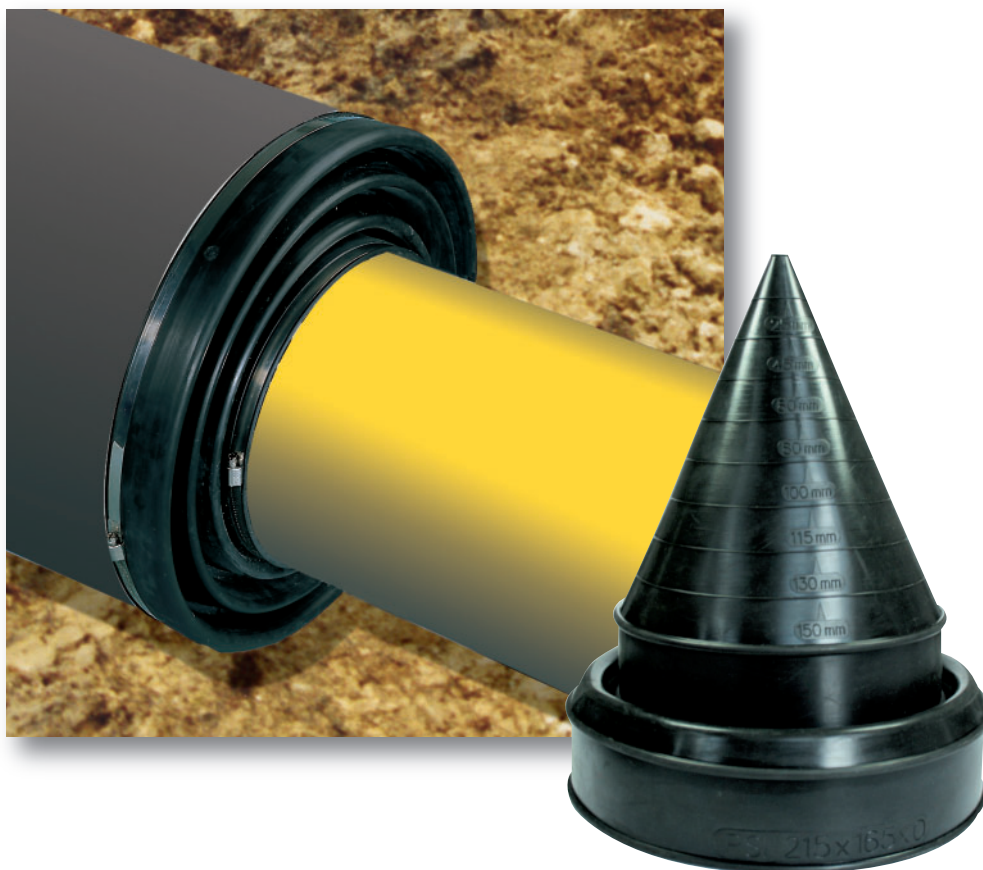




PSI Casing End Seals

For Carrier Pipe End Seal



General information • Technical data • Installation instruction

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.

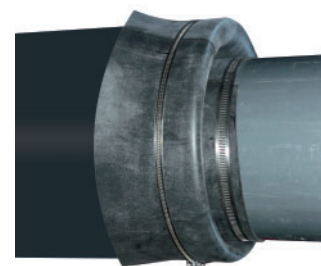
Material:	EPDM
Thickness:	about 5 to 6mm
Shore A:	50 ± 5
Carrier pipe sizes:	20 mm to 762 mm (see current price list for exact dimensions)
Casing pipe sizes:	90 mm to 965 mm (see current price list for exact dimensions)
Compensation in case of eccentric laying of carrier pipe:	Yes
Special sizes:	not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

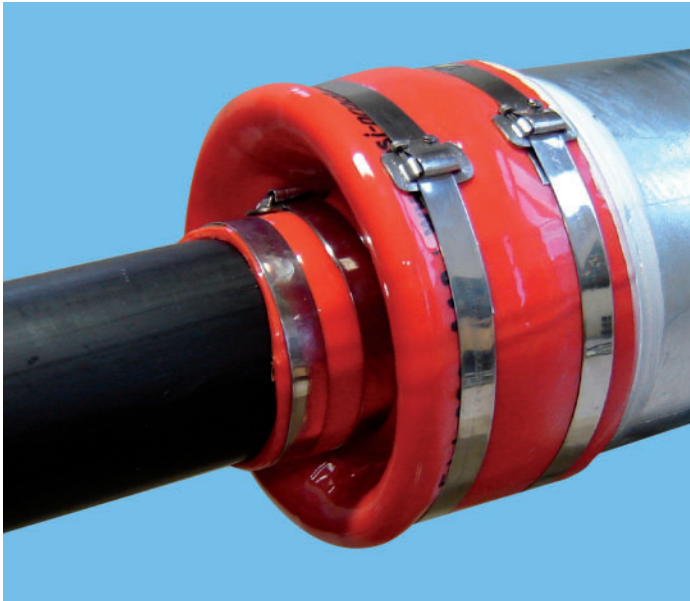
Seamless STM sleeves are manufactured according to your special requirements. They are available for nearly all pipe sizes. This sleeve is the appropriate type especially for extreme eccentricities or if several openings are required, e.g. for further cable ducts. This sleeve is also available in reinforced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



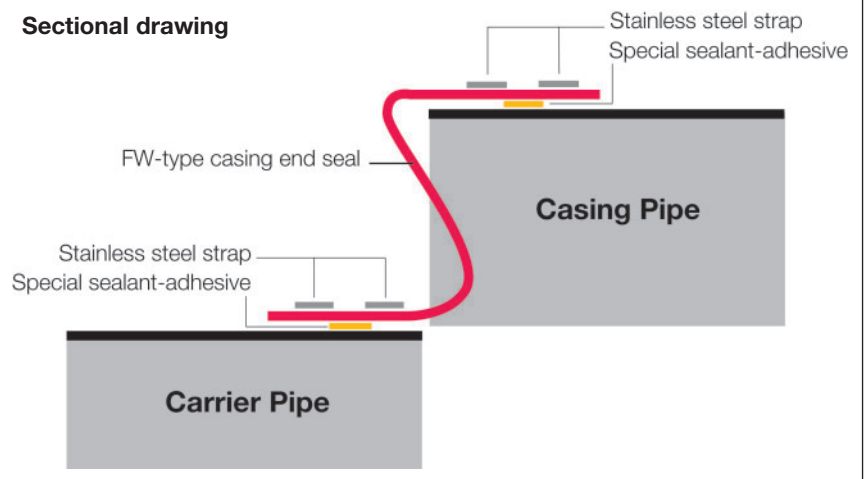
PSI end seals type FW were specially developed to provide a pressure-tight seal between pipes carrying media and casing pipes. The seals consist of high-quality Rottolin and, thanks to their 9-11 mm thickness, are particularly dimensionally stable and pressure-tight up to 0.5 bar. As a result of their 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 ²
Breaking elongation:	400 %
Initial tear resistance:	27 N/mm
Max. continuous operating temperature:	55°C

Sectional drawing



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

PSI Casing End Seals Type KT Installation Instruction



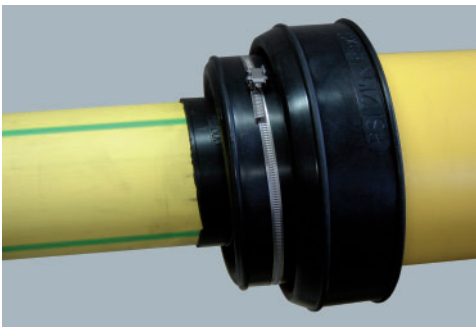
1. Pull sleeve tightly over the carrier pipe until the carrier pipe stands out clearly against the sleeve.



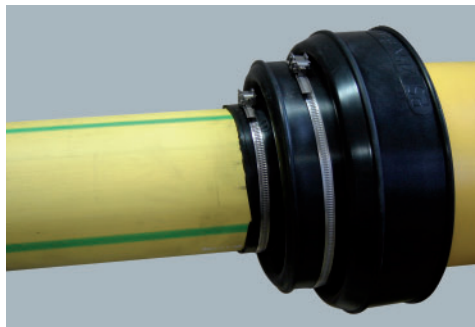
2. Cut off sleeve in front of the carrier pipe with a sharp knife. Then pull sleeve over the carrier pipe up to the casing pipe (sleeve can be stretched about 10 %).



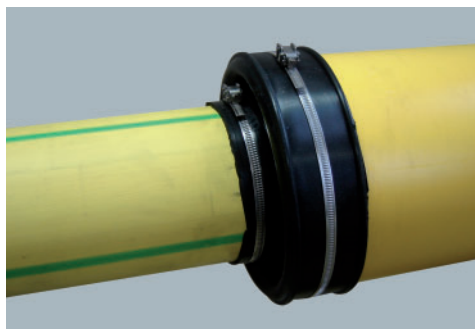
3. Pull integrally moulded sleeve collar over the casing pipe (sleeve can be stretched about 10 %) and attach the sleeve to the casing pipe with the larger of the straps included in the delivery.



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.

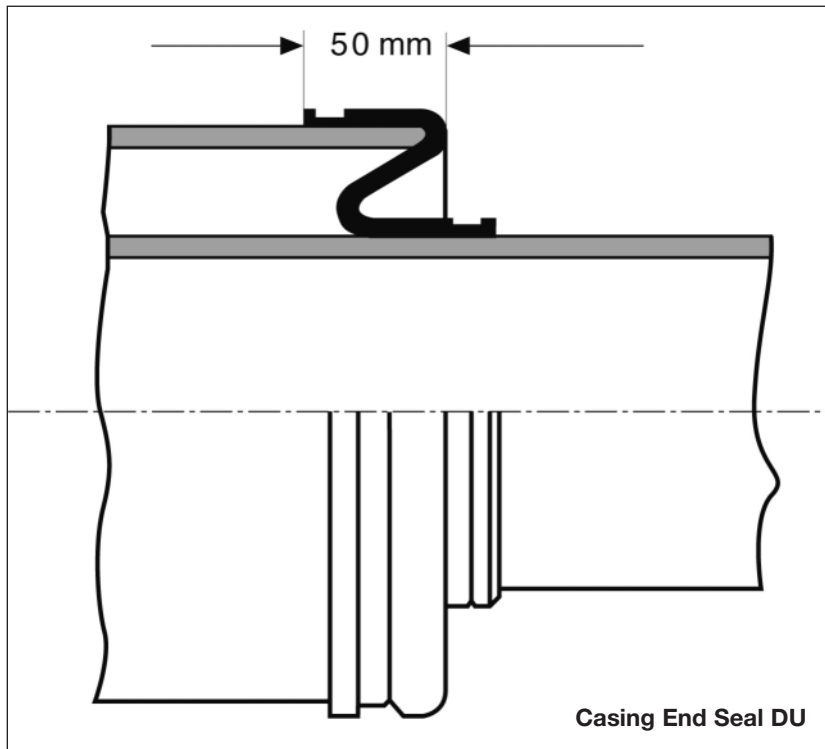


5. If only the smaller collar is used, the larger one can be cut, if necessary.



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



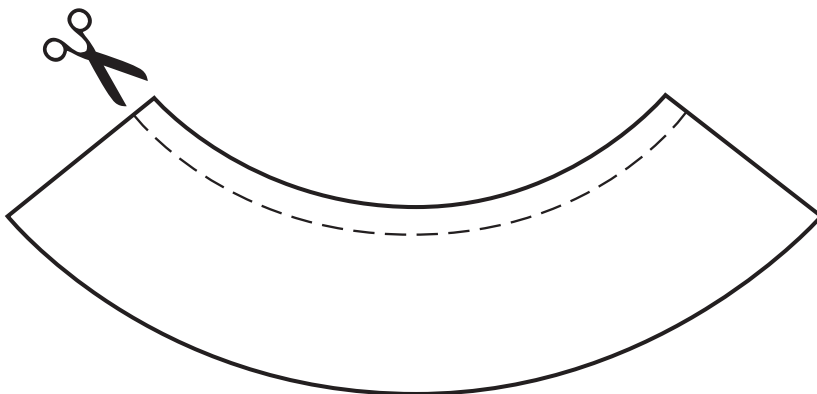
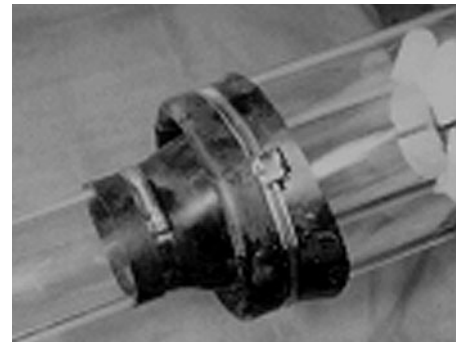
KO sleeve

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 Ø 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



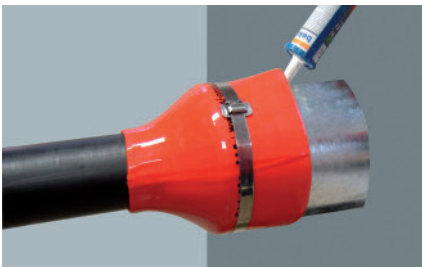
Sleeve tube:



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

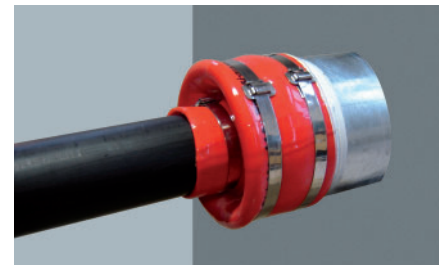
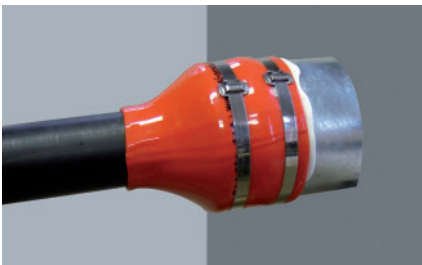


2. Install the first strap about 15mm in front of the end of the casing pipe.

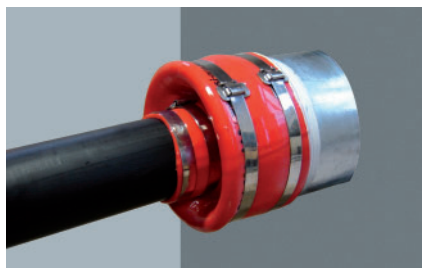
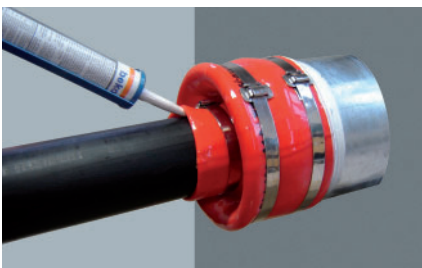


3. Inject the adhesive included in the delivery all round underneath the sleeve. Then install the second strap. Spread leaking adhesive, if necessary.

Carrier pipe:



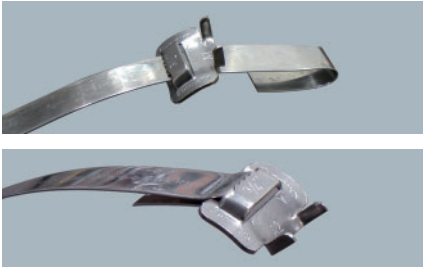
4. Align the sleeve on the carrier pipe elongated (figure a) or S-shaped (figure b) depending on the extension direction. Then install the first strap about 15mm away from the rear end.



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.

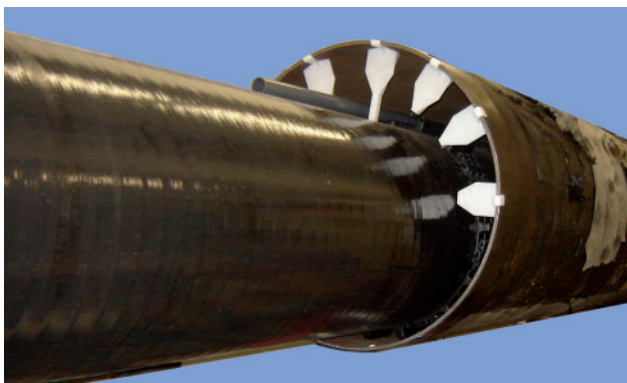
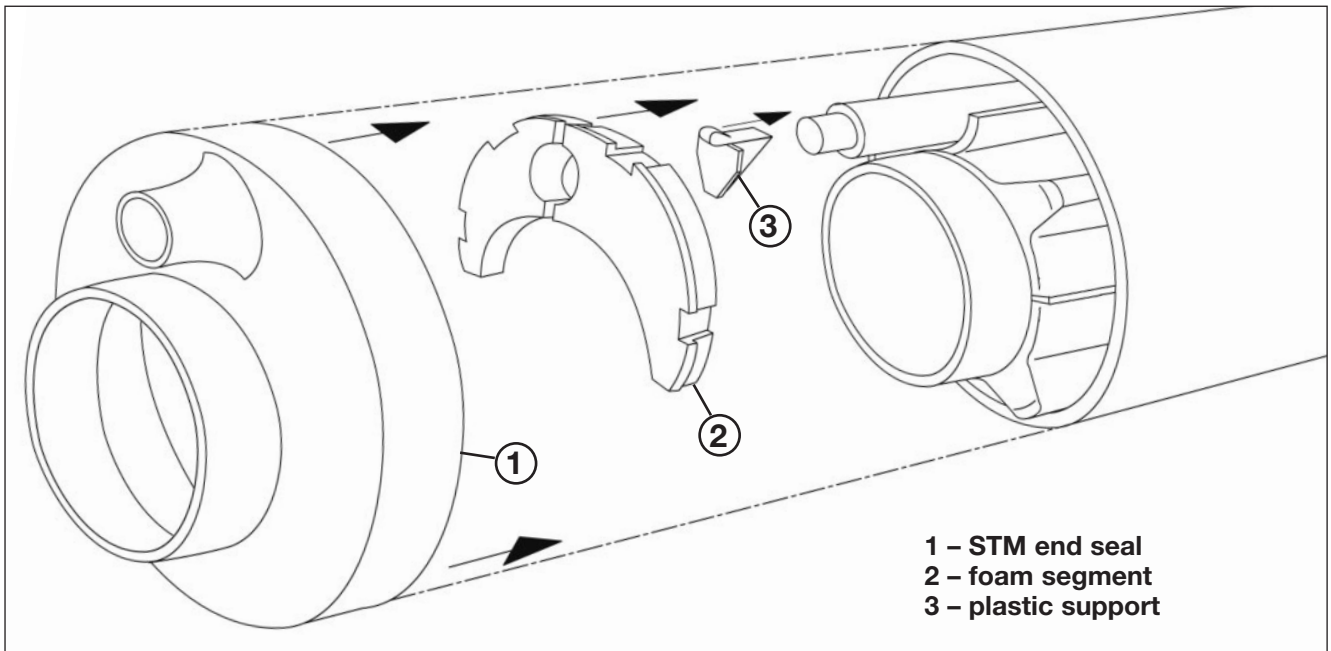


3. When reaching maximum stress, slowly bend over the strap about half a turn while releasing the crank.

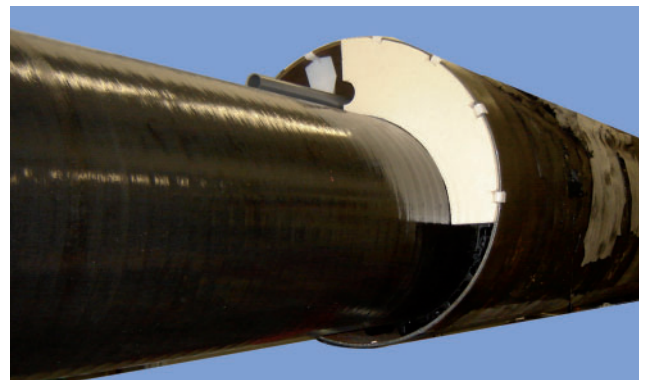


4. Cut off the steel strap with the clamping tool cutting lever to immediately obtain the correct length. Immediately strike the cut off end on the stainless steel loop with a hammer. Then bend over both barbs of the loop to protect the strap.

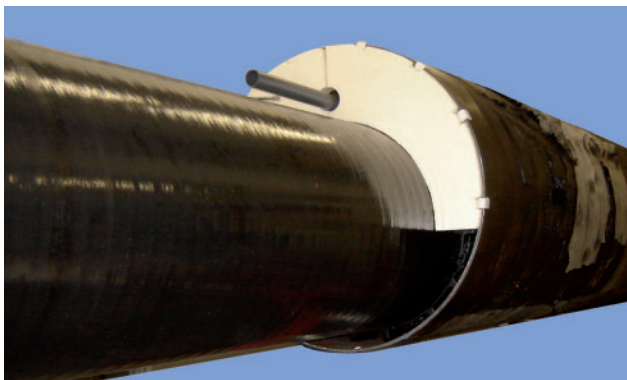
PSI Supporting Elements for Type STM Installation Instruction



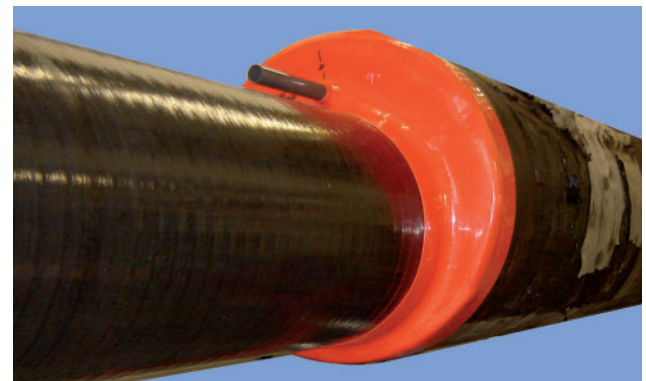
Fix plastic support with included clip at the inner wall of the casing pipe. Cut into suitable length if necessary. Space has to be chosen suitable according to the cavity in the support segments.



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.

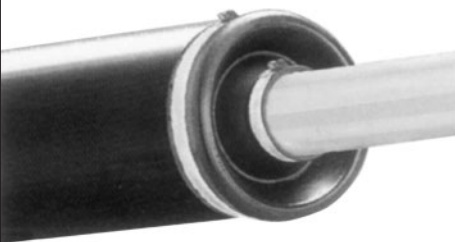
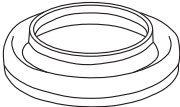
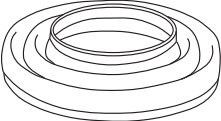
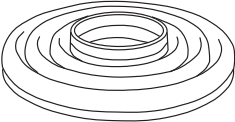


Pull casing end seal over the pipe and mount steel straps (included in the delivery).

PSI Casing End Seals

Order Form



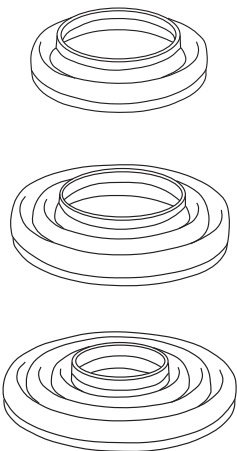
	pcs.	Dimension		Art. no.	€/pcs.	Sum
		[inch]	O.D. Ø [mm]			
   		1,5 x 3	41 x 92	1-012-05411		
		1,5 x 4	41 x 112	1-012-05412		
		1,75 x 3	51 x 92	1-012-05416		
		1,75 x 4	51 x 112	1-012-05417		
		2 x 3	64 x 92	1-012-05420		
		2 x 4	60 x 110	3-012-00015		
		2 x 4	64 x 112	1-012-05421		
		2 x 6	60 x 160	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	3-012-00105		

Prices according to valid price list

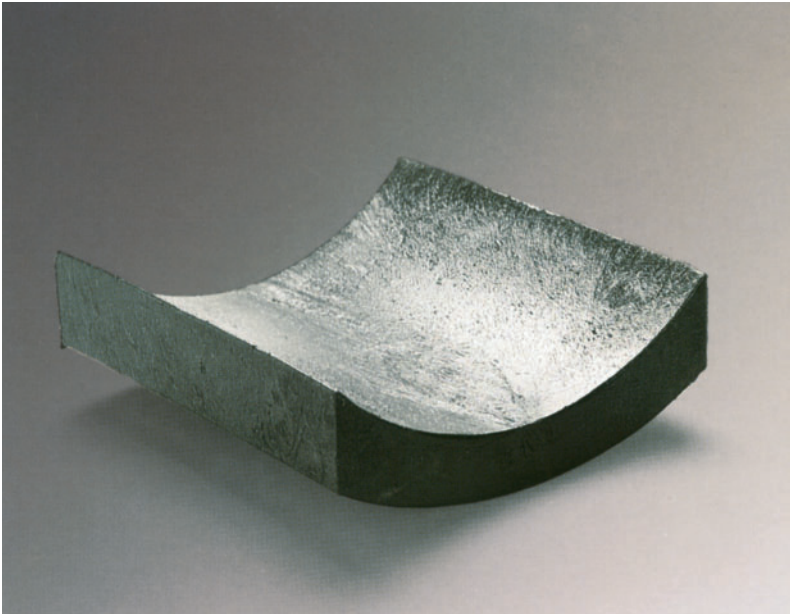
Nominal diameter ND	pcs.	mm	Art. no.	€/pcs.	Sum
KT-end seal 100/125-0		110/135-10	3-012-05504		
KT-end seal 150/200-0		165/215-10	3-012-05505		
KT-end seal 250/300-50		270/320-50	3-012-05506		
KT-end seal 350-400-80		350/402-80	3-012-05507		
KT-end seal 500-600-150		508/610-150	3-012-05508		

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

Prices according to valid price list

From

date / signature



To support very heavy carrier pipes

Extremely long carrier pipes can be supported with these polyethylene components. PSI pipe supports are adapted to DSI plastic insulators and reliably prevent contact between the carrier pipe and the casing - even when there is an extreme load of soil on the pipe.

Material

Black polyethylene has the same resistance as the polyethylene coating of steel pipes, thus preventing damage to insulation.

Compressive strength: 1,000 N/cm²

Density: 0.85 g/cm³

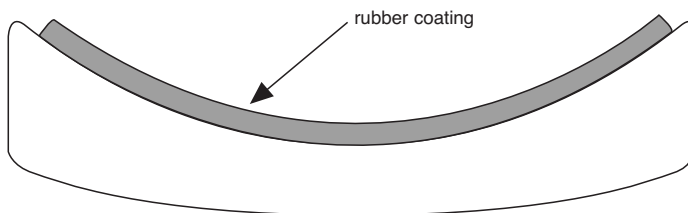
Modulus of elasticity: 270,000 N/cm²

Special version rubber coated

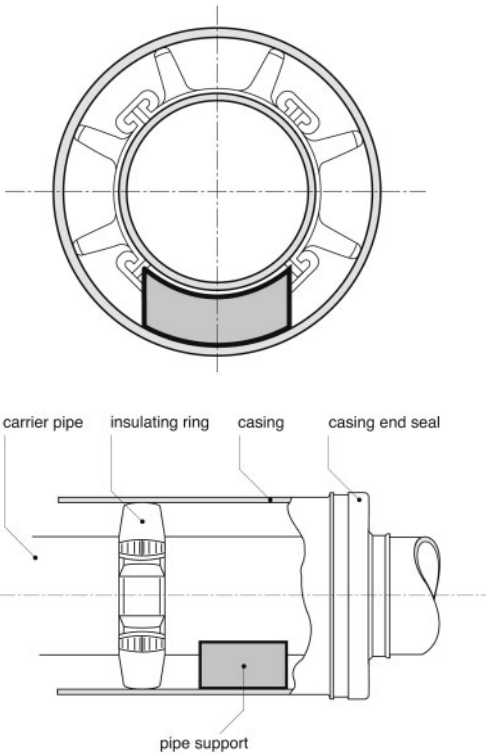
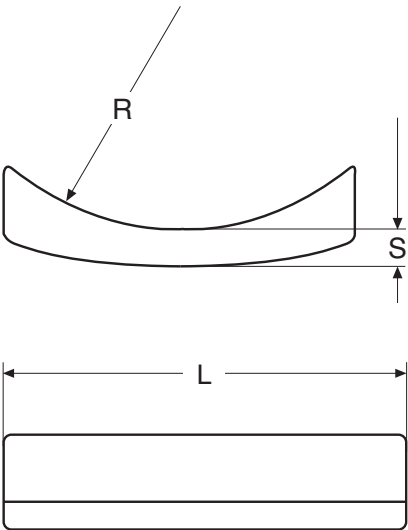
Material and dimensions as described above, with additional high quality rubber coating. Coating thickness as per agreement.

Prices and delivery time on request.

Technical changes reserved.



PSI Pipe Support Dimensions



Carrier Pipe O.D. in mm	Pipe Support Dimension in mm			Weight approx. in kg	Art. no.
	R	s	L		
up to 150	90	16	130	0,1	3-007-01100
		25		0,2	3-007-01101
		36		0,3	3-007-01102
175 - 300	160	16	250	1,1	3-007-01006
		25		1,3	3-007-01000
		35		1,8	3-007-01001
		55		2,5	3-007-01002
		75		3,5	3-007-01003
		90		4,0	3-007-01004
		110		5,0	3-007-01005
350 - 500	260	25	300	2,2	3-007-01010
		35		3,0	3-007-01011
		42		3,5	3-007-01009
		50		4,0	3-007-01012
		65		5,5	3-007-01013
		75		6,5	3-007-01014
		90		8,0	3-007-01015
550 - 700	360	25	300	3,0	3-007-01020
		35		4,0	3-007-01021
		42		4,5	3-007-01019
		50		5,5	3-007-01022
		65		7,0	3-007-01023
		75		7,5	3-007-01024
		90		10,5	3-007-01025
750 - 900	460	25	500	5,9	3-007-01030
		35		8,0	3-007-01031
		42		9,3	3-007-01029
		50		11,0	3-007-01032
		65		13,5	3-007-01033
		75		14,7	3-007-01034
		90		18,5	3-007-01035
950 - 1100	570	25	500	7,6	3-007-01040
		35		9,5	3-007-01041
		42		11,8	3-007-01039
		50		13,0	3-007-01042
		65		17,0	3-007-01043
		75		19,0	3-007-01044
		90		26,0	3-007-01045
1150 - 1400	710	25	600	12,0	3-007-01050
		35		18,0	3-007-01051
		42		19,2	3-007-01049
		50		21,0	3-007-01052
		65		26,7	3-007-01053
		75		29,0	3-007-01054
		90		37,0	3-007-01055