	



## KG 2000 ground drains with foil flange

KG 2000 pipe, 0.5 m long, with waterstop and socket on one end

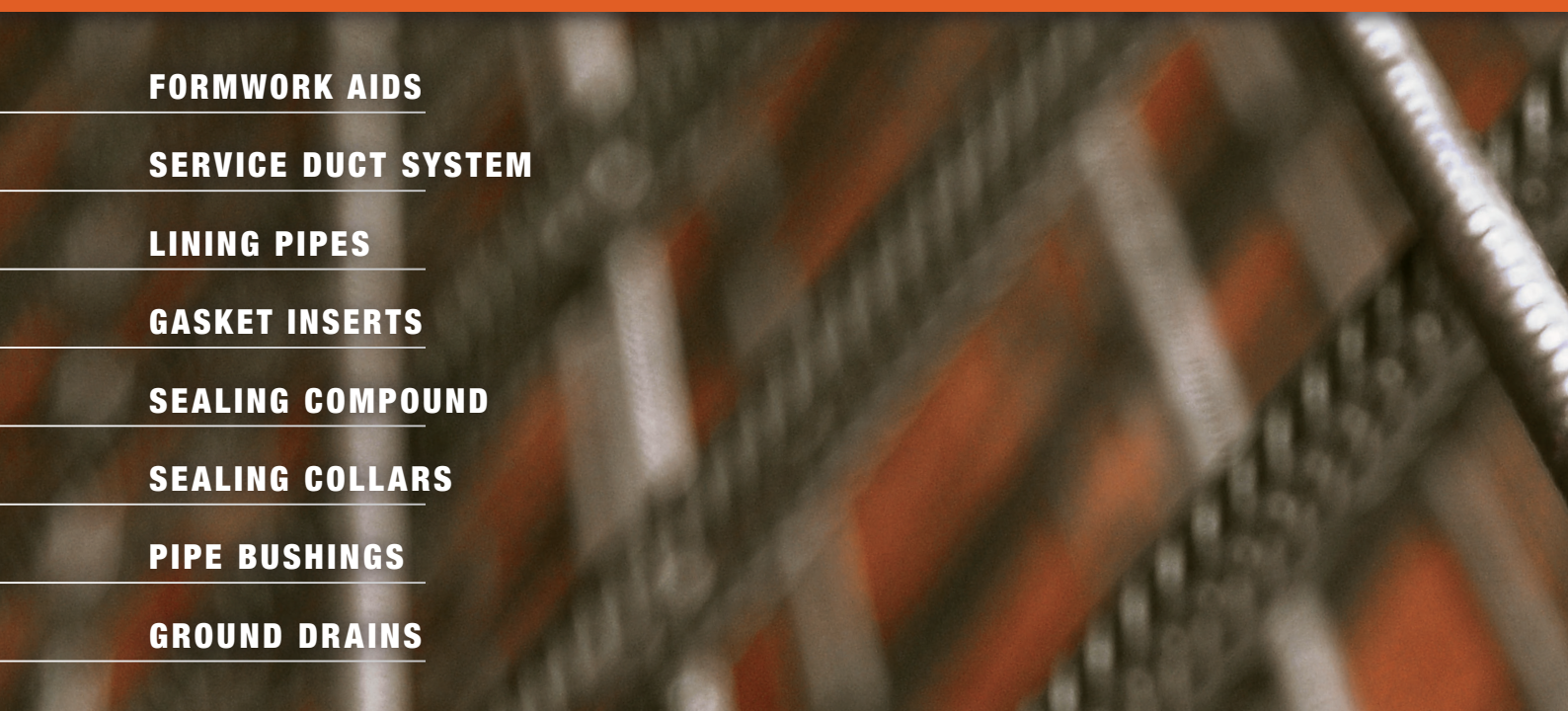
Art.Gr.  
**419**

Type	Sewage pipe Ø DN mm	Length mm	WITHOUT plug		<b>NEW!</b>	WITH plug	
			Art. no.	Weight per pc.	Art. no.	Weight per pc.	
DL2000 110/500 FFL	110	500	<b>080992</b>	1.52 kg	<b>080992D</b>	1.54 kg	
DL2000 125/500 FFL	125	500	<b>080994</b>	1.96 kg	<b>080994D</b>	1.99 kg	
DL2000 160/500 FFL	160	500	<b>080996</b>	2.70 kg	<b>080996D</b>	2.75 kg	
DL2000 200/500 FFL	200	500	<b>080998</b>	4.23 kg	<b>080998D</b>	4.31 kg	

For fixing the foil flange to the component, we recommend the **POWER** swelling tape adhesive (art. no. 010052) on page 12 of the complete catalogue.







**FORMWORK AIDS**

**SERVICE DUCT SYSTEM**

**LINING PIPES**

**GASKET INSERTS**

**SEALING COMPOUND**

**SEALING COLLARS**

**PIPE BUSHINGS**

**GROUND DRAINS**

**MASTERTEC** GmbH & Co. KG  
Special articles for reinforced concrete construction

Gewerbegebiet Unterhaid  
Im Maintal 13  
96173 Oberhaid, Germany  
Tel. +49 (0) 9503 / 5047-0

[info@mastertec.eu](mailto:info@mastertec.eu)  
[www.mastertec.eu](http://www.mastertec.eu)