

PSI CASING END SEALS

TYPE KT

TYPE DU

TYPE KG/KO

TYPE HA

TYPE STM

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GENERAL INFORMATION

Pipes carrying media (e.g. gas pipes, water pipes, sewage pipes, etc.) below motorways, main roads, rail tracks, etc. are often laid in casing pipes. Casing end seals serve to protect the annular space between carrier pipe and casing pipe from moisture, dirt and animals. PSI casing end seals are available for new installations and pipes already in place.

Description / Technical data

Type KT casing end seal (only for new installation)

Advantages of the PSI type KT casing end seals are, in particular, low storage costs, because of only five different KT sizes suitable for casing pipe sizes from DN 100 to DN 600. Two casing pipe sizes per type are already pre-molded for installation convenience as a collar. The stainless steel straps included in the delivery can be used for all diameters.

| | |
|--|---|
| Material: | EPDM |
| Thickness: | approx. 3-4 mm |
| Shore hardness A: | 60 ± 5 |
| Carrier pipe sizes: | 10-508 mm (see current price list for precise dimensions) |
| Casing pipe sizes: | 110-610 mm (see current price list for precise dimensions) |
| Compensation for eccentric Pipe position: | yes |
| Fastening strap material: | stainless steel |



Type DU casing end seal (only for new installation)

Casing end seals type DU are always supplied in a suitable size for the carrier pipe / casing pipe combination. Further adaptation on the construction site is no longer necessary.

| | |
|---------------------------|--|
| Material: | EPDM |
| Thickness: | approx. 5-6 mm |
| Shore hardness A: | 50 ± 5 |
| Carrier pipe sizes: | 20-762 mm (see current price list for precise dimensions) |
| Casing pipe sizes: | 90-965 mm (see current price list for precise dimensions) |
| Fastening strap material: | stainless steel |



Type KG/KO casing end seal (KG for for new installation, KO for retrofitting)

The type KG/KO casing end seals are manufactured in a conical shape. Due to individual production of the casing seals, 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 instructions).

| | |
|---------------------------|---|
| Standard material: | neoprene rubber |
| Material on request: | Silicone and NBR approx. 2-3 mm |
| Thickness: | 65 ± 5 |
| Shore hardness A: | 32-1320 mm |
| Carrier pipe sizes: | (see current price list for precise dimensions) 48.3-2000 mm |
| Casing pipe sizes: | (see current price list for precise dimensions) upon request |
| Special sizes: | stainless steel |
| Fastening strap material: | |



GENERAL INFORMATION

Type HA casing end seal (only for new installation)

HA - casing end seals are used when installing new house service lines.

| | |
|---------------------------|---|
| Material: | EPDM |
| Thickness: | approx. 2-3 mm |
| Shore hardness A: | 50 ± 5 |
| Carrier pipe sizes: | 25-50 mm (see current price list for precise dimensions) |
| Casing pipe sizes: | 50-90 mm (see current price list for precise dimensions) |
| Fastening strap material: | stainless steel |



Type STM casing end seal

(only for new installation, split version upon request, installation service available)

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

| | |
|--|--|
| Material: | Rottolin |
| Thickness: | STM approx. 6-8 mm, STMV approx. 9-11 mm |
| Shore hardness A: | approx. 50 ± 5 |
| Carrier pipe sizes: | 50-1200 mm (see current price list for precise dimensions) |
| Casing pipe sizes: | 200-1600 mm (see current price list for precise dimensions) |
| Compensation for eccentric pipe positioning: | yes |
| Special sizes: | upon request |
| Fastening strap material: | stainless steel |



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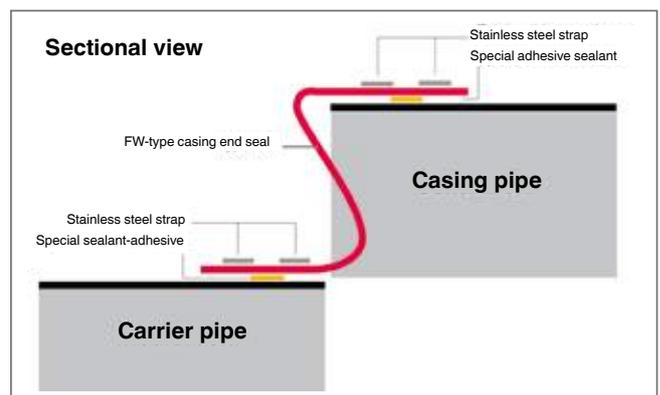
GENERAL INFORMATION

PSI casing end seals type FW were specially developed to provide a pressure-tight seal between carrier and casing pipes. The casing end seal is made of high-quality Rottolin and, thanks to its 9-11 mm thickness, it is particularly dimensionally stable and pressure-tight up to 0.5 bar. As a result of its exceptional flexibility, the casing seal allows axial and radial movement between casing and carrier pipe. To ensure tightness, the annular space should be no larger than 70 mm. A special, permanently elastic adhesive sealant is sprayed from a cartridge on to the underside of the collar of the sealing sleeve, which is then secured over the casing and carrier pipe with two stainless steel fastening straps. Before backfilling, the casing end seal needs to be covered with foam pads.

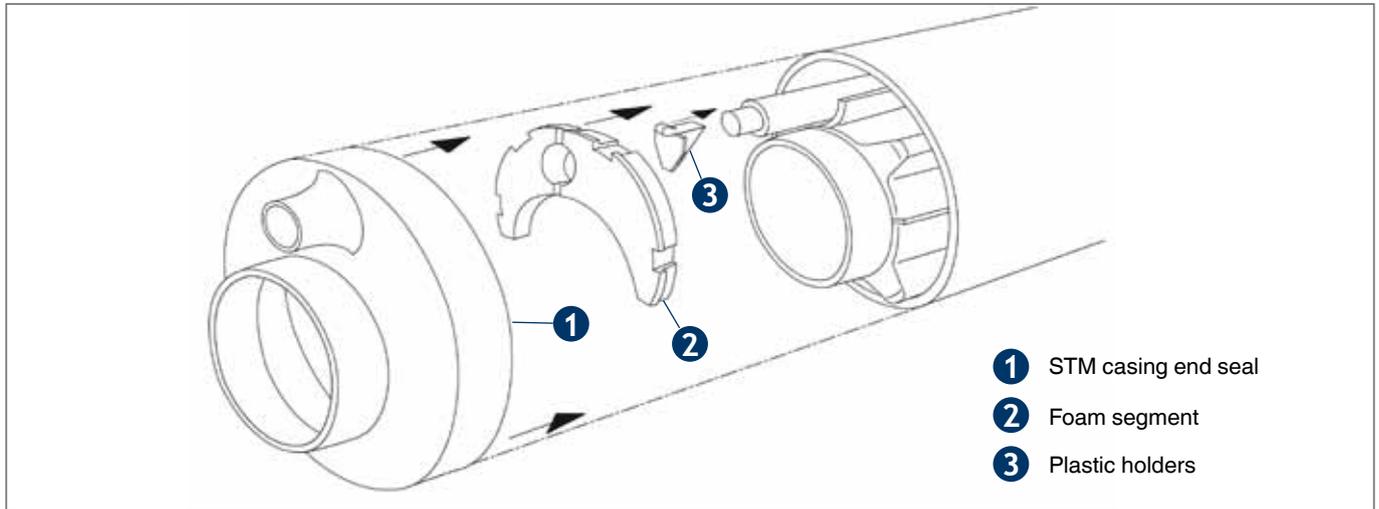


TECHNICAL DATA:

| | |
|---------------------------------|----------------------|
| Material: | Rottolin |
| Material thickness: | 9-11 mm |
| Color: | red |
| Shore hardness: | approx. 50° |
| Tensile strength: | 11 N/mm ² |
| Elongation at breaking point: | 400% |
| Tear strength: | 27 N/mm |
| Max. continuous operating temp. | 55 °C |



GENERAL INFORMATION



Fix plastic holders with clip on the inner wall of the casing pipe. Cut to suitable length if necessary. The distance must be chosen according to the recesses of the support segments.



Place foam segments on the carrier pipe and insert into casing pipe. Hereby the raised flange rests on the outer front of the casing pipe. This means that secure support is guaranteed.



The cable duct has to be pulled through between the semi-circular recesses. If the recesses are too small, they can be slightly enlarged by cutting them out further with a knife.



Pull casing end seal over the pipe and fit fastening straps (included).

APPLICATION RECOMMENDATION

Penetration through casing pipes

"Casing pipe - Carrier pipe"

1. One layer of foam pads (width selected so that it lays up to at least 50 cm in front of the sealing sleeve on the carrier pipe) has to be laid on the sealing sleeve (carrier pipe) and by adhesive tape, fastening straps, cable ties, etc. it is fixed so that moving or opening the layer when backfilling is not possible.
2. Step 1 is repeated (layers of foam pads on top of each other) until the circumference of the top layer of expanding padding nearly reaches the circumference of the casing pipe.
3. Afterwards at least one layer of foam pads is laid and fixed over the entire installation.

Penetration through the wall

"PSI Compensating Wall Seal Type VDW"

1. One layer of foam pads (width selected so that it lays up to at least 50 cm in front of the sealing sleeve on the carrier pipe) has to be laid on the sealing sleeve (carrier pipe) and by adhesive tape, fastening straps, cable ties, etc. it is fixed so that moving or opening the layer when backfilling is not possible.
2. Another layer is applied on the foam pads after step 1 with a width selected so that the expanding padding touches the dynamic seal and is flush with the previous layer.
3. Step 2 is repeated (foam pad layers on top of each other) until the top layer of foam pads is flush with the wall above the dynamic seal.
4. Finally another layer is laid over the top layer and is fixed in place.

GENERAL INFORMATION

Foam pads are state of the art technology in district heating systems. They are used to reduce the pressure from the earth created by heat expansion of plastic casing pipes underground. Around bends, foam pads are attached to the inside (protection from longitudinal reduction) and outside (protection from longitudinal increase) of the bend.

As a general rule, depending on manufacturer and type, they are made of uncured PE or PUR foams.

This means that important material properties such as being rot-proof, low water absorption, excellent mechanical, chemical and physical resistance and contour stability are given. This ensures a long service life and great functionality.

As casing end seals for district heating pipes have to deal with pipe movement, space for movement needs to be available around the casing end seal.

Foam pads therefore offer two advantages at the same time:

1. First they provide protection for the casing end seals when backfilling the trench and hold back the pressure while the material compresses
2. They ensure room for movement of up to 25 mm

Using foam pads is generally recommended.

