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System description

1. General

EIGERFLEX is BRUGG Pipe Systems' protected name for flexible, pre-insulated water pipes featuring an integrated frost protection strip (FPC) or EIGERFLEX LONGLINE with fixed-resistance trace heaters for applications involving lengthy heating circuits. These pipe system are especially suitable for cold water and waste water pipes which can either be installed above ground or at depths with frost.

EIGERFLEX cold water pipes feature consist of a medium pipe produced from high-density polyethylene (PE100) as per standard DIN EN 12201. Polyethylene pressure pipes are the standard for drinking water and waste water systems, and also for the gas supply sector, and they are excellently suited to the areas of application just mentioned. The pipes are joined by means of standardised screwed connectors, mechanical pipe couplings, with normal commercial electrowelded fittings or by means of polyfusion welding technology.

The heat insulation consists of CFC-free flexible rigid polyurethane foam with excellent insulating properties. The bending capacity of flexible EIGERFLEX cold water pipes means that they can be adapted to all pipe routing conditions without problems. It is possible to pass over or under existing supply pipes, and obstacles are easily bypassed. With flexible EIGERFLEX cold water pipes, you can choose the shortest pipe route without having to consider classical pipe construction methods.

The self-limiting frost protection strip (FPC) has direct contact to the medium pipe within the heat trace channel and a power capacity of 18 W/m. EIGERFLEX cold water pipe is prefabricated as appropriate and supplied in the required lengths; it always offers the same performance, regardless of the quantities ordered. The maximum length of the heating circuit varies according to the cut-in temperature, which must be controlled by a thermostat.

The EIGERFLEX LONGLINE cold water pipe incorporates fixed-resistance trace heaters which allow heating circuit of up to 1,000 metres in length with one power supply. Depending on the specific project, the trace heater is defined according to the operating conditions and the required route length, and is controlled by means of power regulation during operation. These properties make it very easy to transport service water or wastewater in areas lacking infrastructure.

The desired length of flexible EIGERFLEX cold water pipes is delivered to site in continuous form, either in rings or on a cable drum. Thanks to the generous delivery lengths, pipes can be laid largely without connection points in the ground, so the width of the pipe trench can be considerably reduced. Substantial savings are possible because underground construction work is minimised and installation is fast as well as simple.

2. Range of applications

Max. continuous operating temperature T_{Bmax}:	–30 to +20 °C
Max. permitted operating pressure p:	max. 16 bar

System description

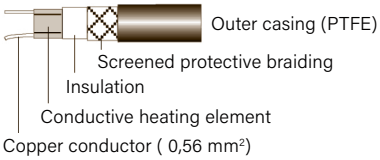
1. Medium pipe

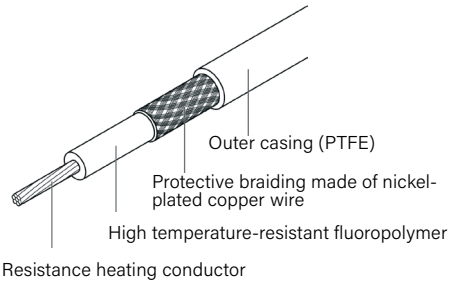
Material	Polyethylene class PE100 with high density, to DIN EN 12201 / DIN 8074 / DIN 8075
Life expectancy	50 years at 20 °C (16 bar) resp. 40 °C (11.6 bar) to DIN 8074 (SF 1.25)
Characteristics	Suitable for cold water and sewage/waste water pipes

PE medium pipe	Ref. temp. °C	Value	Test standard
Density	–	952 - 960 kg/m³	DIN 53479
Heat conductivity	40 - 46	0.40 W/mK	DIN 52612
Ultimate tensile strength (tearing resistance)	20	32 N/mm²	DIN 53455
Modulus of elasticity	20	1000 N/mm²	DIN 53457
Linear expansion coefficient	20	1.8 · 10 E-4 1/K	DIN 52328
Crystallite melting range	–	130 - 135 °C	–

2. Frost protection strip/Heating tape

Material





Type	EIGERFLEX	EIGERFLEX LONGLINE
Dimensions	**25 - 110 mm**	**40 - 125 mm**
Heating element	**selfregulating**	**Résistance constante**
Dimensions	Width 7.6 mm, Thickness 5.2	up to max. Ø 7.0 mm
Minimum bending radius	mm	25 mm
Operating voltage	20 mm	max. 500 V AC
Max. operating temperature powered	230 V AC 50 Hz	Continuous operation 90 °C
Max. heating circuit length:	Continuous operation 65 °C, short periods 85 °C, to –30 °C 102 m / 16 A at 10 °C	max. 1000 m
Power delivery	60 m / 10 A at 10 °C	max. 20 W/m
Control	18 W/m at 10 °C	Thermostat and
	Thermostat	Temperature limiter
To protect people and equipment, we basically specify a 30 mA residual current-operated device (FI).		

3. Heat insulation

Material	CFC-free, 100% CO_2-driven polyurethane foam (PUR)

PUR-insulation	Ref. temperature °C	Value	Test standard
Density	–	> 50 kg/m³	ISO 845
Heat conductivity	30	≤ 0.023 W/mK	EN 253 and ISO 8497
Closed cellular structure	–	≥ 88 %	EN 253
Water absorption after 24 hrs.	–	≤ 10 %	EN 15632-1

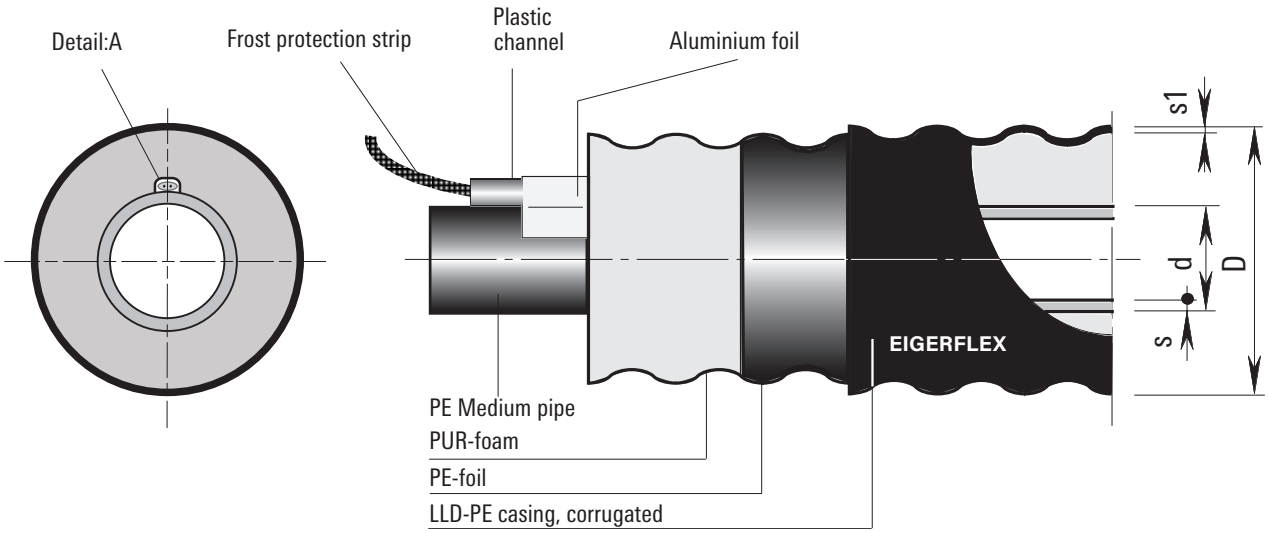
4. Enveloppe de protection

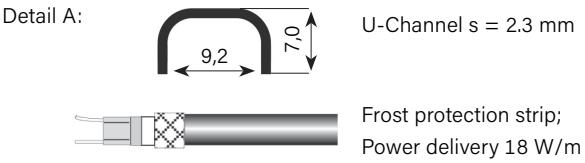
Material	Polyethylene of low density, PE-LLD, extruded seamless
Purpose	Protection against mechanical effects and moisture

PE-LLD-protective casing	Ref. temperature °C	Value	Test standard
Density	–	918 - 922 kg/m³	ISO 1183
Heat conductivity	–	0.33 W/mK	DIN 52612
Crystallite melting range	–	122 °C	ISO 11357-3

EIGERFLEX range

with frost protection strip





EIGERFLEX

Type	DN	Inches	Medium pipe PE d x s	Outer casing D x s1	Min. bending radius	Medium pipe Volume	Weight	max.delivery length* Coil
		"	mm	mm	m	l/m	kg/m	m
25/ 76	**20**	¾	25 x 2.3	78 x 2.0	0.7	0.33	0.90	780
32/ 76	**25**	1	32 x 2.9	78 x 2.0	0.8	0.54	1.20	780
40/ 91	**32**	1¼	40 x 3.7	93 x 2.2	0.8	0.84	1.39	570
50/ 91	**40**	1½	50 x 4.6	93 x 2.2	0.9	1.31	1.85	570
63/126	**50**	2	63 x 5.8	128 x 2.7	1.0	2.08	2.60	305
75/126	**60**	2½	75 x 6.8	128 x 2.7	1.0	2.96	2.75	305
90/162	**75**	3	90 x 8.2	163 x 3.2	1.2	4.25	4.56	150
110/162	**90**	3½	110 x 10.0	163 x 3.2	1.2	6.36	5.69	150
125/182	**100**	4	125 x 11.4	183 x 3.3	1.4	8.20	7.20	80

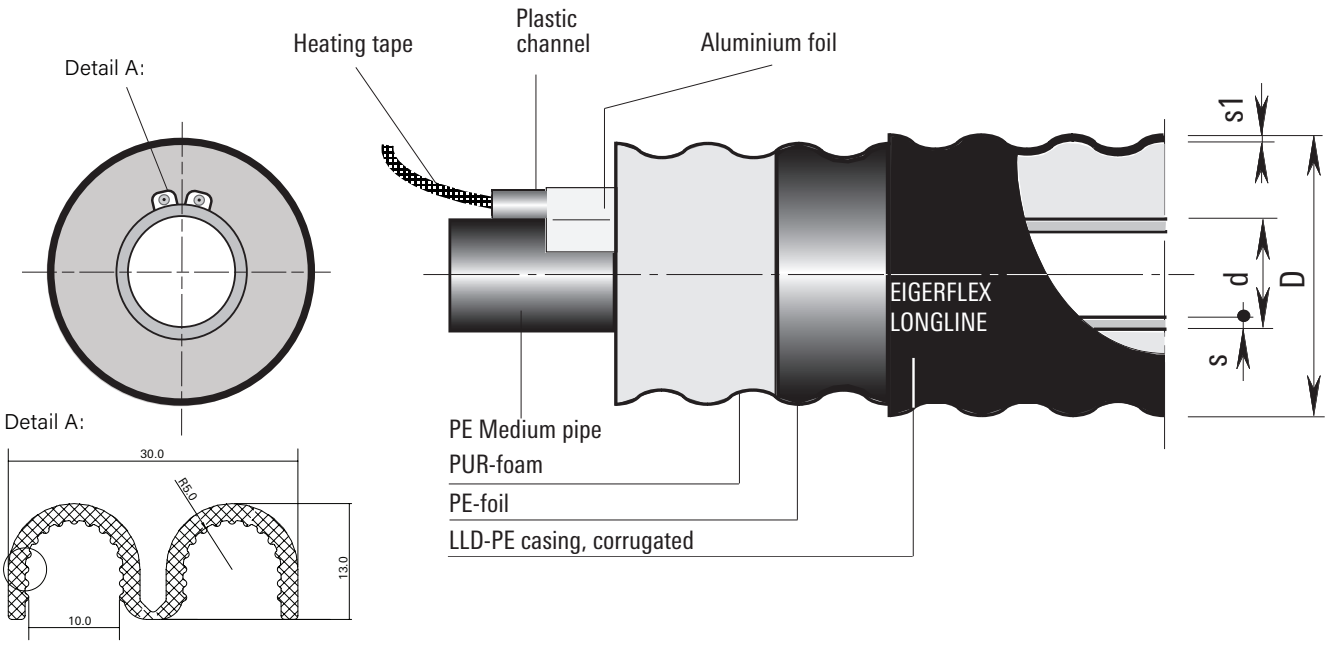
* Deliveries with partial lengths are possible.

- All types listed above include the frost-protection cable in the pipe system as standard from the time of production
- All types are supplied with an addition of up to +5% to compensate for trace heating retraction
- Can be supplied without frost-protection cable and with pull-in aids on request
- We can produce other dimensions or special designs on request (> 500 m)
- Longer or shorter delivery lengths can be supplied on drums on request
- Ring dimensions: Jumbo ring Outer diameter 2800 mm x 800 mm (width)
  Maxi ring Outer diameter 2800 mm x 1200 mm (width)

When ordering at the construction site, please observe the total weight of the ring (unwinding equipment)

EIGERFLEX LONGLINE range

with fixed-resistance heating tape



EIGERFLEX LONGLINE

Type	DN	Inches	Medium pipe PE d x s	Outer casing D x s1	Min. bending radius	Medium pipe Volume	Weight	max.delivery length* Coil
	mm	"	mm	mm	m	l/m	kg/m	m
40/111	**32**	1¼	40 x 3.7	113 x 2.3	0.84	0.84	1.70	300
40/126				128 x 2.7			2.10	192
40/126				143 x 2.9			2.60	160
50/111	**40**	1½	50 x 4.6	113 x 2.3	1.31	1.31	1.97	300
50/126				128 x 2.7			2.40	192
50/142				143 x 2.9			2.90	160
63/126	**50**	2	63 x 5.8	128 x 2.7	2.08	2.08	2.60	192
63/142				143 x 2.9			3.10	160
63/162				163 x 3.2			3.60	92
75/142	**60**	2½	75 x 6.8	143 x 2.9	2.96	2.96	3.39	160
75/162				163 x 3.2			3.90	92
75/182				183 x 3.3			4.10	52
90/162	**75**	3	90 x 8.2	163 x 3.2	4.25	4.25	4.56	92
90/182				183 x 3.3			4.80	52
90/202				202 x 3.3			5.00	46
110/162	**90**	3½	110 x 10.0	163 x 3.2	6.36	6.36	5.70	92
110/182				183 x 3.3			6.60	52
110/202				202 x 3.3			6.80	46
125/182	**100**	4	125 x 11.4	183 x 3.3	8.20	8.20	7.20	52
125/202				202 x 3.3			7.80	46

* Deliveries with partial lengths are possible.

- All types listed above include the frost-protection cable in the pipe system as standard from the time of production
- All types are supplied with an addition of up to +5% to compensate for trace heating retraction
- Can be supplied without frost-protection cable and with pull-in aids on request
- We can produce other dimensions or special designs on request (> 500 m)
- Longer or shorter delivery lengths can be supplied on drums on request.
- Ring dimensions: Jumbo ring Outer diameter 2800 mm x 800 mm (width)
  Maxi ring Outer diameter 2800 mm x 1200 mm (width)

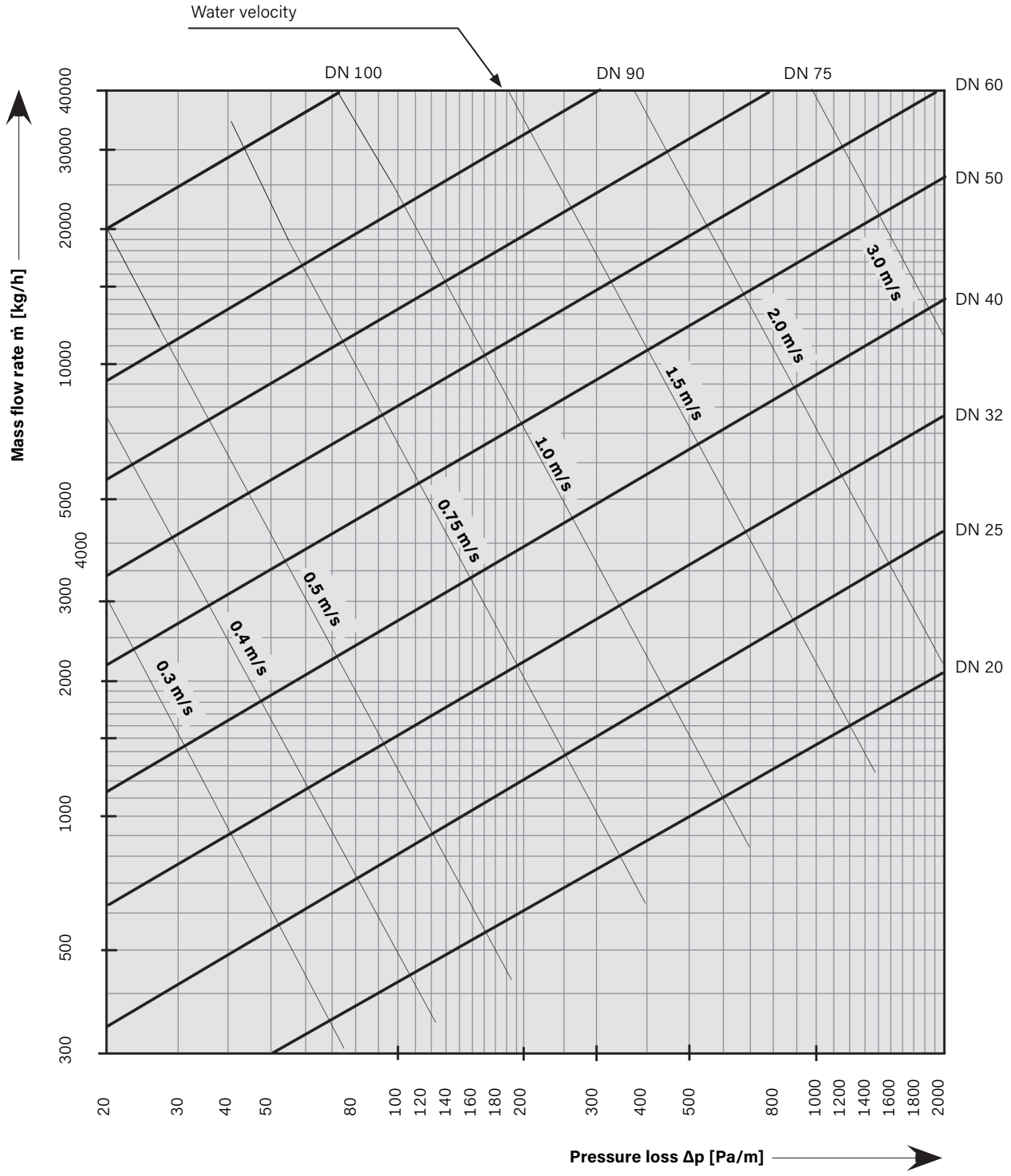
When ordering at the construction site, please observe the total weight of the ring (unwinding equipment)

Pressure loss

EIGERFLEX (16 bar)

Water temperature 20 °C

Roughness ε = 0.01 mm (PE-100)
(1 mmWS = 9.81 Pa)

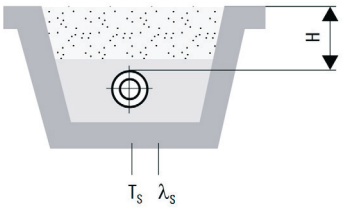


BRUGG Pipes

Heat loss

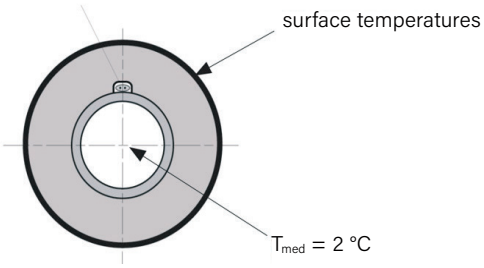
EIGERFLEX (buried- and suspended)

EIGERFLEX
The frost protection strip can no longer compensate for a heat loss of more than 14 W/m, and there is a **danger of freezing.**



EIGERFLEX

Heat losses q [W/m] for one burried UNO pipe							
EIGERFLEX	**U-value**	**Surface temperature [°C]**					
	[W/mK]	**-5°**	**-10°**	**-15°**	**-20°**	**-25°**	**-30°**
25/ 76	0.12	0.9	1.5	2.1	2.7	3.3	3.9
32/ 76	0.15	1.1	1.8	2.6	3.4	4.1	4.9
40/ 91	0.16	1.1	1.9	2.7	3.6	4.4	5.2
50/ 91	0.22	1.5	2.6	3.7	4.7	5.8	6.9
63/126	0.19	1.3	2.3	3.2	4.2	5.1	6.1
75/126	0.25	1.7	3.0	4.2	5.5	6.7	7.9
90/162	0.23	1.6	2.7	3.8	5.0	6.1	7.2
110/162	0.33	2.3	3.9	5.6	7.2	8.9	10.5
125/182	0.34	2.4	4.1	5.7	7.4	9.1	10.8



EIGERFLEX

Heat losses q [W/m] for one suspended UNO pipe							
EIGERFLEX	**U-value**	**Surface temperature [°C]**					
	[W/mK]	**-5°**	**-10°**	**-15°**	**-20°**	**-25°**	**-30°**
25/ 76	0.13	0.9	1.6	2.3	2.9	3.6	4.2
32/ 76	0.17	1.2	2.1	2.9	3.8	4.6	5.5
40/ 91	0.18	1.3	2.2	3.1	4.0	4.9	5.8
50/ 91	0.25	1.7	3.0	4.2	5.5	6.7	7.9
63/126	0.21	1.5	2.6	3.6	4.7	5.8	6.8
75/126	0.29	2.0	3.4	4.9	6.3	7.7	9.2
90/162	0.25	1.8	3.0	4.3	5.6	6.8	8.1
110/162	0.39	2.7	4.7	6.6	8.5	10.5	12.4
125/182	0.40	2.8	4.8	6.8	8.8	10.8	12.8

Calculation with wind speed BFT 10 severe storm

EIGERFLEX & EIGERFLEX LONGLINE

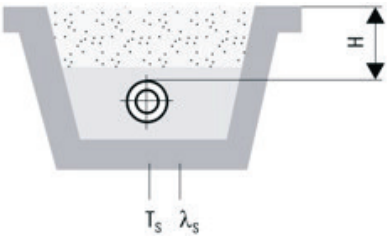
Pipe distance:	a	= 0.10 m
Cover above pipe:	H	= 0.80 m
Ground temperature:	T_S	= 10 °C
Soil conductivity:	λ_S	= 1.000 W/mK
Conductivity of PUR foam:	λ_i	= 0.023 W/mK
Conductivity of PE casing:	λ_{PE}	= 0.330 W/mK
Medium temperature:	T_{med}	= 2 °C
Heat loss during operation:	q	= U (T_{Med} - T)

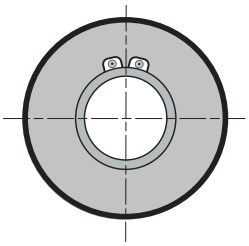
Heat loss

EIGERFLEX LONGLINE (buried- and suspended)

EIGERFLEX LONGLINE

The frost protection strip can no longer compensate for a heat loss of more than 9 W/m, and there is a **danger of freezing.**





EIGERFLEX LONGLINE

Heat losses q [W/m] for one burried UNO pipe							
EIGERFLEX	**U-value**	**Surface temperature T [°C]**					
LONGLINE	**[W/mK]**	**-5°**	**-10°**	**-15°**	**-20°**	**-25°**	**-30°**
40/111	0.13	0.9	1.6	2.3	2.9	3.6	4.2
40/126	0.12	0.8	1.4	2.0	2.6	3.2	3.8
40/142	0.11	0.8	1.3	1.9	2.4	3.0	3.5
50/111	0.17	1.2	2.0	2.8	3.7	4.5	5.3
50/126	0.15	1.0	1.8	2.5	3.2	3.9	4.7
50/142	0.13	0.9	1.6	2.2	2.9	3.6	4.2
63/126	0.19	1.3	2.3	3.2	4.2	5.2	6.1
63/142	0.17	1.2	2.0	2.8	3.7	4.5	5.3
63/162	0.15	1.0	1.7	2.5	3.2	3.9	4.6
75/142	0.21	1.5	2.5	3.5	4.6	5.6	6.7
75/162	0.18	1.2	2.1	3.0	3.9	4.7	5.6
75/182	0.15	1.1	1.8	2.6	3.4	4.2	4.9
90/612	0.23	1.6	2.7	3.8	5.0	6.1	7.2
90/182	0.19	1.3	2.3	3.2	4.2	5.2	6.1
90/202	0.17	1.2	2.0	2.9	3.7	4.6	5.4
110/162	0.33	2.3	3.9	5.6	7.2	8.9	10.5
110/182	0.26	1.8	3.1	4.4	5.7	7.0	8.3
110/202	0.22	1.5	2.6	3.7	4.8	6.0	7.1
125/182	0.34	2.4	4.1	5.7	7.4	9.1	10.8
125/202	0.27	1.9	3.3	4.7	6.0	7.4	8.8

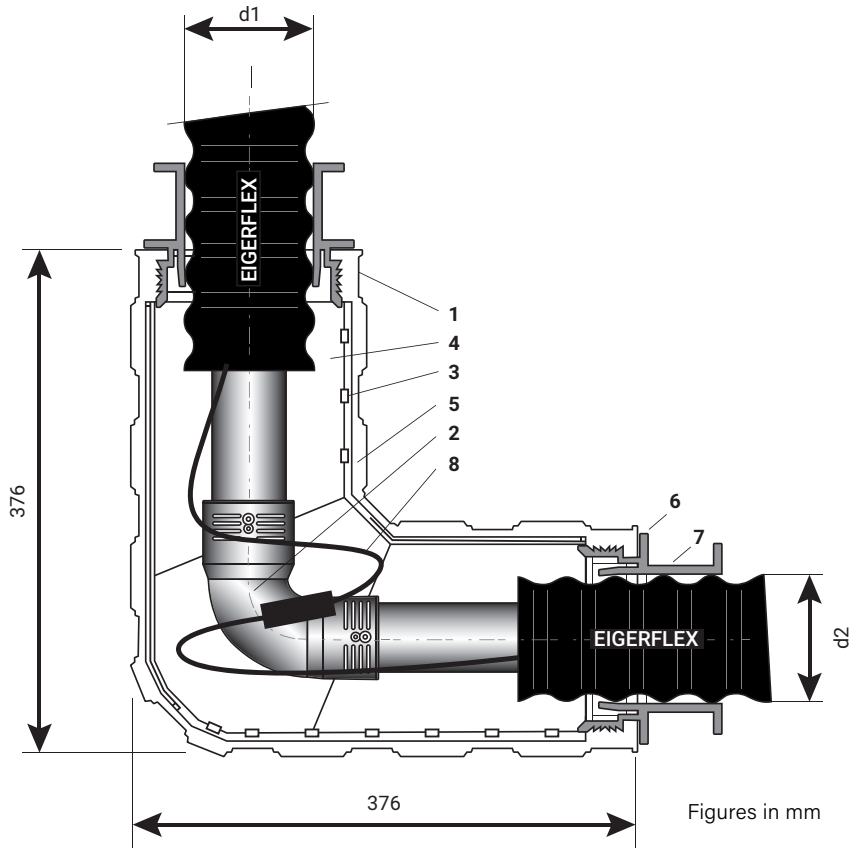
EIGERFLEX LONGLINE

Heat losses q [W/m] for one suspended UNO pipe							
EIGERFLEX	**U-value**	**Surface temperature T [°C]**					
LONGLINE	**[W/mK]**	**-5°**	**-10°**	**-15°**	**-20°**	**-25°**	**-30°**
40/111	0.14	1.0	1.7	2.4	3.1	3.8	4.5
40/126	0.13	0.9	1.5	2.1	2.8	3.4	4.0
40/142	0.11	0.8	1.4	1.9	2.5	3.1	3.7
50/111	0.18	1.3	2.1	3.0	3.9	4.8	5.7
50/126	0.16	1.1	1.9	2.6	3.4	4.2	5.0
50/142	0.14	1.0	1.7	2.4	3.1	3.8	4.5
63/126	0.21	1.5	2.5	3.5	4.6	5.6	6.6
63/142	0.18	1.3	2.1	3.0	3.9	4.8	5.7
63/162	0.15	1.1	1.9	2.6	3.4	4.2	4.9
75/142	0.23	1.6	2.7	3.9	5.0	6.2	7.3
75/162	0.19	1.3	2.3	3.2	4.2	5.1	6.1
75/182	0.16	1.2	2.0	2.8	3.6	4.4	5.3
90/162	0.25	1.7	3.0	4.2	5.5	6.7	8.0
90/182	0.21	1.5	2.5	3.5	4.6	5.6	6.6
90/202	0.18	1.3	2.2	3.1	4.0	4.9	5.8
110/162	0.38	2.7	4.6	6.5	8.4	10.3	12.2
110/182	0.29	2.0	3.5	5.0	6.4	7.9	9.3
110/202	0.24	1.7	2.9	4.1	5.3	6.6	7.8
125/182	0.39	2.8	4.7	6.7	8.7	10.6	12.6
125/202	0.31	2.2	3.7	5.3	6.8	8.3	9.9

Calculation with wind speed BFT 10 severe storm (25.2 - 29 m/2)

EIGERFLEX L-shell

Dimension: Ø 76 - 126 mm



Figures in mm

EIGERFLEX L-shell

Outer casing	Ø d2			
Ø d1	**76**	**91**	**111**	**126**
76	**x**			
91		**x**		
111			**x**	
126				**x**

PE-jointing methods; see CPE 3.350 - 3.360

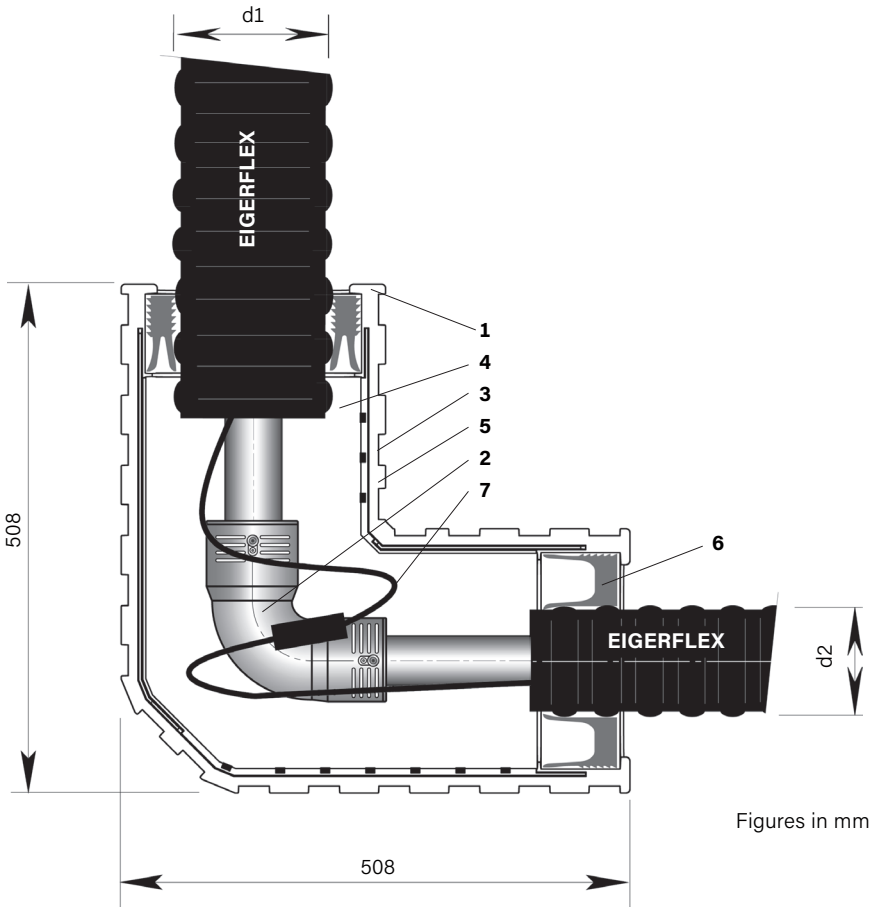
Note: Install protected against climatic influences (UV radiation).

Structure of the half-shell

1 ABS-half-shells
2 Electro-fusion-joints; see CPE 3.360
3 Sealing clamps (14 pcs.)
4 Insulation material; see CPE 3.345
5 Glued surface
6 Reducer ring or sealing ring
7 Hose clip
8 Frost protection strip

EIGERFLEX Big-L-shell

Dimension: Ø 162 - 182 mm



Figures in mm

EIGERFLEX Big-L-shell

Outer casing	Ø d2					
Ø d1	**76**	**91**	**111**	**126**	**162**	**182**
76						
91						
111						
126						
162					**x**	
182						**x**

EIGERFLEX Big-shells are freely reducible from Ø 202 mm to Ø 76 mm
PE-jointing methods; see CPE 3.350 - 3.360

Note: Install protected against climatic influences (UV radiation).

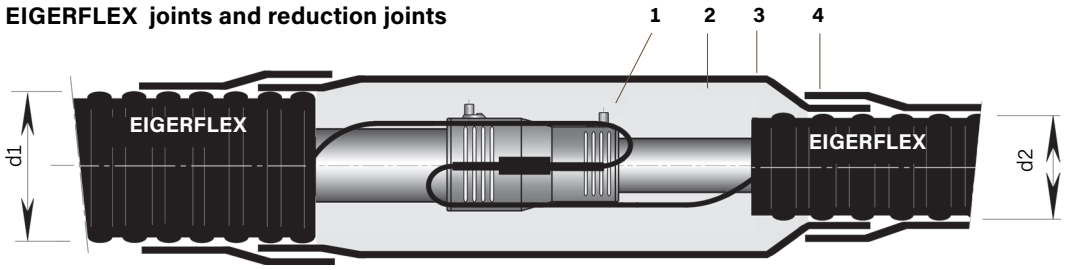
Structure of the half-shell

1 ABS half shells
2 PE-fusion welded joints; see CPE 3.360
3 Sealing clamps (22 pcs.)
4 Insulation material; see CPE 3.345
5 Glued surface
6 Reducer ring or sealing ring
7 Frost protection strip

Joint using PE-HD shrink sleeve

Dimension: Ø 76 - 182 mm

EIGERFLEX joints and reduction joints



1 PE fusion welded joints; see CPE 3.360
2 Insulation material, PUR or PE; see CPE 3.345
3 Shrink sleeve pipe
4 Shrink hose

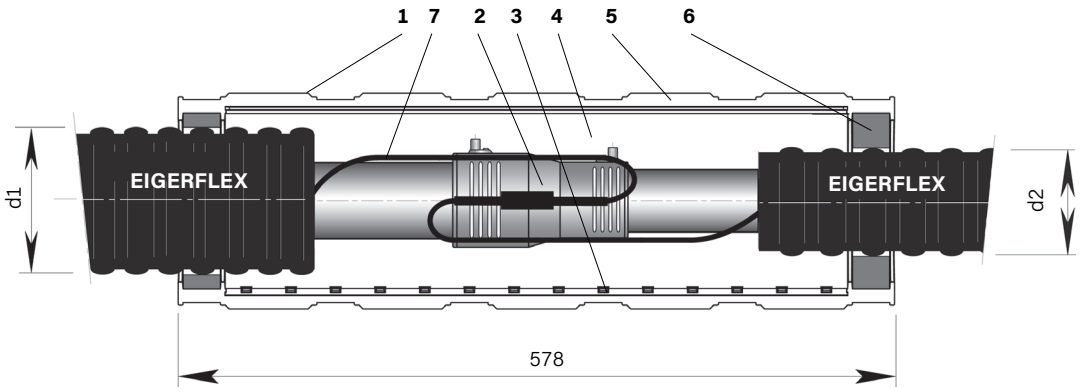
EIGERFLEX

	Ø d2	76	91	126	162	182
Ø d1	76	**x**				
	91	**x**	**x**			
	126	**x**	**x**	**x**		
	162			**x**	**x**	
	182					**x**

PE-jointing methods; see CPE 3.350 - 3.360

EIGERFLEX I-shell

Dimension: Ø 76 - 126 mm



Figures in mm

1 ABS half-shells
2 PE jusion welded joints; see CPE 3.360
3 Sealing clamps (12 pcs.)
4 Insulation material; see CPE 3.345
5 Glued surface
6 Reducer ring or sealing ring
7 Frost protection strip

EIGERFLEX I-shell

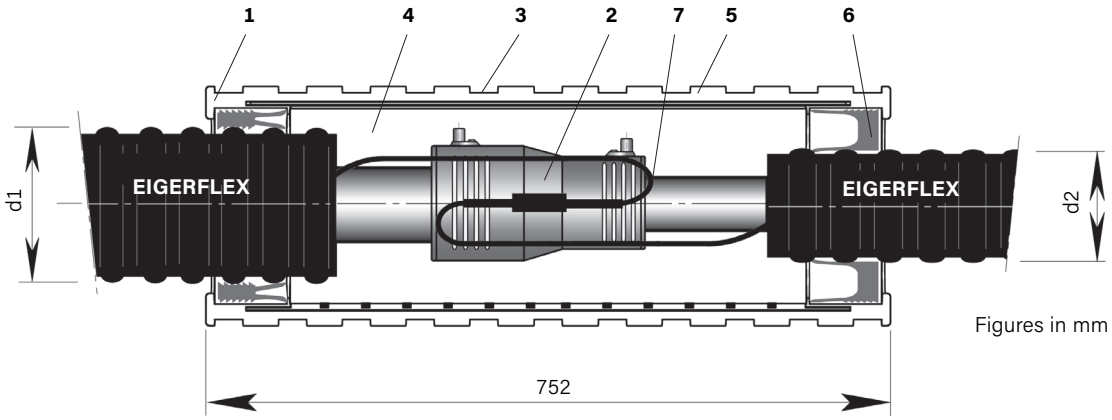
Outer casing	**Ø d2**			
Ø d1	**76**	**91**	**111**	**126**
76	**x**			
91	**x**	**x**		
111	**x**	**x**	**x**	
126	**x**	**x**	**x**	**x**

PE-jointing methods; see CPE 3.350 - 3.360

Note: Install protected against climatic influences (UV radiation).

EIGERFLEX Big-I-shell

Dimension: Ø 126 - 182 mm



Figures in mm

EIGERFLEX Big-I-shell

Outer casing	Ø d2					
Ø d1	**76**	**91**	**111**	**126**	**162**	**182**
76						
91						
111						
126				**x**		
162				**x**	**x**	
182						**x**

EIGERFLEX Big-shells are freely reducible from Ø 182 mm to Ø 76 mm
PE-jointing methods; see CPE 3.350 - 3.360

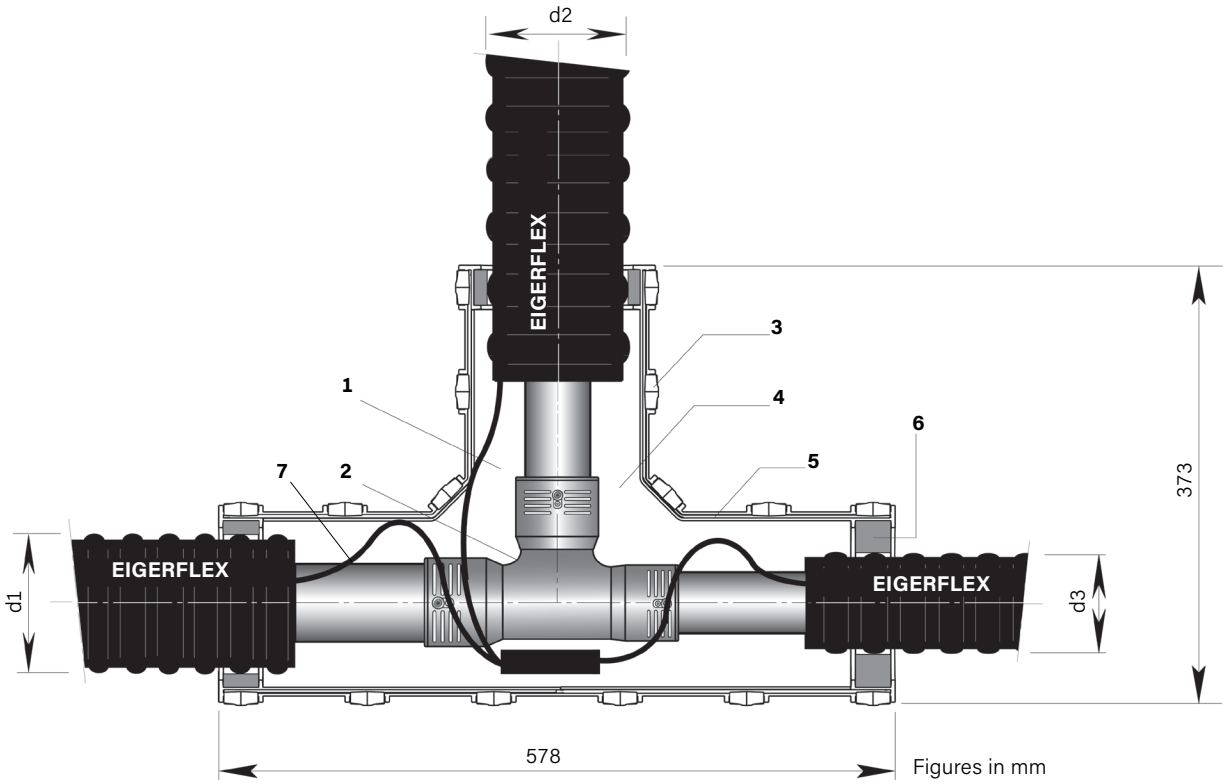
Note: Install protected against climatic influences (UV radiation).

Structure of the half-shell

1 ABS half-shells
2 PE jusion welded joints; see CPE 3.360
3 Sealing clamps (22 pcs.)
4 Insulation material; see CPE 3.345
5 Glued surface
6 Reducer ring or sealing ring
7 Frost protection strip

EIGERFLEX T-shell

Dimension: Ø 76 - 126 mm



Figures in mm

EIGERFLEX T-shell

Outer casing	Branch, Ø d2			
Ø d1 - Ø d3	**76**	**91**	**111**	**126**
76 - 76	x	x	x	x
91 - 91	x	x	x	x
91 - 76	x	x	x	x
111 - 111	x	x	x	x
111 - 91	x	x	x	x
111 - 76	x	x	x	x
126 - 126	x	x	x	x
126 - 111	x	x	x	x
126 - 91	x	x	x	x
126 - 76	x	x	x	x

PE jointing methods; see CPE 3.350 - 3.360

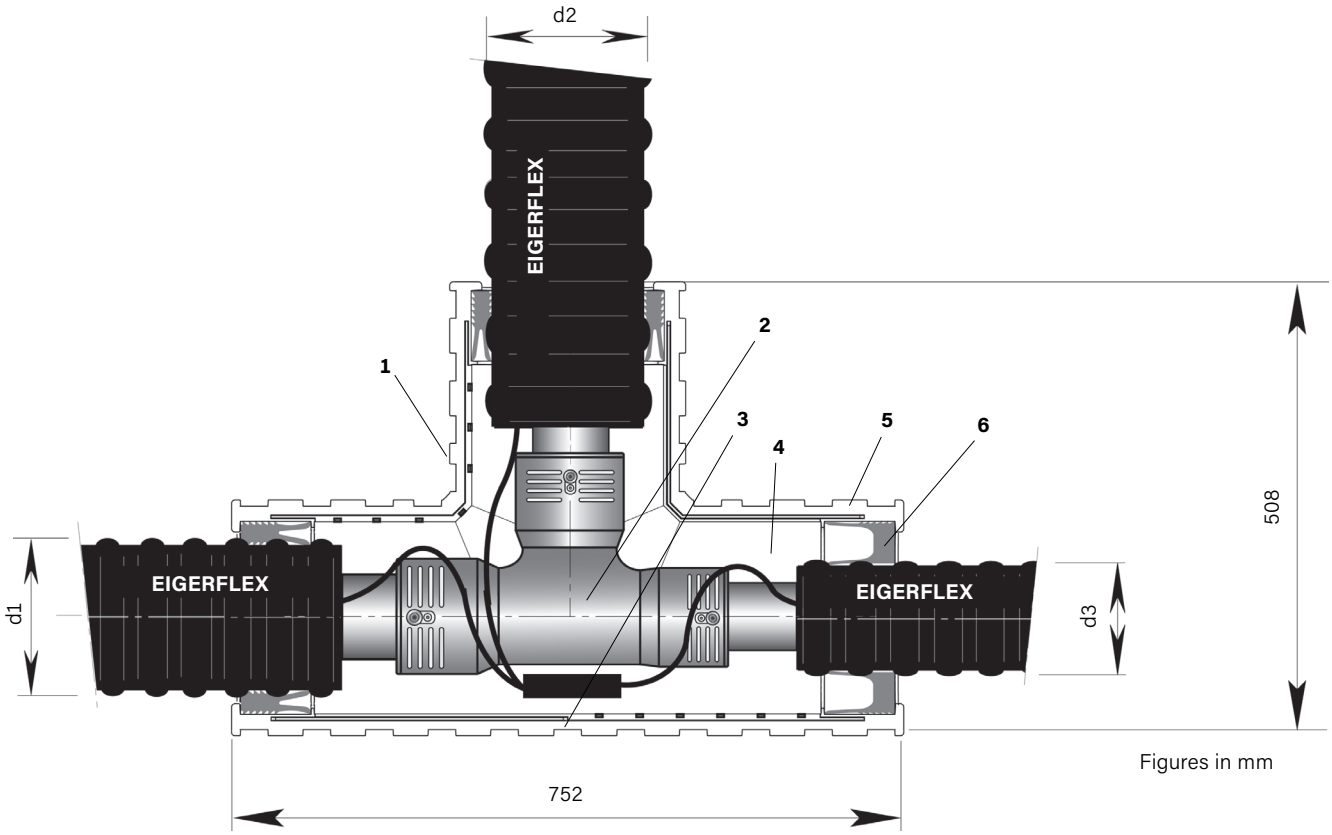
Structure of the half-shell

1 ABS half-shells
2 PE T-piece; see CPE 3.360
3 Sealing clamps (16 pcs.)
4 Insulation material; see CPE 3.345
5 Glued surface
6 Reducer ring or sealing ring
7 Frost protection strip

Note: Install protected against climatic influences (UV radiation).

EIGERFLEX Big-T-shell

Dimension: Ø 76 - 182 mm



Figures in mm

EIGERFLEX Big-T-shell

Outer casing	Branch, Ø d2					
Ø d1 - Ø d3	**76**	**91**	**111**	**126**	**162**	**182**
162 - 162	x	x	x	x	x	x
162 - 126	x	x	x	x	x	x
162 - 111	x	x	x	x	x	x
162 - 91	x	x	x	x	x	x
162 - 76	x	x	x	x	x	x
182 - 182	x	x	x	x	x	x
182 - 162	x	x	x	x	x	x
182 - 126	x	x	x	x	x	x
182 - 111	x	x	x	x	x	x
182 - 91	x	x	x	x	x	x
182 - 76	x	x	x	x	x	x

EIGERFLEX Big-shells are freely reducible from Ø 182 mm to Ø 76 mm
PE jointing methods; see CPE 3.350 - 3.360

Structure of the half-shell

1 ABS half-shells
2 PE T-piece; see CPE 3.360
3 Sealing clamps (27 pcs.)
4 Insulation material; see CPE 3.345
5 Glued surface
6 Reducer ring or sealing ring
7 Frost protection strip

Note: Install protected against climatic influences (UV radiation).

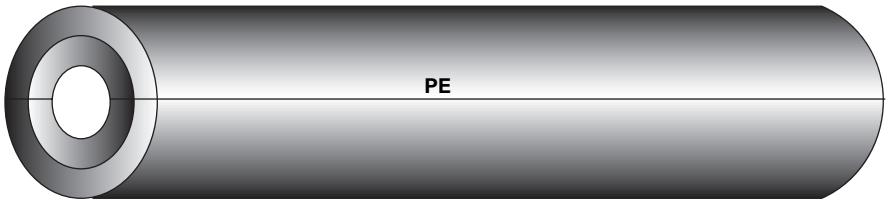
Insulation material

PE foam (CPE 25/76 - 110/162), PUR foam container(s)
PUR foam bottles (CPE 25/76 - 125/182)

Insulation material for shrink joints

Polyethylene foam tube, (CPE 25/76 - 110/162)
Extruded pipe insulation made of closed-cell polyethylene, excellent for insulating EIGERFLEX shrink joints (not for EIGERFLEX shells). Various thicknesses of insulation are available for the most common pipe diameters.

The insulation material (thickness and length) is supplied for the relevant joint types. The insulation must be fitted precisely into the joints on site.



PUR foam for shrink joints and EIGERFLEX shells (CPE 25/76 - 160/250)

CFC-free, cyclopentane-blown PUR foam in plastic bottles

The required quantity of CFC-free polyurethane foam is delivered in suitable container sizes for the various joints and T-pieces. The components are supplied separately in two bottles and are only mixed together when needed. Please note the safety regulations in the installation instructions supplied with the product.

Safety regulations

Protective goggles and gloves must be worn when using this product.

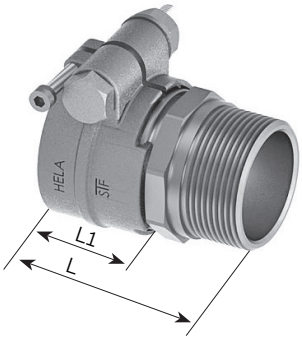
Synthetic gloves

Protective goggles

PE jointing methods

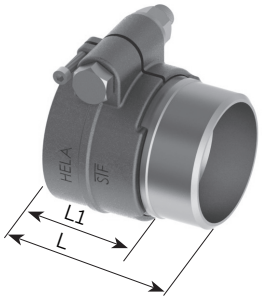
Screwed connectors (outer thread, weld end)

Connection with outer thread



EIGERFLEX (16 bar at 20 °C)		
Material: brass		
PE-pipe	**Screw connection**	
mm	**mm**	
25 x 2.3	25 x 2.3-¾"	61/26
32 x 2.9	32 x 2.9-1"	68/29
40 x 3.7	40 x 3.7-1¼"	77/36
50 x 4.6	50 x 4.6-1½"	79/36
63 x 5.7	63 x 5.7-2"	97/46
75 x 6.8	75 x 6.8-2½"	107/53
75 x 10.3	75 x 10.3-2½"	101/53
110 x 10.0	110 x 10.0-4"	135/70
125 x 11.4	125 x 11.4-5"	144/69

Connection with welding end



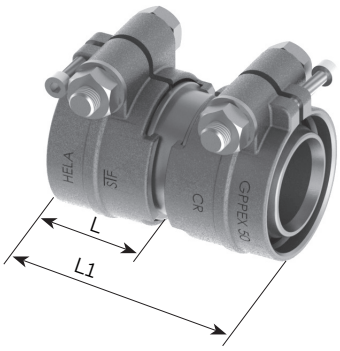
EIGERFLEX (16 bar at 20 °C)		
Material: brass		
PE-pipe	**Welding end**	**L/L1**
mm	**mm**	**mm**
25 x 2.3	26.9 x 2.3	61/26
32 x 2.9	33.7 x 2.6	63/29
40 x 3.7	42.4 x 2.6	75/36
50 x 4.6	48.3 x 2.6	84/36
63 x 5.7	60.3 x 2.9	88/46
75 x 6.8	76.1 x 2.9	101/53
90 x 8.2	88.9 x 3.2	108/58
110 x 10.0	114.3 x 3.6	114/70
125 x 11.4	114.3 x 3.6	120/69

Welding ends are not suitable for drinking water applications.

PE jointing methods

Coupling, equal, 90° angle coupling

Coupling, equal



EIGERFLEX (16 bar at 20 °C)

Material: brass

PE-pipe mm	Coupling mm	L/L1 mm
25 x 2.3	25 x 2.3	68/26
32 x 2.9	32 x 2.9	75/29
40 x 3.7	40 x 3.7	90/36
50 x 4.6	50 x 4.6	90/36
63 x 5.7	63 x 5.7	110/46
63 x 8.7	63 x 8.7	110/46
90 x 8.2	90 x 8.2	144/58
110 x 10.0	110 x 10.0	168/70
125 x 11.4	125 x 11.4	167/69

Couplings, reduced (soldered) can be supplied on request.

90° angle coupling

EIGERFLEX (16 bar at 20 °C)

Material: brass soldered

PE-pipe mm	on PEX-pipe mm
25 x 2.3	25 x 2.3
32 x 2.9	32 x 2.9
40 x 3.7	40 x 3.7
50 x 4.6	50 x 4.6
63 x 5.7	63 x 5.7
75 x 6.8	75 x 6.8
90 x 8.2	90 x 8.2
110 x 10.0	110 x 10.0
125 x 11.4	125 x 11.4

T-pieces (soldered) can be supplied on request.

Electrofusion joints

Dimension Ø 25 - 125 mm

T-piece egal/reduced

EIGERFLEX 16 bar Material: cross-linked polyethylene PE pipe mm
25
32
40
50
63
75
90
110
125

Angle piece, 90°

EIGERFLEX 16 bar Material: cross-linked polyethylene	
PE pipe mm	PE pipe mm
25	25
32	32
40	40
50	50
63	63
75	75

T-piece egal/reduced (without fusion joint)

EIGERFLEX 16 bar Material: cross-linked polyethylene PE pipe mm
25
32
40
50
63
75
90
110
125

Angle piece, 90° equal (without fusion joint)

EIGERFLEX 16 bar Material: cross-linked polyethylene	
PE pipe mm	PE pipe mm
90	90
110	110
125	125

Sleeves

EIGERFLEX 16 bar Material: cross-linked polyethylene	
PE pipe mm	PE pipe mm
25	25
32	32
40	40
50	50
63	63
75	75
90	90
110	110
125	125

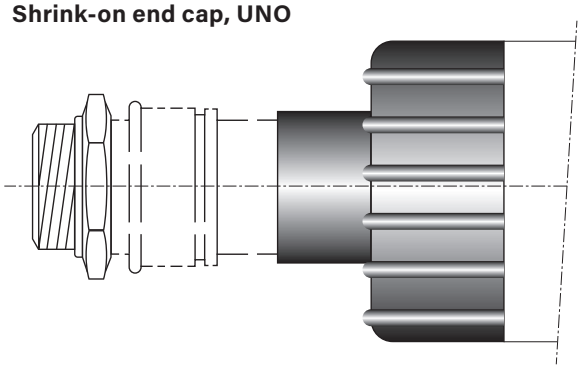
(Source: PF-Schweisstechnologie GmbH)

The installation of the electrofusion sockets for PE joints is carried out exclusively by trained personnel with suitable welding equipment.
All jointing methods listed on this sheet are available on request.

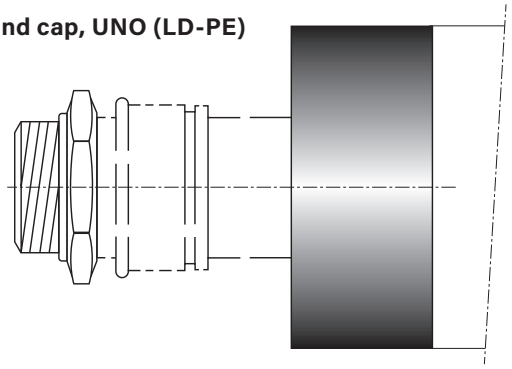
End cap

Standard, shrinkable

Shrink-on end cap, UNO



End cap, UNO (LD-PE)

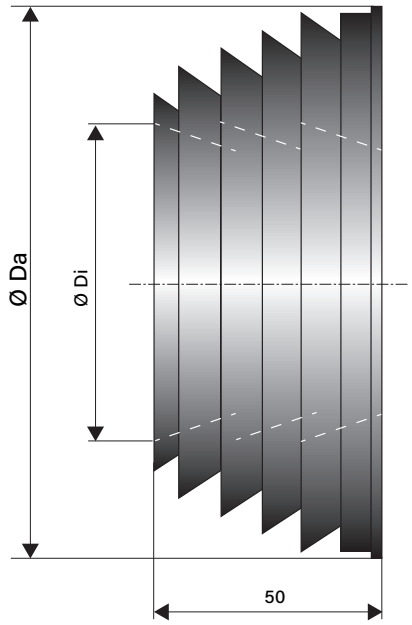


EIGERFLEX
25/ 76
32/ 76
40/ 91
50/ 91
63/126
75/126
90/162
110/162
125/182

LD-PE end caps are fitted on;
suitable for dry rooms

Wall sealing ring

For wall opening



EIGERFLEX

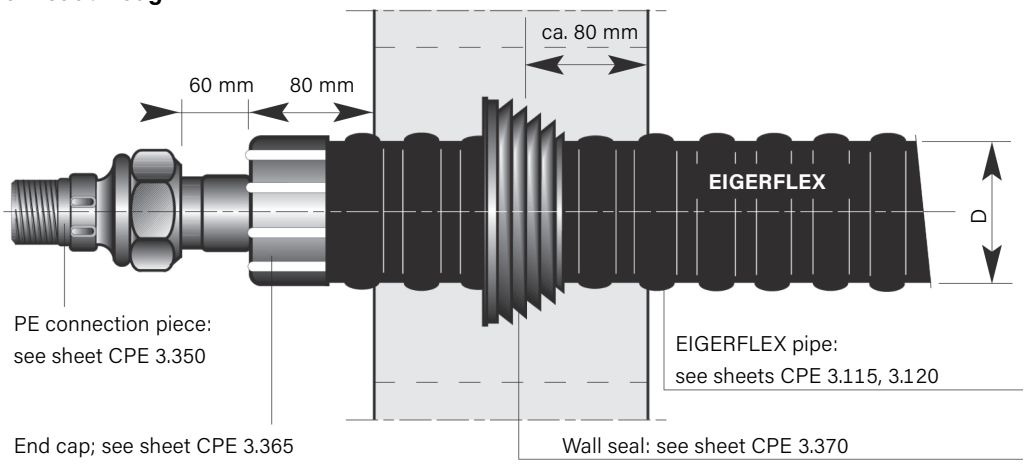
Outer casing diameter	**Neoprene wall sealing ring**	
	Ø Di, inner	**Ø Da, outer**
mm	**mm**	**mm**
76	74	118
91	88	133
111	107	153
126	122	168
142	137	183
162	155	203
182	175	223

Building entry (see sheet CPE 3.375)

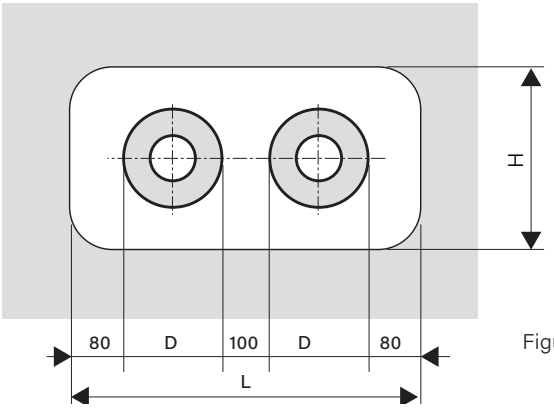
Building entry

Wall opening

Wall leadthrough



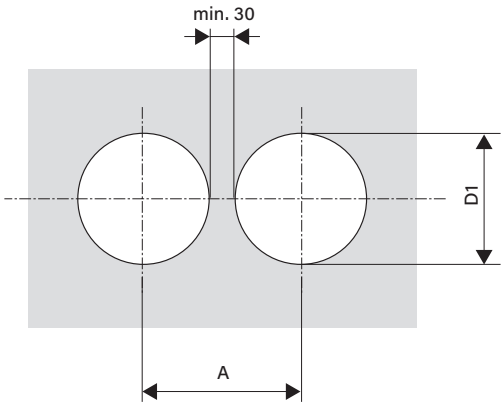
Wall opening



Figures in mm

Outer casing Ø D	L min	H min
mm	mm	mm
78	450	250
93	500	250
113	500	300
128	550	300
143	600	350
163	650	350
183	670	380

Core bores



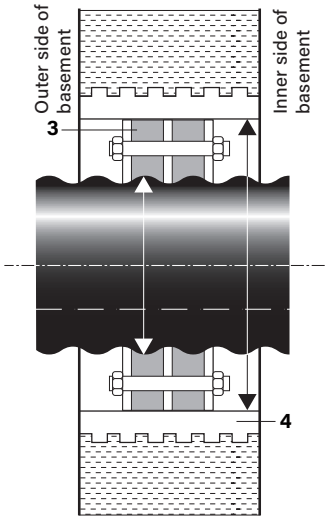
Figures in mm

Outer casing Ø D	A	D1
mm	mm	mm
78	210	180
93	230	180
113	250	220
128	270	230
143	290	230
163	310	280
183	330	280

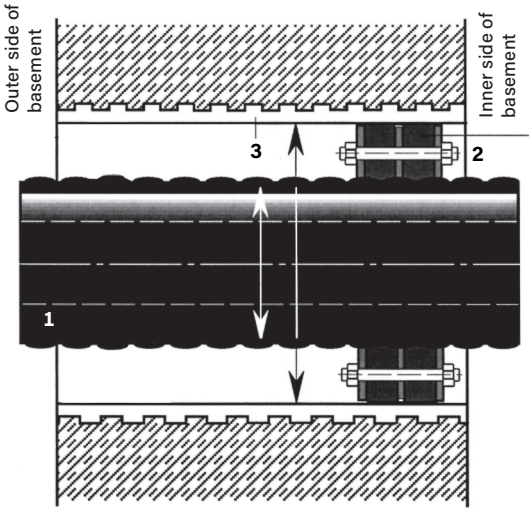
Wall seal

Core bores/cement liner pipes

Standard



With additional centering ring



1 EIGERFLEX district heating pipe
2 Seal set, double-seal* suitable for pressure from water up to 0.5 bar
2 x 40 mm, Shore hardness D 35
3 Liner pipe: made of fibre cement or coated core bore

Core bores

Perfect bores are required for installation. As hairline cracks may be present in the concrete or result from drilling, it is advisable to seal the entire length of the borehole with suitable sealant (such as AQUAGARD).

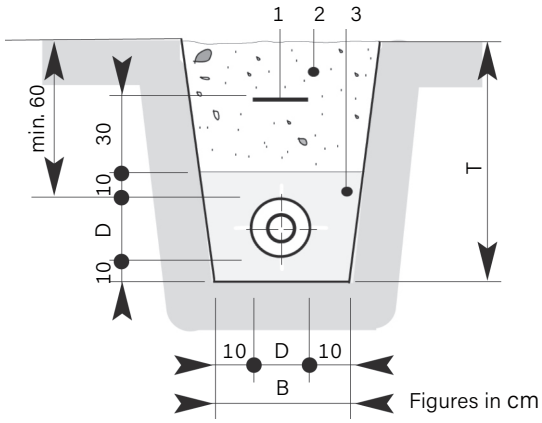
Tightness can only be guaranteed if this recommendation is followed.

Outer pipe Ø R mm	Liner pipe, core bore Ø D mm	Seal set Ø innen mm	Core bore Ø mm
76	150	78 - 85	150
91	150	86 - 94	150
111	200	105 - 115	200
126	200	125 - 135	200
142	200	137 - 145	200
162	250	157 - 165	250
182	250	180 - 190	250

Building entry (see sheet CPE 1.425)

Trench dimensions

Trench profile, 1 CPE pipe



1 Pipe warning tape; see sheet CPE 3.370
2 Excavated material
3 Sand, washed, max. grain size 8 mm

Casing pipe Ø D mm	Width B cm	Depth T cm	Minimum Bending radius m
78	25	80	0.7
93	30	80	0.8
113	30	85	0.9
128	35	85	1.0
163	35	90	1.2
183	38	95	1.4

Installation depth:
max. installation depth: 2.6 m
Our approval is required for installation at greater depths.

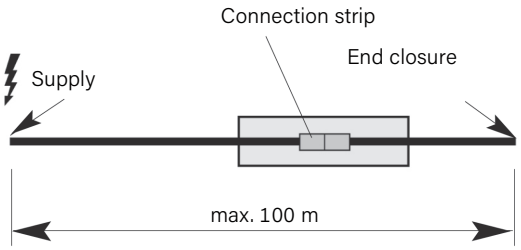
SLW 30 ≙ 300 kN total load as per DIN 1072; if subject to higher traffic loads (e.g. SLW 60), a load-distributing superstructure as per RStO75 is required.
With no traffic load, the minimum trench depth T can be reduced by 40 cm.

FSB connection technology

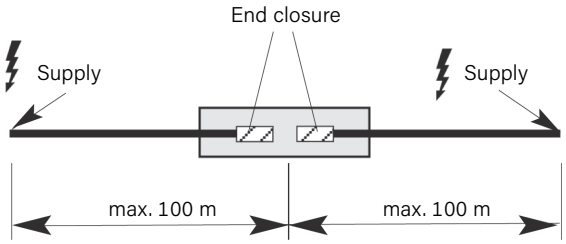
Sleeve joint EIGERFLEX

1. Planning

L ≤ 100 m
Continous joint

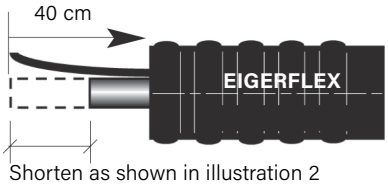


L > 100 m
Separation



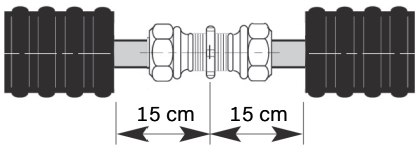
2. Preparation

Figure 1



Shorten as shown in illustration 2

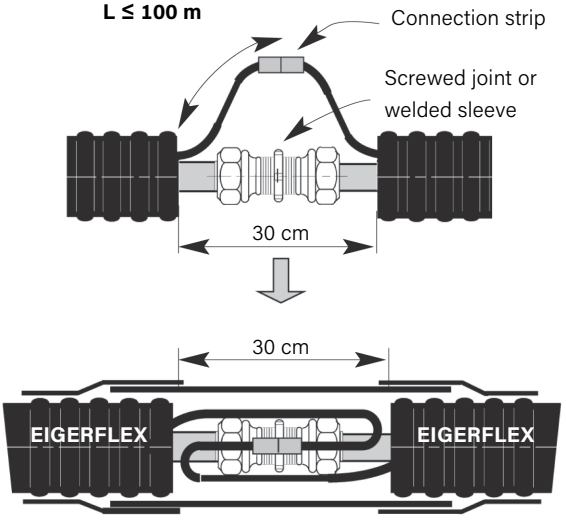
Figure 2



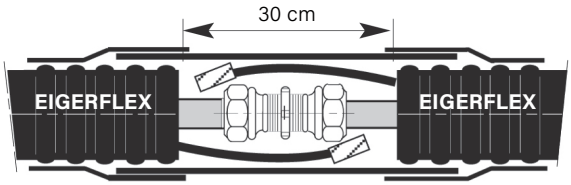
Remove 40 cm of insulation at the ends and carefully expose the strip. Then shorten the inner pipe to length as shown in illustration 2.

3. Sleeve joint

Continuous joint
L ≤ 100 m



Separation
L > 100 m



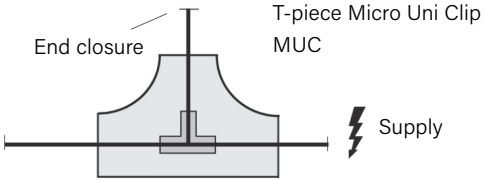
Protect heating strip against moisture
- Installation according to assembly instructions and mandatory by electrician
- BRUGG Pipes supplies integrated trace heaters with delivery heat-shrink tubes, which are only used for transportation purposes.

An end cap must be installed.

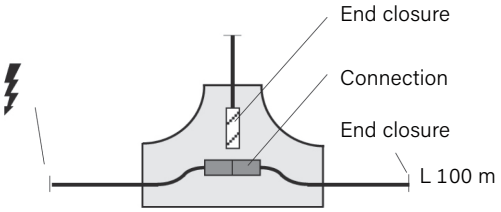
FSB connection technology

T-Piece EIGERFLEX

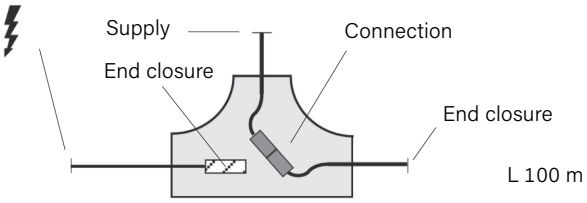
1. Planning



Example 1: Total lenght ≤ 100 m



Example 2: Total lenght ≤ 100 m



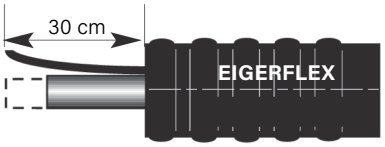
Example 3: Total lenght > 100 m

Protect heating strip against moisture
- Installation according to assembly instructions and mandatory by electrician
- BRUGG Pipes supplies integrated trace heaters with delivery heat-shrink tubes, which are only used for transportation purposes.

An end cap must be installed.

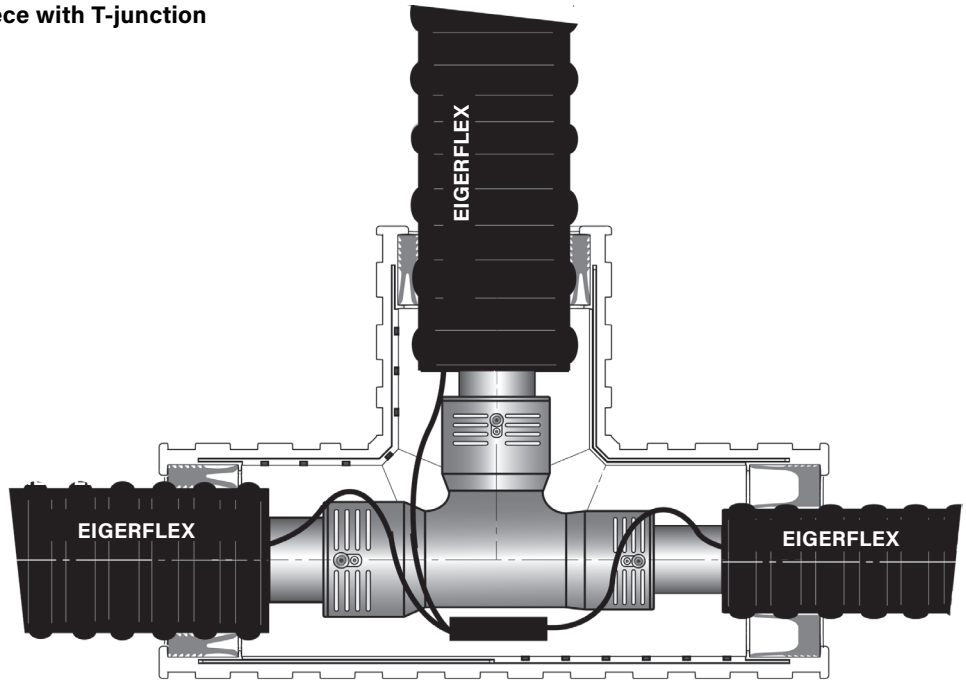
Make sure that the sum of the connected pipes is not more then 100 m.

2. Preparation



Remove 50 cm of insulation at the ends and carefully expose the strip. Then shorten the inner pipe to length according to the fitting instructions.

3. Fitting T-piece with T-junction



BRUGG Pipes

Connection and end

Frost protection strip EIGERFLEX

1. Technical data

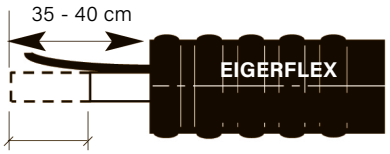
Frost protection strip: Max. heating circuit length based on switch-on temperature of 10 °C: 16 A max. 100 m
10 A max. 60 m

Regulation: Thermostat UTR15

Adjustment range: –5 °C to +15 °C
pipe contact thermostat

2. Preparation

Remove 35-40 cm of insulation at the ends and carefully expose the strip. Then shorten the inner pipe to length according to the fitting instructions.

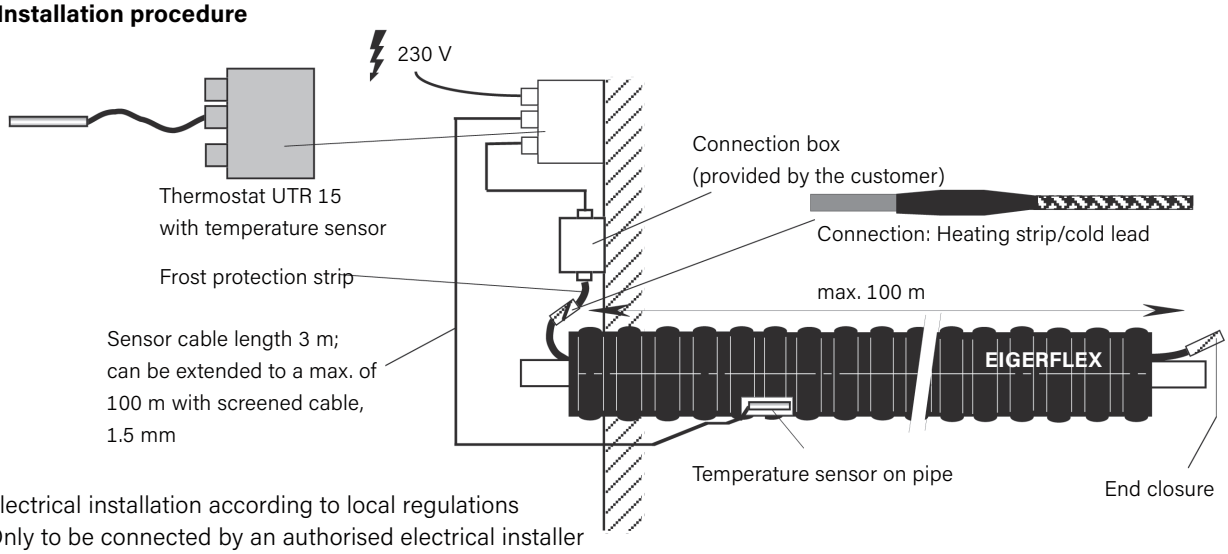


Shorten as described in fitting instructions

Protect heating strip against moisture
- Installation according to assembly instructions and mandatory by electrician
- BRUGG Pipes supplies integrated trace heaters with delivery heat-shrink tubes, which are only used for transportation purposes.

An end cap must be installed.

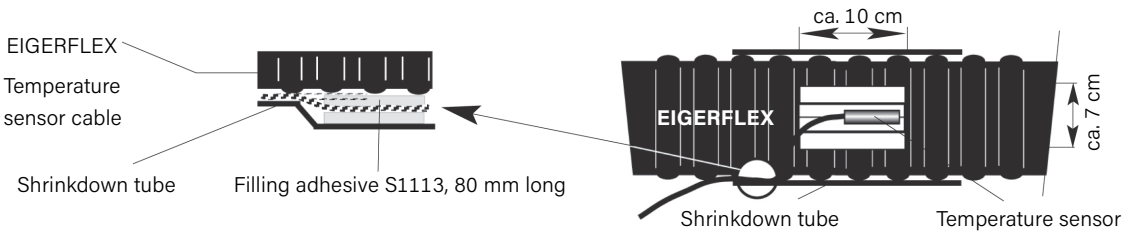
3. Installation procedure



- Electrical installation according to local regulations
- Only to be connected by an authorised electrical installer
- 30 mA residual current-operated device (FI)-required by regulations!
- Automatic fuse, C-characteristic

4. Installing the temperature sensor on the pipe

The temperature sensor has to be installed on the medium pipe opposite the heating strip. It must be fitted at the coldest point on the pipe (outside the building). For this purpose, cut open a 10x7 cm area of the outer casing and peel back, cut out 10x7cm foam, and fix the temperature sensor on the inner pipe with adhesive tape. Fill the hole with the insulating material that is provided: apply filling adhesive S1113 below and above the temperature sensor cable (see sketch), seal with shrinkdown tube.



BRUGG Pipes