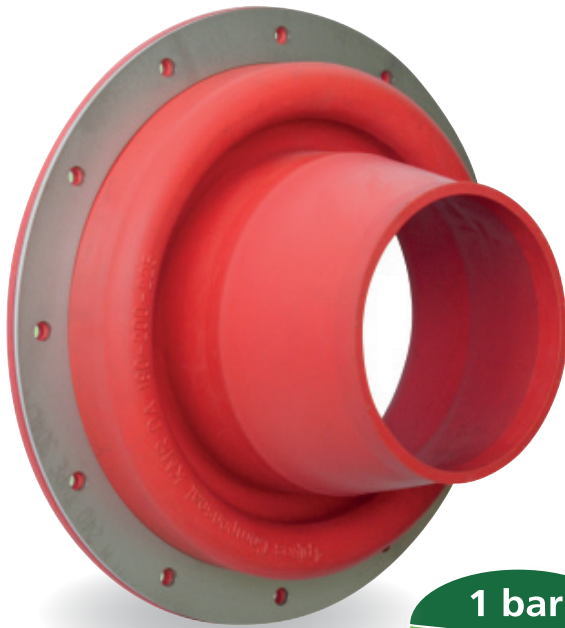




Pipeline Accessories



Sealing Sleeves
Compenseal® and
Type KMR 4 pipes



1 bar
with load cycles
MFPA tested

Product information

Special flexible sealing collar made out of high quality **EPDM elastomer** for wall penetrations at pipelines which are exposed to movements. The seal is excellently suitable for axial and radial pipe movement as well as settlements and tight against pressing water.

Usage

As a compensator the sealing collar can be used **excellently for preinsulated pipe** penetration through walls and ceilings on buildings.

- Water pressure tight up to 1,0 bar.

Advantages

- Suitable for axial and radial pipe movement up to +/- 40 mm
- Suitable for settlements depending on outside pipe diameter and core hole sizes up to 40 mm
- ideal movement compensator

Dimensions

Standard for outside pipe diameter 75 mm **up to 800 mm** and core bores 150 mm up to 900 mm.

Complete Set:

The seal is supplied with one component PU-Sealant, stainless steel straps, 12 mm stainless steel hexhead screws and 14 mm dowels as a complete set.

The 4 pipes warranty is limited to the replacement of faulty material. The user is fully responsible for the individual application he is using the product for.



Product Data

Material	EPDM
Pressure plate	stainless steel V2A
Operating temperature	120°C
Thickness	8 mm ± 1 mm
Durometer Shore A	60 ± 5
Elongation at break	400%

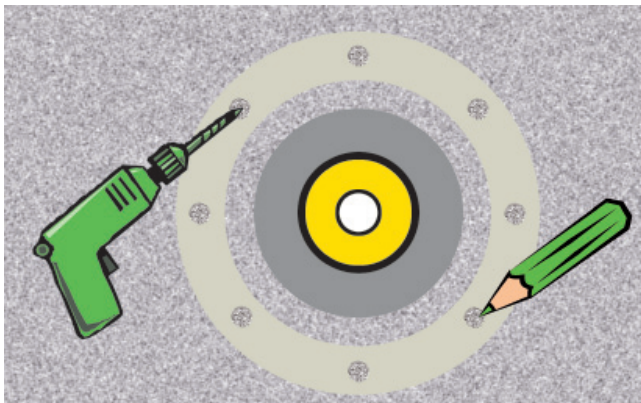
Dimensions 4 pipes Compenseal

HDPE jacket outer diameter in mm	max. core drilled hole Ø mm	OD wall flange mm	Art.-No.
75-90-110	150 / 200	350	20050
125-140-160	200 / 250	400	20051
180-200-225	300	450	20052
250-280-315	350 / 400	565	20053
355-400	450 / 500	650	20054
450-500	550 / 600	750	20055
560-630	650 / 700	880	20056
670	800	1050	20058
710-800	800 / 900	1050	20057

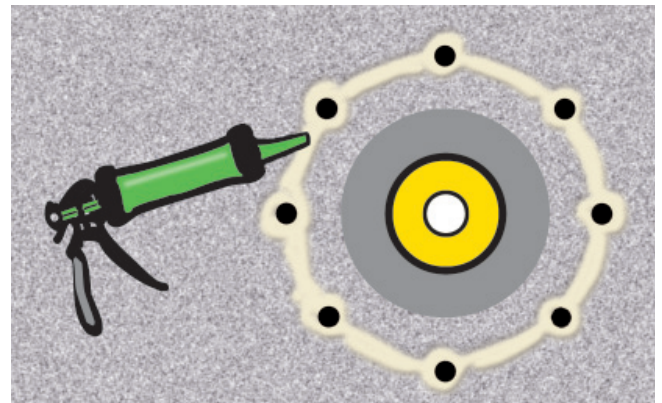
Other dimensions on request



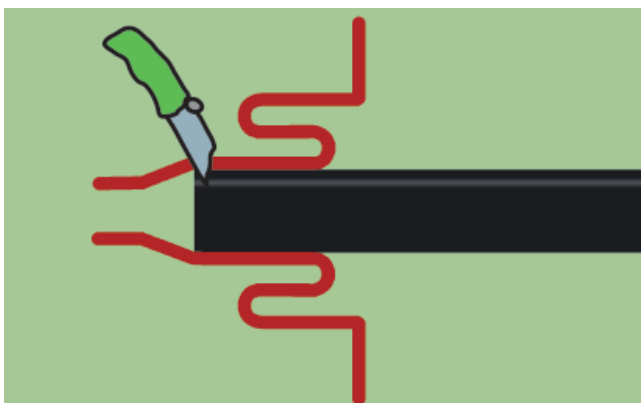
Tightened 4 pipes-clamping straps with TOX connection technology. No welding for optimised corrosion protection. (Used for pipe sizes ≥ DN 300)



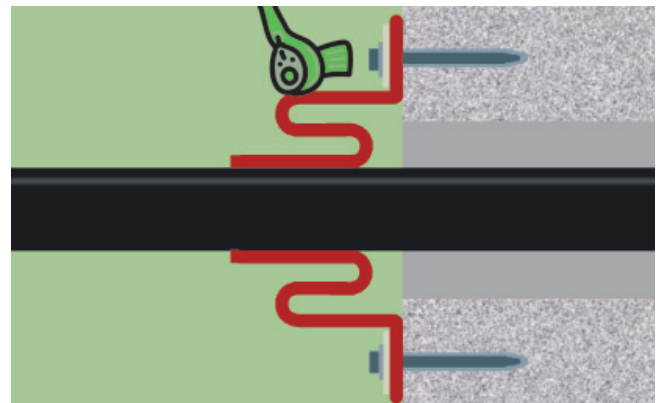
1. Centre and support **media pipe** in core bore.
2. Apply pressure plate centered to core bore and mark **boreholes** at wall/ceiling. After that **drill** into marks and **put dowel** inside.



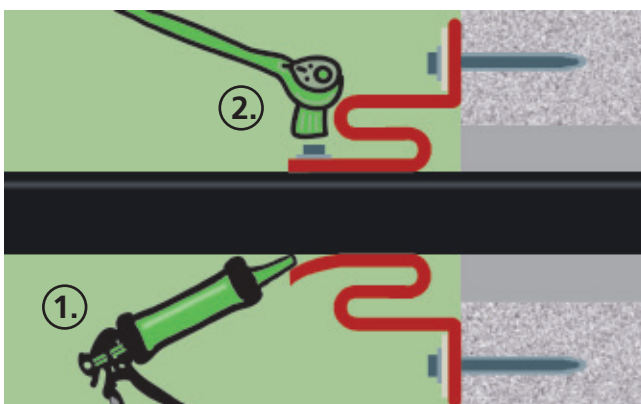
3. Apply **sealing compound** material on the wall with a hand pistol circular around every screw bore as well as the complete core bore range.



4. **If necessary, cut down the seals nozzle to the correct pipe dimension.**
Pull Compenseal® over the pipe's end and cut off the seal with a sharp knife along the edge.
The edges in the nozzle are not the cutting marks.



5. Push the side of the Compenseal® with flange bore holes first over the media pipe, collar facing the wall. After that interlock Compenseal® with pressure plate and **spread** emergent **sealing compound**.



Advice:

- You have to consider that media pipe, the wall/ceiling and Compenseal® are dry **during the application as well as fat- and dust-free.**
- When laid into the ground the Compenseal® must be covered before backfilling with an **expansion cushion** to ensure that the seal can move in all directions.
- For media pipe size of 355 mm and bigger, a tightening tool for a 19 mm stainless steel band has to be used.
- The pipe must be supported in front of and behind the wall to avoid setting.

6. Adjust **opening** of the collar to media pipe so that a wave shaped expansion zone occurs. **Inject sealing compound** circularly into the collar opening and **fasten strap** tightly afterwards.

Subject to technical changes

Sealing Sleeve Type KMR 4 pipes



Pipe movements and settings are the big challenges for a **pipeline wall penetration seal**, especially at **pre-isolated warm-going pipelines**.

The Sealing sleeve type KMR 4 pipes fulfills the high technical requirements to seal wall penetrations secure and permanently, especially in larger dimensions.

Necessary for the versatility of the PIP-sealing sleeve is a casing pipe on which a sleeve can be mounted. The sealing system consists of a **sealing sleeve** made of **synthetic elastomer** with a thickness of about 5 mm. A one-component **special-sealing adhesive** has to be injected under the sleeve on both sides.

Two high-quality stainless steel straps press the sleeve on and hold the sealing adhesive in position under stress.

A pressure tightness of up to 1,0 bar can be reached up to an annular space of 75 mm. For larger annular spaces please consult us at 4 pipes.

Place a **compensation cushion** in front of the sleeve before the trench will be backfilled. So a stretching zone is created if an eventual expansion happens.

Sealing sleeve type KMR are available up to a size of 2000 mm medium pipe diameter. The sealing sleeves are manufactured **individually** and have to be ordered under exact specification of pipe diameters and the expected expansion.

The maximum permanent operating temperature for these sealing sleeves is 55°C. For special needs please contact us at 4 pipes.

The sealing sleeve comes in a set ready to mount with sufficient fastening straps and sealing adhesive in a 310 ml cartridge.

For retrofit applications, we can find a suitable installation partner for on-site welding with special equipment. Costs therefore accord. to efforts. Fix arrangements in time.

Delivery time on request.
Product is made to order.



The pipe must be supported in front of and behind the wall to avoid setting or lowering.

Find the technical datasheet for KMR type under ASTM-seals at page 29.

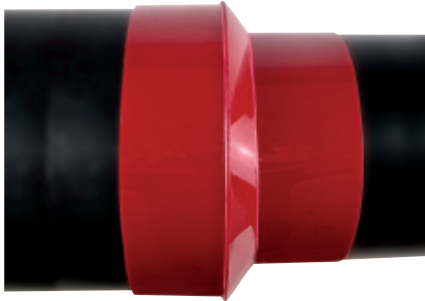
The 4 pipes warranty is limited only to the delivered materials. For the individual application the user is responsible on this own.



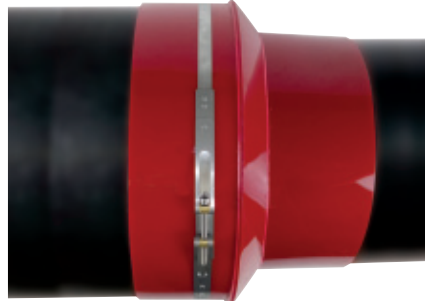
Tightened 4 pipes-clamping straps with TOX connection technology.
No welding for optimised corrosion protection.
(Used for pipe sizes \geq DN 300)

Sealing Sleeve Type KMR 4 pipes

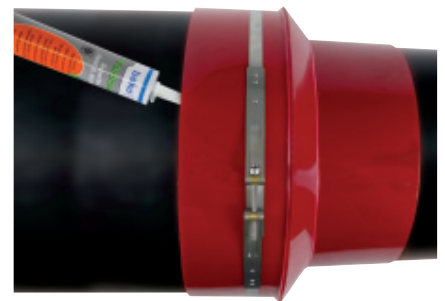
Application



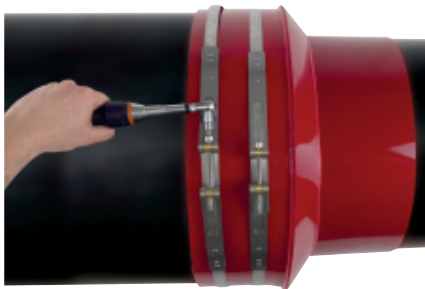
1. Slide sealing sleeve over the pipe and casing



2. Fit the supplied steel-strap with max. 10 Nm at the front end of the sleeve on the casing pipe



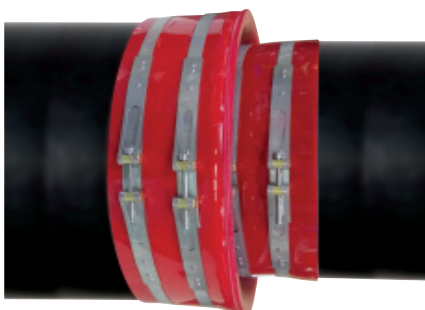
3. Fill the sealant all around under the sleeve



4. Fix second strap with max. 10 Nm (smoothen escaping sealant).
Repeat step 2 to step 4 on the media pipe



5. Fully assembled sealing sleeve type KMR



Expansion direction S-shape mounting



Expansion direction stretched mounting



Before backfilling protect sealing sleeves with expansion-pads

Certificate Sealing Sleeves 4 pipes





MFPA Leipzig GmbH
Testing, inspection and certification body for
building materials, building products and building systems
Division V - Geotechnics
Prof. Dr.-Ing. Olaf Sebe
Work Group 5.1 - Structural Sealing

Test report PB 5.1/15-109

from 08 January 2016
1st copy

Subject matter: **Compenseal 4 pipes -**
Test of leaktightness in the fitted state

Client: 4 pipes GmbH
Sigmundstraße 182
90431 Nuremberg

Samples received on: 28.08.2015 / 22.10.2015

Sample reception number: 1325 – 1327 / 1382-1 – 1382-4

Test period: September – December 2015

Person in charge: Dipl.-Ing. Jüling

This document consists of 5 pages and one Enclosure.

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Construction Products Regulation (CEC).

Gesellschaft für Materialforschung und Prüforganisation für alle
Bereiche Leipzig mbH (MFPA Leipzig GmbH)

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1 bar



MFPA Leipzig GmbH
Testing, inspection and certification body for
building materials, building products and building systems
Division V - Geotechnics
Prof. Dr.-Ing. Olaf Sebe
Work Group 5.1 - Structural Sealing

Test report PB 5.1/15-192

from 21 December 2015
1st copy

Subject matter: **Casing end seal Type KMR 4 pipes -**
Test of leak tightness in the fitted state

Client: 4 pipes GmbH
Sigmundstraße 182
90431 Nuremberg

Samples received on: 07/05/2015

Sample reception number: 1224, 1226

Test period: July – September 2015

Person in charge: Dipl.-Ing. Jüling

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1 bar

IAF - Radioökologie GmbH

Radionuclide Laboratory | Radiation Safety | Radiological Consultants

**Determination of the Radon Diffusion Coefficient
and Radon Diffusion Length of a sample material**

Client: 4 pipes GmbH
Sigmundstraße 182
90431 Nürnberg

Project: Determination of the Radon Diffusion Coefficient and
Radon Diffusion Length of the sample material "soft PVC"
for the sealing type "Sealing Sleeve 4 pipes type KMR"

Project number: 190827-08

Contractor: IAF-Radioökologie GmbH

Prepared by: Dipl.-Ing. (BA) R. Baumert





The accreditation is valid for the measurement results of the
radon concentration values. The measurements made are
based on the measurement results.

Radeberg, 28. October 2019

H. Schulz

Dr. rer. nat. habil. Hartmut Schulz
Managing Director

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