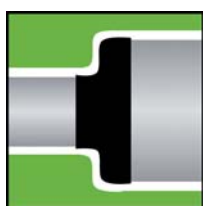




General information

Technical data

Installation instruction



# PSI Casing End Seals

## For Carrier Pipe End Seal



Pipeline Accessories

# PSI Casing End Seals

## General Information



Pipes carrying media (e.g. gas pipe, water pipe, sewage pipe, ...) below motorways, main roads, tracks etc. are often laid in casing pipes. Casing end seals serve to seal the annular space between carrier pipe and casing pipe moisture- and dirt-proof.

There are PSI casing end seals for relaying and for subsequent assembly.

### Description/Technical Data

#### Type KT casing end seal (closed version only)

Advantages of the PSI type KT casing end seals are, in particular, low storage costs because of merely five types of casing pipe sizes from ND 100 to ND 600. Two casing pipe sizes per type are moulded as a collar. The stainless steel straps included in the delivery can be used for all diameters.

Material:	EPDM
Thickness:	about 3 to 4mm
Shore A:	60 ± 5
Carrier pipe sizes:	10 mm to 508 mm (see current price list for exact dimensions)
Casing pipe sizes:	110 mm to 610 mm (see current price list for exact dimensions)
Compensation in case of eccentric laying of carrier pipe:	Yes
Special sizes:	not available
Strap material:	stainless steel



#### Type DU casing end seal (closed version only)

Type DU casing end seals are always supplied in the appropriate size for the carrier pipe/casing pipe combination. Further adjustment on site is not necessary.

Material:	EPDM
Thickness:	about 5 to 6mm
Shore A:	50 ± 5
Carrier pipe sizes:	20 mm to 762 mm (see current price list for exact dimensions)
Casing pipe sizes:	90 mm to 965 mm (see current price list for exact dimensions)
Compensation in case of eccentric laying of carrier pipe:	Yes
Special sizes:	not available
Strap material:	stainless steel



#### Type KG/KO casing end seal (KG closed version only, KO for subsequent assembly)

Type KG/KO casing end seals are manufactured with a conical form. Owing to the individual sleeve production, they are available for nearly all pipe sizes and carrier pipe/casing pipe combinations. If the opening is a bit too small for the carrier pipe, it can be adjusted on site (see installation instruction).

Standard material:	neoprene rubber,
Material on request:	silicone (only KG type) and NBR
Thickness:	about 2 to 3mm
Shore A:	65 ± 5
Carrier pipe sizes:	32 mm to 1,320 mm (see current price list for exact dimensions)
Casing pipe sizes:	48.3 mm to 2,000 mm (see current price list for exact dimensions)
Compensation in case of eccentric laying of carrier pipe:	up to about 500mm, large deviations on request
Special sizes:	on request
Strap material:	stainless steel



# PSI Casing End Seals

## General Information



**Type HA casing end seals (closed version only)** are exclusively used for the relaying of small pipes for house service connections.

Material:	EPDM
Thickness:	about 2 to 3mm
Shore A:	50 ± 5
Carrier pipe sizes:	25 mm to 50 mm (see current price list for exact dimensions)
Casing pipe sizes:	50 mm to 90 mm (see current price list for exact dimensions)
Compensation in case of eccentric laying of carrier pipe:	No
Special sizes:	not available
Strap material:	stainless steel



### **Type STM casing end seal (closed version only)**

Seamless STM sleeves are manufactured according to your special requirements. They are available for nearly all pipe sizes. This sleeve is the appropriate type especially for extreme eccentricities or if several openings are required, e.g. for further cable ducts. This sleeve is also available in reinforced version (type STMV) for higher mechanical loads.

Material:	Rottolin
Thickness:	STM about 6 to 8 mm, STMV about 9 to 11 mm.
Shore A:	about 50 ± 5
Carrier pipe sizes:	50 mm to 1,200 mm (s. current price list for exact dimensions)
Casing pipe sizes:	200 mm to 1,600 mm (s. current price list for exact dimensions)
Compensation in case of eccentric laying of carrier pipe:	Yes
Special sizes:	on request
Strap material:	stainless steel



# PSI End Seal Type FW

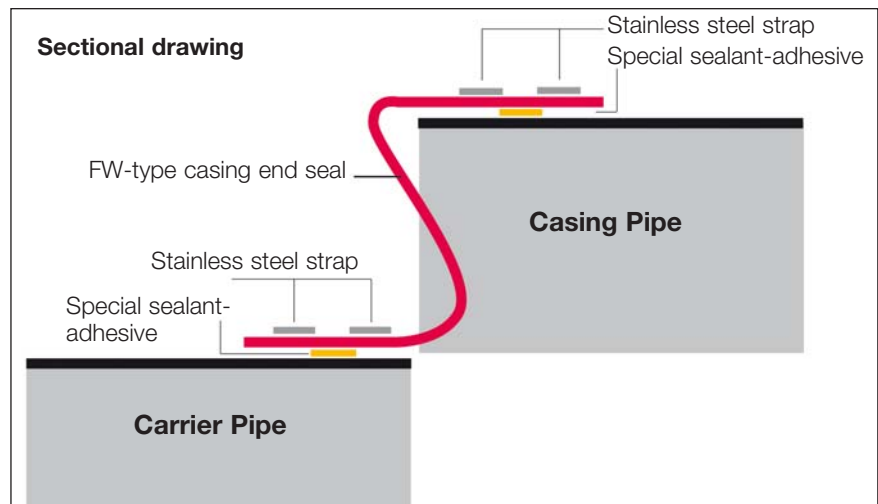
## General Information



PSI end seals type FW were specially developed to provide a pressure-tight seal between pipes carrying media and casing pipes. The seals consist of high-quality Rottolin and, thanks to their 9-11 mm thickness, are particularly dimensionally stable and pressure-tight up to 0.5 bar. As a result of their exceptional flexibility, they can accommodate axial and radial movements between the casing and carrier pipe. To guarantee the integrity of the seal, the annular space\* should not exceed 70 mm. A special, permanently elastic sealant-adhesive is sprayed from a cartridge on to the underside of the collar of the seal, which is then secured over the casing and carrier pipe by means of stainless steel straps.

Before backfilling, the seal must be covered with an expanding-type padding.

Technical data:	
Material:	Rottolin
Material thickness:	9 -11 mm
Colour:	Red
Shore hardness:	approx. 50°
Tensile strength:	11 N/mm <sup>2</sup>
Breaking elongation:	400 %
Initial tear resistance:	27 N/mm
Max. continuous operating temperature:	55°C



\*Annular space = O.D. wallsleeve/casing ./ O.D. carrier pipe/PIP-Casing ÷2.

# PSI Casing End Seals Type KT Installation Instruction



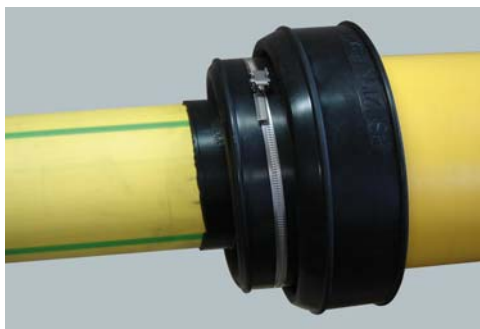
1. Pull sleeve tightly over the carrier pipe until the carrier pipe stands out clearly against the sleeve.



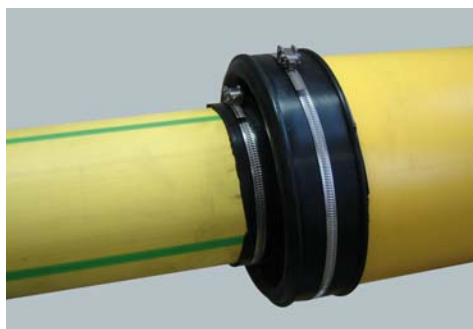
2. Cut off sleeve in front of the carrier pipe with a sharp knife. Then pull sleeve over the carrier pipe up to the casing pipe (sleeve can be stretched about 10 %).



3. Pull integrally moulded sleeve collar over the casing pipe (sleeve can be stretched about 10 %) and attach the sleeve to the casing pipe with the larger of the straps included in the delivery.



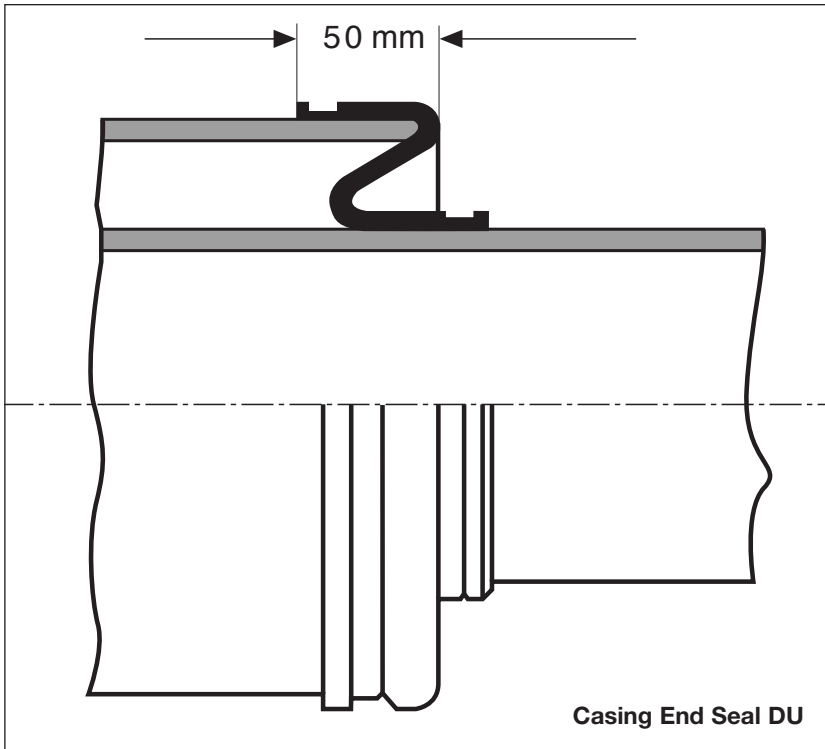
4. Wrap the annular space with the conical part of the S-shaped sleeve and attach it to the carrier pipe with the second strap.



5. If only the smaller collar is used, the larger one can be cut, if necessary.

# PSI Casing End Seals Type DU, STM

## Installation Instruction



- Pull small end of the seal over the carrier pipe
- Pull the large end of the seal over the casing pipe as far as possible  
The fitting position of DU and STM seals is determined by their design.
- Place stainless steel straps around the small and large diameters.  
Pull the free end of the strap at least 50 mm through the square opening in the clamp and then fold it. The folded end must be placed under the fastening strap. Tighten the clamp as far as possible using a screw driver.

Technical changes reserved.

# PSI Casing End Seals Type KG/KO

## Installation Instruction



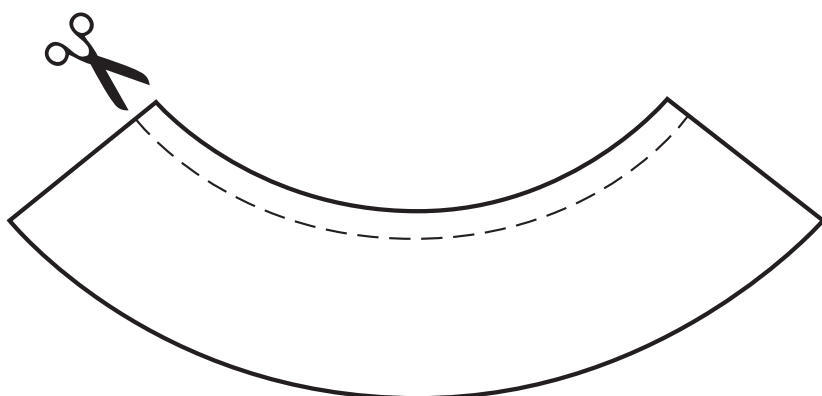
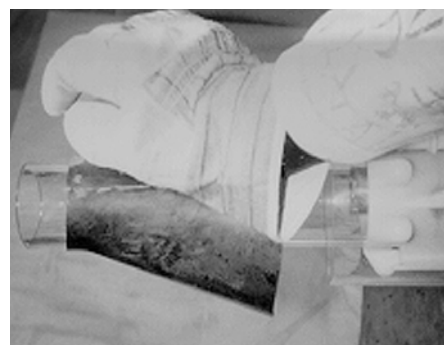
### KO sleeve

1. The roughened adhesive seam must always be cleaned and dried prior to closing.
2. The KO sleeve is placed around the carrier pipe and glued with the contact adhesive included as follows:  
Brush glue slightly onto both sides of the adhesive area and let dry for about 15 to 25 min. After drying, brush glue again slightly onto both sides and let dry one more time. Then compress seam under high pressure.



### KG/KO sleeve

3. Pull the large end of the sleeve over the casing pipe until it fits tightly, then fold over the sleeve and fasten the ends of the sleeve with stainless steel straps.



### KG/KO sleeve

If the sleeve diameter is too small for the carrier pipe, the KG or KO sleeve can be cut off on site with **scissors** (20mm result in a  $\varnothing$  increase of about 13mm to 20mm). In doing so, make sure that the sleeve is 2-5 % smaller than the outer pipe diameter in the area of the carrier pipe so that the sleeve adheres crease-free.

# PSI Casing End Seals Type FW

## Installation Instruction



### Sleeve tube:



1. Pull sleeve over the carrier pipe and the casing pipe.



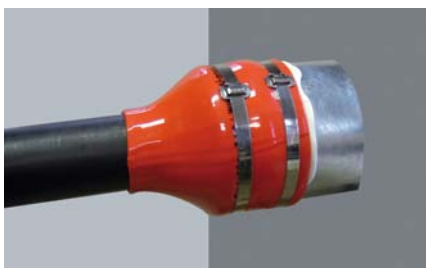
2. Install the first strap about 15mm in front of the end of the casing pipe.



3. Inject the adhesive included in the delivery all round underneath the sleeve. Then install the second strap. Spread leaking adhesive, if necessary.



### Carrier pipe:



4. Align the sleeve on the carrier pipe elongated (figure a) or S-shaped (figure b) depending on the extension direction. Then install the first strap about 15mm away from the rear end.



5. Inject the adhesive underneath the sleeve the way you did with the casing pipe side and install the second strap. Spread leaking adhesive, if necessary.

6. Finally, the sleeve has to be protected by means of an expansion pad.

# PSI stainless steel strap 19 mm Installation Instruction



1. Push the stainless steel loop onto the strap; make sure that the barbs point to the end of the strap. Bend over the end of the strap about 3 to 4 cm and strike it with a hammer. Then place the strap around the sleeve and pull it through the loop.



2. Introduce the strap laterally in the clamping tool, push the clamping tool up to the loop, press the holding lever and tighten the strap by turning the crank.

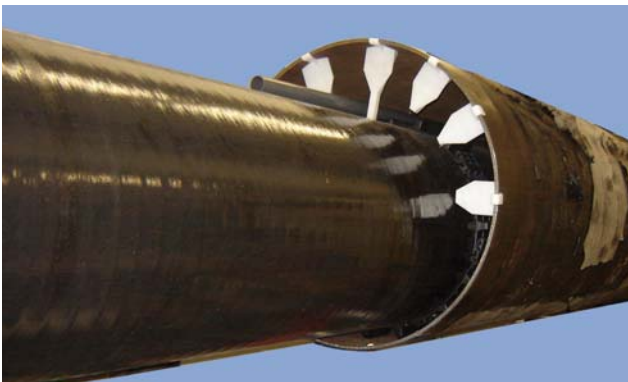
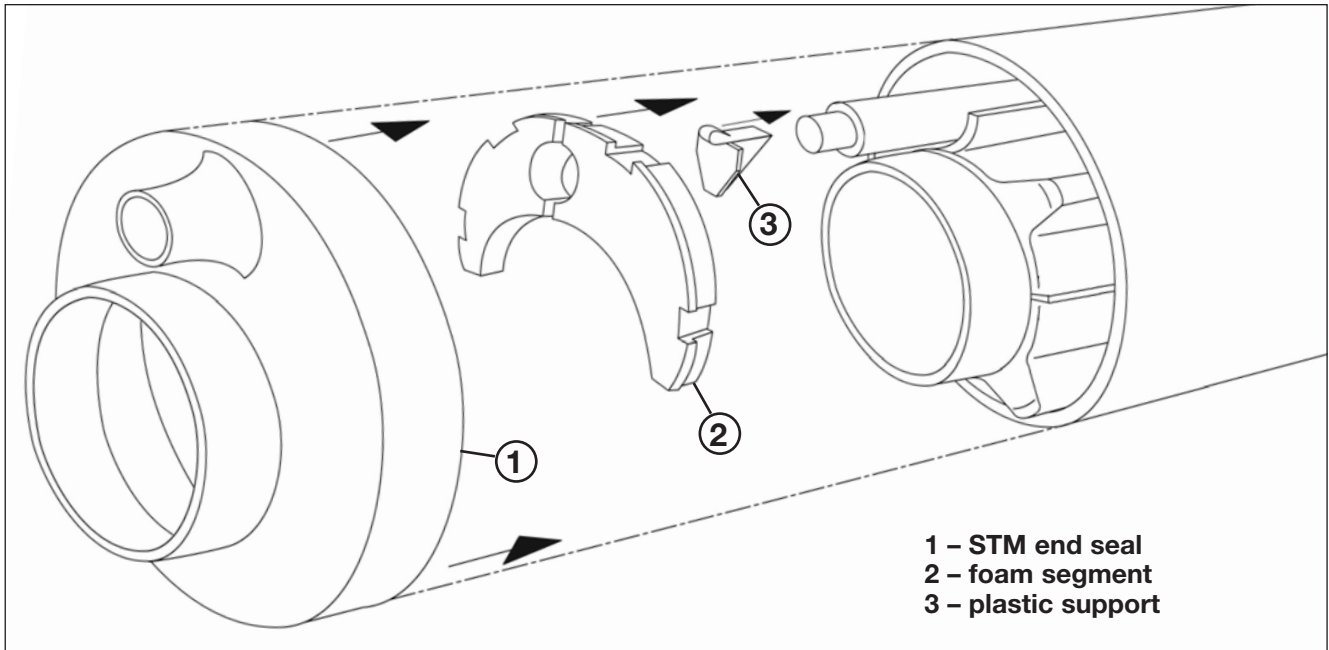


3. When reaching maximum stress, slowly bend over the strap about half a turn while releasing the crank.



4. Cut off the steel strap with the clamping tool cutting lever to immediately obtain the correct length. Immediately strike the cut off end on the stainless steel loop with a hammer. Then bend over both barbs of the loop to protect the strap.

# PSI Supporting Elements for Type STM Installation Instruction



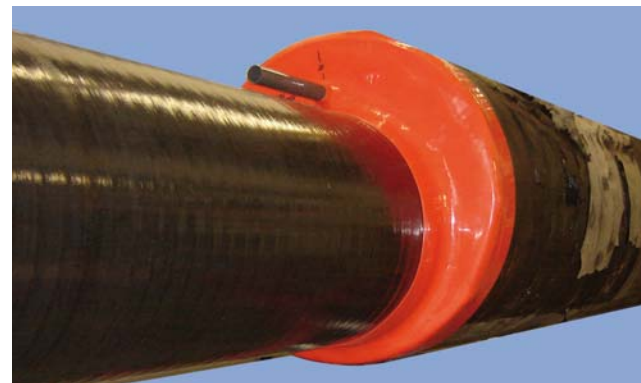
Fix plastic support with included clip at the inner wall of the casing pipe. Cut into suitable length if necessary. Space has to be chosen suitable according to the cavity in the support segments.



Attach foam segments on the carrier pipe and insert into casing pipe. At this the heightend collar lays on the outside of the face side of the casing pipe. Therefore a secure support is guaranteed.



The cable casing pipe has to be pushed between the semi-circular cavities. If the cavities are too small they can be slightly enlarged by cutting-out with a knife.



Pull casing end seal over the pipe and mount steel straps (included in the delivery).

# PSI Casing End Seals Order Form



	pcs.	Dimension		Art. no.	€/pcs.	Sum
		[inch]	O.D. Ø [mm]			
		1,5 x 3	41 x 92	1-012-05411		
		1,5 x 4	41 x 112	1-012-05412		
		1,75 x 3	51 x 92	1-012-05416		
		1,75 x 4	51 x 112	1-012-05417		
		2 x 3	64 x 92	1-012-05420		
		2 x 4	60 x 110	3-012-00015		
		2 x 4	64 x 112	1-012-05421		
		2 x 6	60 x 160	3-012-00018		
		2,5 x 6	80 x 160	3-012-00023		
		3 x 5	89 x 133	3-012-00025		
		3 x 6	92 x 165	3-012-00027		
		3 x 8	92 x 225	3-012-00029		
		3 x 10	92 x 275	3-012-00032		
		3 x 12	88 x 315	3-012-00033		
		4 x 5	118 x 140	3-012-00034		
		4 x 6	110 x 160	3-012-00035		
		4 x 8	112 x 225	3-012-00036		
		4 x 10	112 x 275	3-012-00037		
		4 x 12	108 x 315	3-012-00039		
		5 x 8	134 x 219	3-012-00042		
		5 x 10	145 x 275	3-012-00045		
		5 x 12	130 x 315	3-012-00047		
		6 x 8	160 x 219	3-012-00049		
		6 x 10	162 x 275	3-012-00050		
		6 x 12	162 x 330	3-012-00052		
		6 x 14	168 x 355	3-012-00054		
		6 x 16	160 x 406	3-012-00055		
		8 x 10	225 x 280	3-012-00057		
		8 x 12	200 x 315	3-012-00058		
		8 x 14	230 x 355	3-012-00060		
		8 x 16	225 x 410	3-012-00061		
		8 x 18	225 x 462	3-012-00062		
		8 x 20	200 x 500	3-012-00059		
		10 x 12	260 x 330	3-012-00064		
		10 x 14	250 x 356	3-012-00066		
	10 x 14	280 x 360	3-012-00065			
	10 x 16	280 x 410	3-012-00067			
	10 x 18	273 x 457	3-012-00068			
	10 x 20	273 x 508	3-012-00069			
	12 x 16	320 x 410	3-012-00071			
	12 x 18	325 x 457	3-012-00072			
	12 x 20	324 x 508	3-012-00073			
	12 x 22	315 x 556	3-012-00074			
	14 x 18	355 x 462	3-012-00077			
	14 x 20	360 x 513	3-012-00078			
	14 x 22	355 x 558	3-012-00080			

Prices according to valid price list

# PSI Casing End Seals Order Form



Description	pcs.	Dimension		Art. no.	€/pcs.	Sum
		[inch]	OD-Ø [mm]			
		16 x 20	406 x 508	3-012-00082		
		16 x 22	410 x 558	3-012-00083		
		16 x 24	400 x 609	3-012-00084		
		18 x 22	450 x 558	3-012-00085		
		18 x 24	450 x 610	3-012-00086		
		20 x 24	508 x 610	3-012-00088		
		20 x 26	508 x 660	3-012-00089		
		20 x 28	500 x 710	3-012-00087		
		22 x 26	558 x 660	3-012-00090		
		22 x 32	555 x 810	3-012-00095		
		24 x 28	610 x 710	3-012-00098		
		24 x 30	610 x 760	1-012-05485		
		24 x 32	600 x 812	3-012-00100		
	26 x 30	668 x 760	3-012-00104			

Prices according to valid price list

Nominal diameter ND	pcs.	mm	Art. no.	€/pcs.	Sum
<b>KT-end seal 100/125-0</b>		110/135-10	3-012-05504		
<b>KT-end seal 150/200-0</b>		165/215-10	3-012-05505		
<b>KT-end seal 250/300-50</b>		270/320-50	3-012-05506		
<b>KT-end seal 350-400-80</b>		350/402-80	3-012-05507		
<b>KT-end seal 500-600-150</b>		508/610-150	3-012-05508		

Description	pcs.	mm	Art. no.	€/pcs.	Sum
<b>Special end seals</b>					

Prices according to valid price list

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