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European Technical Assessment

ETA-15/0339
Of 22/03/2022

General part

Technical Assessment Body issuing the European Technical Assessment:

SKG-IKOB Certificatie BV

Trade name of the construction product

Firesafe FIRE COLLAR (incl. stainless) / Glava
Fire Collar
Firesafe Fire Wrap (incl. on roll) / Glava Fire Wrap
Firesafe Cable transit
Firesafe Flex Plug

Product family to which the construction
product belongs

Fire Stopping and Sealing Product:
Penetration Seals

Manufacturer

Firesafe AS
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Manufacturing plants

A004 and A006

This European Technical Assessment
contains

141 pages including 1 Annex which form an integral part of
this assessment.

This European Technical Assessment is
issued in accordance with regulation
(EU) No 305/2011, on the basis of
This ETA replaces/amends/is a
corrigendum to

EAD 350454-00-1104, edition September 2017

ETA 15-0339, version 7, issued on 01-04-2020

Translations of this European Technical Assessment in other languages shall fully correspond to the original issued document and should be identified as such.

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Specific parts

1 Technical description of the product

Firesafe FIRE COLLAR, Firesafe Fire Wrap, Firesafe Cable transit and Firesafe Flex Plug are pipe closure devices used to form penetration seals where combustible pipes, cables and metal pipes with insulation penetrate walls and floors.

Product	Description
Firesafe FIRE COLLAR (aka Glava Fire Collar)	Collar supplied with intumescent liner component for all-round piping installations, complete within metal steel shell, to be clamped around the service and screw fixed back to the supporting element.
Firesafe FIRE COLLAR stainless (aka Glava Fire Collar stainless)	Collar supplied with intumescent liner component for heavy duty applications, complete within metal steel shell, to be clamped around the service and screw fixed back to the supporting element.
Firesafe Fire Wrap (aka Glava Fire Wrap), incl. on roll	Intumescent liner component for heavy duty applications, without metal steel shell, to be clamped around the service in the supporting element. Cut to size or on roll.
Firesafe Cable transit	Cable transit supplied with intumescent liner component for heavy duty applications, complete within an enlarged metal steel shell, to be clamped in the supporting element.
Firesafe Flex plug	Intumescent liner component, to be clamped in the supporting element.

The applicant has submitted a written declaration that the product and/or constituents of the product contains no substances which have been classified as dangerous according to Directive 67/548/EEC and Regulation (EC) No. 1272/2008 and listed in the 'indicative list on dangerous substances' of the EGDS – taking into account the installation conditions of the construction product and the release scenarios resulting from there.

In addition to the specific clauses relating to dangerous substances contained in this European Technical Assessment, there may be other requirements applicable to the products falling within its scope (e.g. transposed European legislation and national laws, regulations and administrative provisions). In order to meet the provisions of the Construction Products Regulation, these requirements need also to be complied with, when and where they apply.

The use category of Firesafe FIRE COLLAR, Firesafe Fire Wrap, Firesafe Cable transit and Firesafe Flex Plug are in relation to BWR 3 (Hygiene, health and environment, release of dangerous substances) is IA1, S/W3.

2 Specification of the intended uses in accordance with the applicable Assessment Document (hereinafter EAD)

2.1 Intended use

The intended use of system of Firesafe FIRE COLLAR, Firesafe Fire Wrap, Firesafe Cable transit and Firesafe Flex Plug are to reinstate the fire resistance performance of flexible wall and rigid wall and floor constructions, where they are penetrated by services.

The specific elements of construction that the system of Firesafe FIRE COLLAR, Firesafe Fire Wrap, Firesafe Cable transit and Firesafe Flex Plug may be used to provide a penetration seal in, are as follows:

- Flexible walls: The wall must have a minimum thickness of 75 mm and comprise steel studs lined on both faces with minimum 2 layers of 12.5 mm thick boards; in compliance with EN 1363-1.
- Rigid walls: The wall must have a minimum thickness of 100 mm and comprise concrete, aerated concrete or masonry, with a minimum density of 650 kg/m³ or 100 mm 5 layered CLT wall.
- Rigid floors: The floor must have a minimum thickness of 150 mm and comprise aerated concrete or concrete with a minimum density of 650 kg/m³ or 140 mm 5 layered CLT floor.

The supporting construction must be classified in accordance with EN 13501-2 for the required fire resistance period. Detailed information and data is given in Annex A.

Environmental conditions are type Y₁: intended for use at temperatures below 0°C with exposure to UV but no exposure to rain, and type Z₁: intended for use in internal conditions with humidity equal to or higher than 85% RH excluding temperatures below 0 °C, without exposure to rain or UV.

2.2 Working life

The assumed working life of the of Firesafe FIRE COLLAR, Firesafe Fire Wrap, Firesafe Cable transit and Firesafe Flex Plug are for the intended use 10 years, provided that the assembled product is subject to appropriate installation, use and maintenance. The indication of 10 years cannot be interpreted as a guarantee given by Firesafe, but should only be regarded as a means for choosing the right products in relation to the expected economically reasonable working life of the works.

3. Performance of the product and references to the methods used for its assessment

The assessment of fitness for use has been made in accordance with EAD 350454-00-1104.

Firesafe FIRE COLLAR		
No	Essential Characteristic	Product performances
BWR 2 Safety in case of fire		
1	Reaction to fire	Class F
2	Resistance to fire	See annex A
BWR 3 Hygiene, health and environment		
3	Air permeability	No performance assessed
4	Water permeability	No performance assessed
5	Content, emission and/or release of dangerous substances	Declaration of manufacturer
BWR 4 Safety and accessibility in use		
6	Mechanical resistance and stability	No performance assessed
7	Resistance to movement	No performance assessed
8	Adhesion	No performance assessed
9	Durability	Y ₁
BWR 5 Protection against noise		
10	Airborne sound insulation	No performance assessed
BWR 6 Energy economy and heat retention		
11	Thermal properties	No performance assessed
12	Water vapour permeability	No performance assessed

Firesafe FIRE COLLAR stainless		
No	Essential Characteristic	Product performances
BWR 2 Safety in case of fire		
1	Reaction to fire	Class F
2	Resistance to fire	See annex A
BWR 3 Hygiene, health and environment		
3	Air permeability	No performance assessed
4	Water permeability	No performance assessed
5	Content, emission and/or release of dangerous substances	Declaration of manufacturer
BWR 4 Safety and accessibility in use		
6	Mechanical resistance and stability	No performance assessed
7	Resistance to movement	No performance assessed
8	Adhesion	No performance assessed
9	Durability	Z ₁
BWR 5 Protection against noise		
10	Airborne sound insulation	No performance assessed
BWR 6 Energy economy and heat retention		
11	Thermal properties	No performance assessed
12	Water vapour permeability	No performance assessed

Firesafe Fire Wrap, incl. on roll		
No	Essential Characteristic	Product performances
BWR 2 Safety in case of fire		
1	Reaction to fire	Class F
2	Resistance to fire	See annex A
BWR 3 Hygiene, health and environment		
3	Air permeability	No performance assessed
4	Water permeability	No performance assessed
5	Content, emission and/or release of dangerous substances	Declaration of manufacturer
BWR 4 Safety and accessibility in use		
6	Mechanical resistance and stability	No performance assessed
7	Resistance to movement	No performance assessed
8	Adhesion	No performance assessed
9	Durability	Y ₁
BWR 5 Protection against noise		
10	Airborne sound insulation	No performance assessed
BWR 6 Energy economy and heat retention		
11	Thermal properties	No performance assessed
12	Water vapour permeability	No performance assessed

Firesafe Cable transit		
No	Essential Characteristic	Product performances
BWR 2 Safety in case of fire		
1	Reaction to fire	Class F
2	Resistance to fire	See annex A
BWR 3 Hygiene, health and environment		
3	Air permeability	No performance assessed
4	Water permeability	No performance assessed
5	Content, emission and/or release of dangerous substances	Declaration of manufacturer
BWR 4 Safety and accessibility in use		
6	Mechanical resistance and stability	No performance assessed
7	Resistance to movement	No performance assessed
8	Adhesion	No performance assessed
9	Durability	Y ₁
BWR 5 Protection against noise		
10	Airborne sound insulation	No performance assessed
BWR 6 Energy economy and heat retention		
11	Thermal properties	No performance assessed
12	Water vapour permeability	No performance assessed

Firesafe Flex plug	
Essential Characteristic	Product performances
BWR 2 Safety in case of fire	
Reaction to fire	Class F
Resistance to fire	See annex A
BWR 3 Hygiene, health and environment	
Air permeability	No performance assessed
Water permeability	No performance assessed
Content, emission and/or release of dangerous substances	Declaration of manufacturer
BWR 4 Safety and accessibility in use	
Mechanical resistance and stability	No performance assessed
Resistance to movement	No performance assessed
Adhesion	No performance assessed
Durability	Y ₁
BWR 5 Protection against noise	
Airborne sound insulation	No performance assessed
BWR 6 Energy economy and heat retention	
Thermal properties	No performance assessed
Water vapour permeability	No performance assessed

4 **Assessment and verification of consistency of performance (hereinafter AVCP) system applied, with reference to its legal base**

According to the decision 1999/454/EC – Commission Decision of date 22nd June 1999 on the procedure for attesting the conformity of construction products pursuant to Article 20(2) of Council Directive 89/106/EEC as regards fire stopping, fire sealing and fire protective products, published in the Official Journal of the European Union (OJEU) L178/52 of 14/07/1999, see <http://eur-lex.europa.eu/JOIndex.do> of the European Commission¹, as amended, the system(s) of assessment and verification of constancy of performance (see Annex V to Regulation (EU) No 305/2011) given in the following table(s) applies (apply).

Product(s)	Intended use(s)	Level(s) or class(es)	System(s)
Fire stopping and fire sealing products	For fire compartmentation and/or fire protection or fire performance	Any	1

5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD

Tasks of the manufacturer

Factory production control

The manufacturer shall exercise permanent internal control of production. All the elements, requirements and provisions adopted by the manufacturer shall be documented in a systematic manner in the form of written policies and procedures, including records of results performed. This production control system shall ensure that the product is in conformity with this European Technical Assessment. The manufacturer may only use initial / raw / constituent materials stated in the technical documentation of this European Technical Assessment.

The factory production control shall be in accordance with the Control Plan of 13/11/2018 relating to the European technical assessment ETA 15/0339 issued on 22/03/2022 which is part of the technical documentation of this European technical approval. The "Control Plan" is laid down in the context of the factory production control system operated by the manufacturer and deposited at SKG-IKOB. The results of factory production control shall be recorded and evaluated in accordance with the provisions of the Control Plan.

Other tasks of the manufacturer

Additional information

The manufacturer shall provide a technical data sheet and an installation instruction with the following minimum information:

(a) Technical data sheet:

- Field of application:
- Building elements for which the penetration seal is suitable, type and properties of the building elements like minimum thickness, density, and - in case of lightweight constructions – the construction requirements.
- Limits in size, minimum thickness etc. of the penetration seal
- Construction of the penetration seal including the necessary components and additional products (e.g. backfilling material) with clear indication whether they are generic or specific.
- Services which the penetration seal is suitable, type and properties of the services like material, diameter, thickness etc. in case of pipes including insulation materials; necessary/allowed supports/fixings (e.g. cable trays)

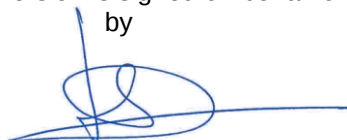
(b) Installation instruction:

- Steps to be followed
- Procedure in case of retrofitting
- Stipulations on maintenance, repair and replacement

Issued in Geldermalsen, the Netherlands on 22/03/2022

The original English version is signed on behalf of SKG-IKOB

by



ir. H.A.J. van Dartel
Certification Manager

Firesafe Field of Application

subpage

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[How-to-read FoA charts](#)

ANNEX A

fire resistant performances

pipe penetrations

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blank seals

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ANNEX B

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[sound insulation: penetrations + joints + blank seals](#)

How-to-read

charts Field of Application Firesafe fire rated building products

certification

Use FoA charts as guideline to quickly identify suitable Firesafe products within classification.

Always apply acc. details as stated per principle detail; click [EI performance](#) in chart.

supporting construction

- 1** product has been tested in + certified for constructive element, default type:
flexible wall $\geq 100\text{mm}$; metal or timber studs, plaster board type A + wall insulation
1-n100 flexible wall $\geq 100\text{mm}$; metal or timber studs, plaster board type F, **no** wall insulation
1-n75 flexible wall $\geq 75\text{mm}$; metal or timber studs, plaster board type F, **no** wall insulation
2 rigid wall $\geq 100\text{mm}$: blockwork/concrete/masonry, density $\geq 600 \text{ kg/m}^3$
3 rigid wall $\geq 150\text{mm}$: blockwork/concrete/masonry, density $\geq 600 \text{ kg/m}^3$
4 flexible ceiling $\geq 150\text{mm}$: metal studs, plaster board type F
5 rigid floor $\geq 150\text{mm}$: (aerated) concrete, density $\geq 600 \text{ kg/m}^3$
6 CLT wall $\geq 100\text{mm}$
7 CLT floor $\geq 140\text{mm}$

Note

Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

tested in construction type **1**

also applicable in constructive element type **2+3** if wall thickness + m^3 weight are either equal or increased

tested in construction type **2**

also application in constructive element type **3** if wall thickness + m^3 weight are either equal or increased

tested in FT Board

also applicable in GPG fireseal

"you may always upgrade, but never downsize"

pipe penetrations

type of **plastic**

all plastic pipe types acc. [EN norms](#)

type of **metal**

all copper or steel or pipes; also suitable for material with lower thermal conductivity + melting point at least equal to tested material

EI

fire resistance in minutes (integrity + insulation)

U/U + U/C + C/U + C/C

pipe end uncapped U / capped C at resp. exposed + unexposed side

pipe insulation

- all synthetic rubber min. 60 kg/m^3 eg Armaflex
- all glass wool or rock wool min. 75 kg/m^3 eg Climpipe or U Protect Pipe Section Alu2
- all polyolefin foam min. 28 kg/m^3 eg Uponor
- all PIR min. 33 kg/m^3

LS

local sustained = partly insulated pipe; **total** insulation length in mm through constructive element (symmetrically)

LI

local interrupted = partly insulated pipe; insulation length in mm **on either side** of constructive element

CS

continued sustained = fully insulated pipe

CI

continued interrupted = fully insulated pipe, yet interrupted in constructive element

max. opening

see principle detail, plus:

- allowed oversize opening $\leq 15\text{mm}$ with FIRE COLLAR + Fire Wrap; if larger, use FT Board:
walls: max. $600 \times 1200 \text{ mm} + 25\%$, floors: max. $1000 \times 1200 \text{ mm}$ up to $600 \times 5000 \text{ mm}$
- allowed '**oversized**' collar $\leq 15\text{mm}$, eg use $\varnothing 90$ collar for $\varnothing 80$ pipe

Note

Support pipes; support distance: see principle detail.

Fasten glass wool or rock wool individually (not wrapped!) with steel wire; see principle detail.

Firesafe

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charts Field of Application Firesafe fire rated building products

certification

Use FoA charts as guideline to quickly identify suitable Firesafe products within classification.

Always apply acc. details as stated per principle detail; click [EI performance](#) in chart.

cable penetrations

type of **service**

all steel (galvanised) cable trays + ladders, non-perforated + perforated

all steel (galvanised) mesh wire cable trays

EI

fire resistance in minutes (integrity + insulation)

minimum working spaces

configuration		horizontal	vertical
Min. distances from opening edges	LARGE	35mm	30 mm
	MIXED	30 mm	0 mm
Min. distances between services	LARGE	5mm	100 mm
	MIXED	20 mm	20 mm

cable groups

group 1 - small sheathed	max. Ø 21mm
group 2 - medium sheathed	max. Ø 50mm
group 3 - large sheathed	max. Ø 80mm
group 4 - data + fibre optic	max. Ø 100mm bundle
group 5 - non-sheathed	max. Ø 23mm
conduit, steel or plastic	max. Ø 16mm

max. opening

see principle detail

Note

Support cable services; support distance: see principle detail.

blank seals

EI

gaps + openings **without any service penetrations**

fire resistance in minutes (integrity + insulation)

[up to EI 120](#) for application in walls + floors

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FoA plastic pipes

Firesafe fire rated building products are applicable for:

PE
polyethylene

aluPE-X
heating + water supply
aka PEX-AL-PEX,
Al-Composite or Multilayer

PE-Xa
high pressure + temperature
cross-linked PE

PP
polypropylene

PP-R
high pressure + temperature

PP-MD
low noise

PVC
polyvinyl chloride

PE-LD + PE-HD

dØ up to 250 mm
s1 3,2 up to 22,7 mm

pipes within range (dØ+s1) acc.

EN 1519-1
EN 12666-1
EN 12201-2
EN ISO 15494
DIN 8074
DIN 8075
DIN 19535-10

eg Wavin TS
Agru PE 100
Agru PE 100-RC

aluPE-X

dØ up to 75 mm
s1 2,0 up to 7,5 mm

pipes within range (dØ+s1) acc.

EN 1519-1
EN 12201-2
EN 12666-1
EN ISO 15494
DIN 8074
DIN 8075
DIN 19535-10

eg Uponor MLC
TECEflex
Geberit Mepla
Kekelit Kelox KM 110
Rehau Rautitan stabil
Henco Alupex
Begetube Alpex

PE-Xa

dØ up to 32 (54) mm
s1 2,2 up to 4,4 mm

pipes within range (dØ+s1) acc.

EN 1519-1
EN 12201-2
EN 12666-1
EN 15875
EN ISO 15494
ISO 21003
DIN 8074
DIN 8075
DIN 19535-10

eg Uponor Aqua
Geberit Mepla
Kekelit Kelox KM 110
Rehau Rautitan flex
Rehau Rautitan stabil

PP

dØ up to 250 mm
s1 2,7 up to 22,7 mm

pipes within range (dØ+s1) acc.

EN 1451-1
EN ISO 15494
EN ISO 15874
DIN 8077
DIN 8078

eg Dyka PP
Agru PP-H

PP-R

dØ up to 110 mm
s1 3,7 up to 15,1 mm

pipes within range (dØ+s1) acc.

EN 1451-1
EN ISO 15494
EN ISO 15874
ISO 21003
DIN 8077
DIN 8078

eg Aquatherm Blue
Aquatherm Green
Aquatechnik PP-R
Akatherm PP-R
Wavin Pilsa

PP-MD

dØ up to 160 mm
s1 1,8 up to 5,4 mm

pipes within range (dØ+s1) acc.

EN 1451-1
EN ISO 15494
EN ISO 15874
DIN 8077
DIN 8078

eg Uponor Decibel
Geberit Silent-PP
Pipelife Master 3
Rehau Raupiano Plus
Poloplast Polo-Kal NG / 3S
Wavin SiTech / AS
Valsir Silere / Triplus

PP-MX

dØ up to 160 mm
s1 2,7 up to 5,7 mm

pipes within range (dØ+s1) acc.

EN 1451-1
EN ISO 15494
EN ISO 15874
DIN 8077
DIN 8078

eg Geberit Silent-Pro

PVC + PVC-C + PVC-U

dØ up to 400 mm
s1 2,7 up to 22,7 mm

pipes within range (dØ+s1) acc.

EN 1329-1
EN 1453-1
EN 1452
EN 1566-1
EN ISO 15493
ISO 15877
DIN 8061
DIN 8062
DIN 19531-10

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field of application			fire resistance - EI classification acc. EN 13501-2 / EN 1366-3				Firesafe	
plastic pipe penetrations			certification - EAD 350454-00-1104					
PE + PP + PVC classification ≤ Ø250 mm			suitable Firesafe products within classification: *					
Fire performances are valid for range of dØ pipe diameter + s1 pipe thickness within the same pipe material:			FT Graphite DoP CPR-16/0094		FIRE COLLAR DoP CPR-15/0339		Fire Wrap DoP CPR-15/0339	
PE + PP + PVC acc. EN norms dØ up to 250 mm s1 up to 22,7 mm pipe brands eg Pipelife, Agru, Dyka, Wavin							supporting construction	
dØ	s1	pipe insulation	walls	floors	walls	floors	walls	floors
up to Ø110	2,7 up to 10,0	non-insulated						
	PE 3,4 up to 10,0		<a>EI 90 in wall 1+2+3 <a>EI 90 in wall 1-n100 <a>EI 30 in wall 1-n75 <a>EI 90 in wall 6		<a>EI 90 in floor 5		<a>EI 120 in wall 1+2+3 2 layer	
	PP 2,7 up to 6,3						<a>EI 180 in floor 5 2 layer	
	PVC 2,7 up to 10,0				also on FT Board: screwed on or cast-in		<a>EI 90 in floor 7 2 layer	
Ø125	3,1 up to 11,7	non-insulated			<a>EI 60 in wall 1+2+3 <a>EI 60 in wall 1-n100 collar Ø125		<a>EI 60 in wall 1+2+3 2 layer	
	PE 3,9 up to 11,7						<a>EI 180 in floor 5 3 layer	
	PP 3,1 up to 7,1							
	PVC 3,1 up to 11,7							
Ø140 - Ø160	4,0 up to 14,6	non-insulated			<a>EI 60 in wall 1+2+3 <a>EI 60 in wall 1-n100 collar Ø140 or Ø160		<a>EI 90 in floor 5 collar Ø140 or Ø160	
	PE 4,9 up to 14,6						<a>EI 180 in floor 5 3 layer	
	PP 4,0 up to 14,6							
	PVC 4,0 up to 14,6							
Ø200	4,9 up to 18,2	non-insulated			<a>EI 60 in wall 1+2+3 <a>EI 60 in wall 1-n100 collar Ø200			
	PE 6,2 up to 18,2							
	PP 4,9 up to 18,2							
	PVC 4,9 up to 18,2							
Ø250	6,2 up to 22,7	non-insulated			<a>EI 60 in wall 1+2+3 also in FT Board collar Ø250			
	PE 9,6 up to 22,7							
	PP 6,2 up to 22,7							
	PVC 6,2 up to 22,7							
			joint details: min. W x D, default: walls: 10 x 25 mm, apply on 2 sides floors: 15 x 25 mm, apply on 2 sides		default: walls: apply on 2 sides floors: apply on 1 side always apply smoke seal FT Acrylic on 2 sides		default: walls: apply on 2 sides floors: apply on 1 side always apply smoke seal FT Acrylic on 2 sides	
					non-standard configurations eg angled, bundled or XL: up to Ø400mm with FIRE COLLAR			
			Constructive element must be classified acc. EN 13501-2 for the required fire resistance period: 1: flexible wall ≥100mm, insulated 1-n100: flexible wall ≥100mm, non-insulated 1-n75: flexible wall ≥75mm, non-insulated 2: rigid wall ≥100mm 3: rigid wall ≥150mm 4: flexible ceiling ≥150mm 5: rigid floor ≥150mm 6: CLT wall ≥100mm 7: CLT floor ≥140mm					
			Max. opening in constructive element: see principle detail. Use FT Board if opening is larger; see how-to-read. Penetration services must be supported; support distance walls max. 500mm support distance floors max. 400mm					
			* Alternatively, use FT Acrylic or FT Paste for pipes ≤ Ø50mm; see individual results.					
Firesafe FoA d22-1 - page 5			NOTE: CONDUITS: see PLASTIC CABLE CONDUITS					
			<a>► INDEX					
			PE + PP + PVC					
			plastic cable conduits					
			PP-R					
			PP-MD					
			PP-MX					
			aluPE-X					
			PE-Xa					
			copper					
			steel					
			steel conduits					
			cast iron					
			trays + ladders + wire mesh					
			cables + bundles					
			fire dampers					
			air transfer grilles					
			duct cladding					
			linear joints					
			socket boxes					
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			how-to-read					
			acoustical					
			environmental					

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥100mm is also applicable for **rigid walls** ≥100mm
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

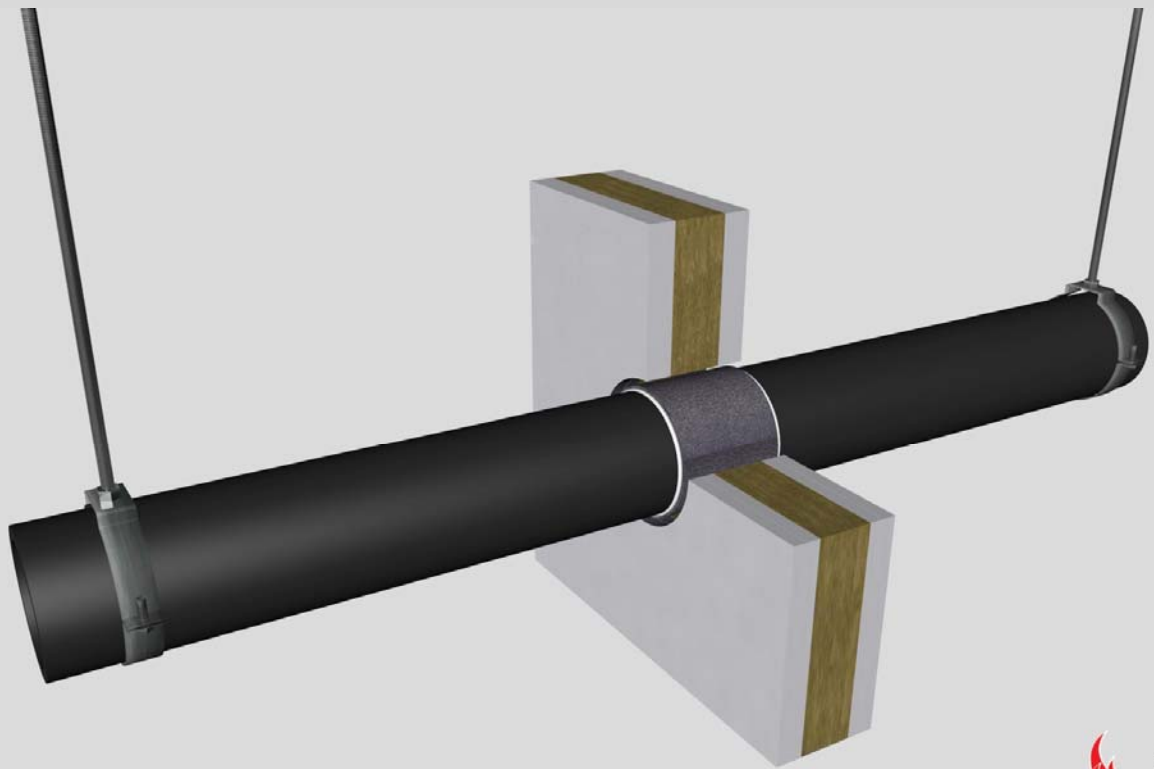
fire resistance

test method

EN 1366-3

service no.

0286



PE + PP + PVC pipes

FT Wrap

dØ (mm)	service type ¹⁾	s1 (mm)	EI	constructive element ²⁾	Firesafe pipe wrap length π x Ø x no. of layers	application 1 or 2 sides	finish required	max. opening in construction	pipe end configuration	max. angle
up to										
Ø110	PE PVC PP	3,4 up to 10,0 2,7 up to 10,0 2,7 up to 6,3	EI 120	flexible walls ≥ 100 mm	π x Ø x 2	2 sides	*	132 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
max.										
Ø125	PE PVC PP	3,9 up to 11,7 3,1 up to 11,7 3,1 up to 7,1	EI 60	flexible walls ≥ 100 mm	π x Ø x 2	2 sides	*	133 mm	U/C + C/C	
individual test results										
Ø90	PE PVC PP	3,5 up to 8,2 3,0 up to 8,2 3,0 up to 8,2	EI 120	rigid walls ≥ 100 mm in FR mortar	π x Ø x 1	2 sides	-	200 x 1000 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
Ø110	PE	3,4	EI 60	flexible walls ≥ 100 mm	π x Ø x 2	2 sides	*	600 x 1200 mm	U/C + C/C	

in FT Board 2S 50 mm

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm (wall) or ≤ 400mm (floor).

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm!

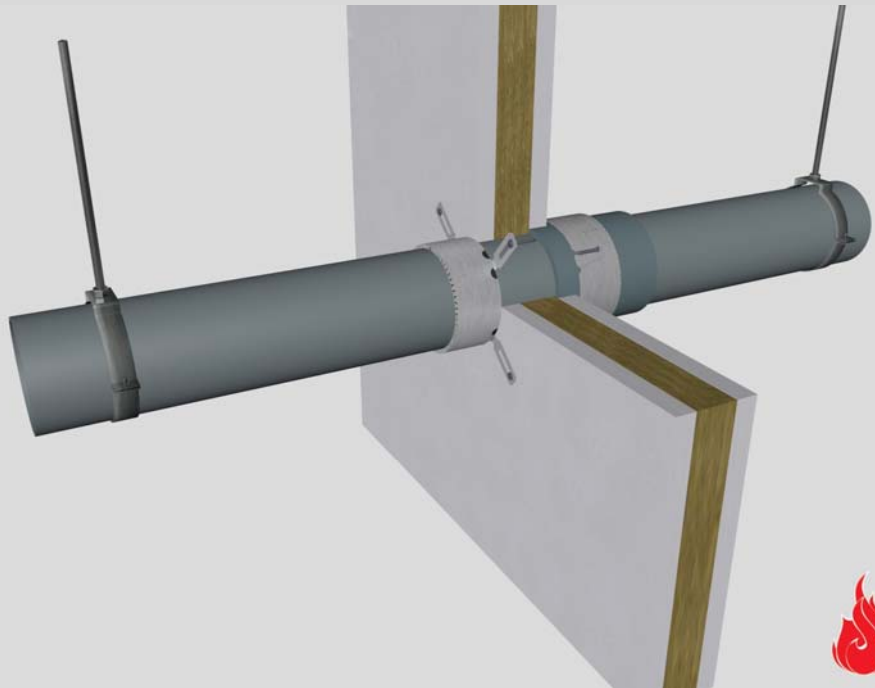
Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥100mm is also applicable for **rigid walls** ≥100mm
- angle: perpendicular + all angles between 90° and 45° (default for range) or 15° (individually tested)

principle detail
Firesafe

tested property
test method
service no.

fire resistance
EN 1366-3
0001



PE + PP + PVC pipes

FIRE COLLAR

service type ¹⁾			EI	constructive element ²⁾	Firesafe pipe collar Ø in mm	application 1 or 2 sides	finish required	max. opening in construction	pipe end configuration	max. angle		
dØ (mm)	s1 (mm)	non-standard config.										
individual test results												
Ø75	PE	3,0	non-insulated walls	with pipe insulation 13mm AF	EI 60	flexible walls ≥ 75 mm	Ø110	2 sides	*	121 mm	U/C + C/C	default: perpendicular + all angles between 90° and 45° or tested with max. 15° angle
			non-insulated walls	with steel support	EI 60	flexible walls ≥ 75 mm	Ø80	2 sides	*	95 mm	U/C + C/C	
Ø90	PE	4,0	non-insulated walls	with steel support	EI 60	flexible walls ≥ 75 mm	Ø90	2 sides	*	110 mm	U/C + C/C	
Ø110	PE	3,4			EI 120	flexible walls ≥ 100 mm	Ø110	2 sides	*	110 mm	U/U + C/U + U/C + C/C + C/C	
	PP	2,7			EI 120	flexible walls ≥ 100 mm	Ø110	2 sides	*	110 mm	U/U + C/U + U/C + C/C + C/C	
	PE	4,2	non-insulated walls	with pipe insulation 13mm AF	EI 60	flexible walls ≥ 75 mm	Ø140	2 sides	*	156 mm	U/C + C/C	
	PE	4,2	non-insulated walls	with steel support	EI 30	flexible walls ≥ 75 mm	Ø110	2 sides	*	130 mm	U/C + C/C	
	PE	6,0	non-insulated walls	with acoustical demper	EI 60	flexible walls ≥ 75 mm	Ø110	2 sides	*	130 mm	U/U + C/U + U/C + C/C + C/C	
	PE	4,2		max. 15° angle 3)	EI 120	rigid walls ≥ 100 mm	Ø125	2 sides	*	115 mm	U/C + C/C + C/C	
	PE	10,0		3x bundled	EI 90	rigid walls ≥ 100 mm	Flex collar OR FMU chain	2 sides	*	330 x 330 mm	U/C + C/C	
Ø125	uPVC	3,7		with pipe socket	EI 90	flexible walls ≥ 100 mm	Ø125	2 sides	*	125 mm	U/C + C/C	
	PP	3,1		screwed on FT Board box	EI 90	flexible walls ≥ 100 mm	Ø125	2 sides	*	125 mm	U/C + C/C	
Ø200	PVC	6,0		cast-in	EI 60	rigid walls ≥ 150 mm	Ø200	2 sides	*	255 mm	U/C + C/C	
Ø400	PVC	12,5		XL size	EI 90	rigid walls ≥ 150 mm	up to Ø400	2 sides	*	405 mm	C/C	

default: perpendicular
+ all angles between
90° and 45°
or tested with max.
15° angle

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm!

³⁾ Max. angle: perpendicular + all angles between 90° and 45° + 0° to max. 15°

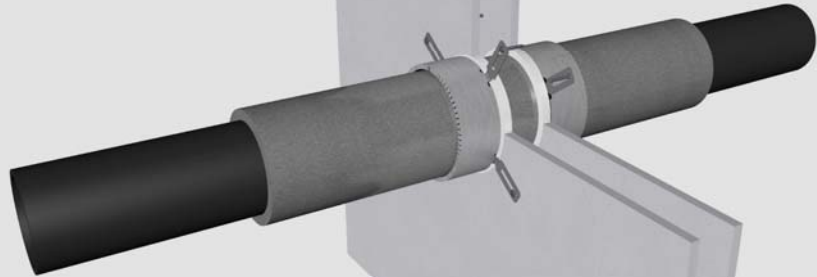
Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥100mm is also applicable for **rigid walls** ≥100mm
- angle: perpendicular + all angles between 90° and 45° (default for range) or 15° (individually tested)

principle detail
Firesafe

tested property
test method
service no.

fire resistance
EN 1366-3
31-11



PE + PP + PVC pipes

FIRE COLLAR

service type ¹⁾			EI	constructive element ²⁾	Firesafe pipe collar Ø in mm	application 1 or 2 sides	finish required	max. opening in construction	pipe end configuration	max. angle		
dØ (mm)	s1 (mm)	non-standard config.										
individual test results												
Ø75	PE	3,0	non-insulated walls	with pipe insulation 13mm AF	EI 60	flexible walls ≥ 75 mm	Ø110	2 sides	*	121 mm	U/C + C/C	default: perpendicular + all angles between 90° and 45° or tested with max. 15° angle
			non-insulated walls	with steel support	EI 60	flexible walls ≥ 75 mm	Ø80	2 sides	*	95 mm	U/C + C/C	
Ø90	PE	4,0	non-insulated walls	with steel support	EI 60	flexible walls ≥ 75 mm	Ø90	2 sides	*	110 mm	U/C + C/C	
Ø110	PE	3,4			EI 120	flexible walls ≥ 100 mm	Ø110	2 sides	*	110 mm	U/U + C/U + U/C + C/C + C/C	
	PP	2,7			EI 120	flexible walls ≥ 100 mm	Ø110	2 sides	*	110 mm	U/U + C/U + U/C + C/C + C/C	
	PE	4,2	non-insulated walls	with pipe insulation 13mm AF	EI 60	flexible walls ≥ 75 mm	Ø140	2 sides	*	156 mm	U/C + C/C	
	PE	4,2	non-insulated walls	with steel support	EI 30	flexible walls ≥ 75 mm	Ø110	2 sides	*	130 mm	U/C + C/C	
	PE	6,0	non-insulated walls	with acoustical demper	EI 60	flexible walls ≥ 75 mm	Ø110	2 sides	*	130 mm	U/U + C/U + U/C + C/C + C/C	
	PE	4,2		max. 15° angle 3)	EI 120	rigid walls ≥ 100 mm	Ø125	2 sides	*	115 mm	U/C + C/C + C/C	
	PE	10,0		3x bundled	EI 90	rigid walls ≥ 100 mm	Flex collar OR FMU chain	2 sides	*	330 x 330 mm	U/C + C/C	
Ø125	uPVC	3,7		with pipe socket	EI 90	flexible walls ≥ 100 mm	Ø125	2 sides	*	125 mm	U/C + C/C	
	PP	3,1		screwed on FT Board box	EI 90	flexible walls ≥ 100 mm	Ø125	2 sides	*	125 mm	U/C + C/C	
Ø200	PVC	6,0		cast-in	EI 60	rigid walls ≥ 150 mm	Ø200	2 sides	*	255 mm	U/C + C/C	
Ø400	PVC	12,5		XL size	EI 90	rigid walls ≥ 150 mm	up to Ø400	2 sides	*	405 mm	C/C	

default: perpendicular
+ all angles between
90° and 45°
or tested with max.
15° angle

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm!

³⁾ Max. angle: perpendicular + all angles between 90° and 45° + 0° to max. 15°

Notes:

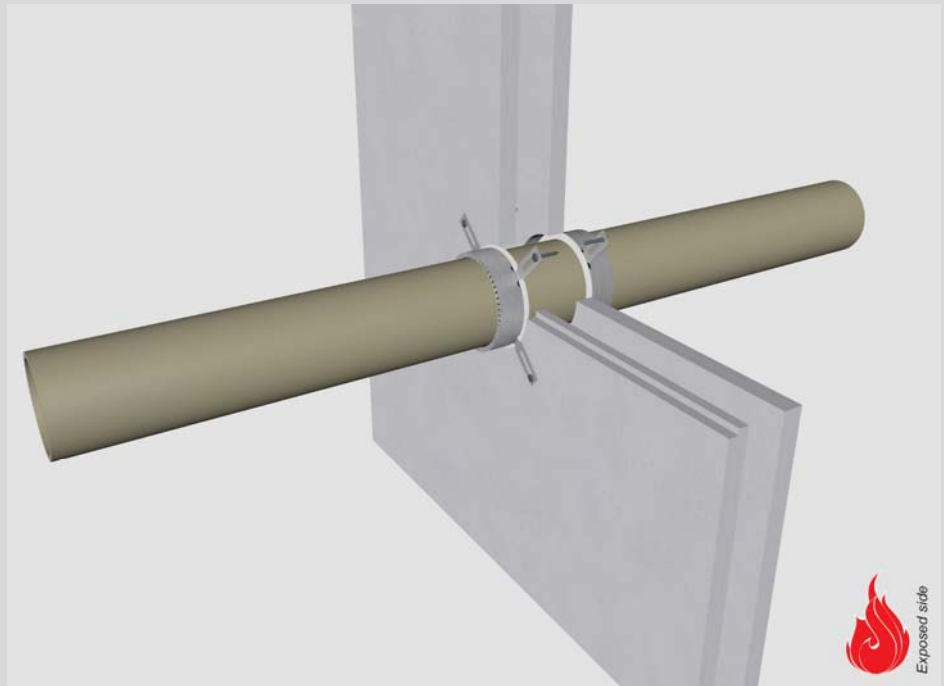
- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- other pipe dØ + s1 (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥ 100mm is also applicable for rigid walls ≥ 100mm
- angle: perpendicular + all angles between 90° and 45° (default for range) or 15° (individually tested)

principle detail

Firesafe

tested property
test method
service no.

fire resistance
EN 1366-3
30-3



PE + PP + PVC pipes

FIRE COLLAR

service type ¹⁾				constructive element ²⁾	Firesafe pipe collar Ø in mm	application 1 or 2 sides	finish required	max. opening in construction	pipe end configuration	max. angle	
dØ (mm)	s1 (mm)	non-standard config.									
up to											
Ø110	PE	3,4 up to 10,0			EI 60	flexible walls ≥ 100 mm	Ø110	2 sides	*	110 mm	U/C + C/C + C/C
	PVC	2,7 up to 10,0	non-insulated walls		EI 60	flexible walls ≥ 100 mm	Ø110	2 sides	*	130 mm	U/C + C/C + C/C
	PP	2,7 up to 6,3	non-insulated walls		EI 30	flexible walls ≥ 75 mm	Ø110	2 sides	*	130 mm	U/C + C/C + C/C
				screwed on or cast-in with Firesafe FT Spirals	EI 60	flexible walls ≥ 100 mm	Ø110	2 sides	*	600x1500 mm	U/C + C/C + C/C
					EI 60	flexible walls ≥ 100 mm	Ø110	2 sides	*	600 x 1200 mm	U/C + C/C + C/C
					EI 60	flexible walls ≥ 100 mm	Ø110	2 sides	*	264 x 264 mm	U/C + C/C + C/C
Ø125	PE	3,9 up to 11,7			EI 60	flexible walls ≥ 100 mm	Ø125	2 sides	*	127 mm	U/C + C/C + C/C
	PVC	3,1 up to 11,7			EI 60	flexible walls ≥ 100 mm	Ø125	2 sides	*	145 mm	U/C + C/C + C/C
	PP	3,1 up to 7,1	non-insulated walls		EI 60	flexible walls ≥ 100 mm	Ø125	2 sides	*	145 mm	U/C + C/C + C/C
Ø140	PE	4,9 up to 14,6			EI 60	flexible walls ≥ 100 mm	Ø140	2 sides	*	140 mm	U/C + C/C + C/C
	PVC	4,0 up to 14,6			EI 60	flexible walls ≥ 100 mm	Ø140	2 sides	*	160 mm	U/C + C/C + C/C
	PP	4,0 up to 14,6	non-insulated walls		EI 60	flexible walls ≥ 100 mm	Ø140	2 sides	*	160 mm	U/C + C/C + C/C
Ø160	PE	4,9 up to 14,6			EI 60	flexible walls ≥ 100 mm	Ø160	2 sides	*	160 mm	U/C + C/C + C/C
	PVC	4,0 up to 14,6			EI 60	flexible walls ≥ 100 mm	Ø160	2 sides	*	180 mm	U/C + C/C + C/C
	PP	4,0 up to 14,6	non-insulated walls		EI 60	flexible walls ≥ 100 mm	Ø160	2 sides	*	180 mm	U/C + C/C + C/C
Ø200	PE	6,2 up to 18,2			EI 60	flexible walls ≥ 100 mm	Ø200	2 sides	*	200 mm	U/C + C/C + C/C
	PVC	4,9 up to 18,2			EI 60	flexible walls ≥ 100 mm	Ø200	2 sides	*	220 mm	U/C + C/C + C/C
	PP	4,9 up to 18,2	non-insulated walls		EI 60	flexible walls ≥ 100 mm	Ø200	2 sides	*	220 mm	U/C + C/C + C/C
max.											
Ø250	PE	9,6 up to 22,7		screwed on with Firesafe FT Spirals	EI 60	flexible walls ≥ 100 mm	Ø250	2 sides	*	400 x 1375 mm	U/C + C/C + C/C
	PVC	6,2 up to 22,7									
	PP	6,2 up to 22,7									

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in FT Board 2S 50 mm

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥ 100mm is also applicable for rigid walls ≥ 100mm!

Notes:

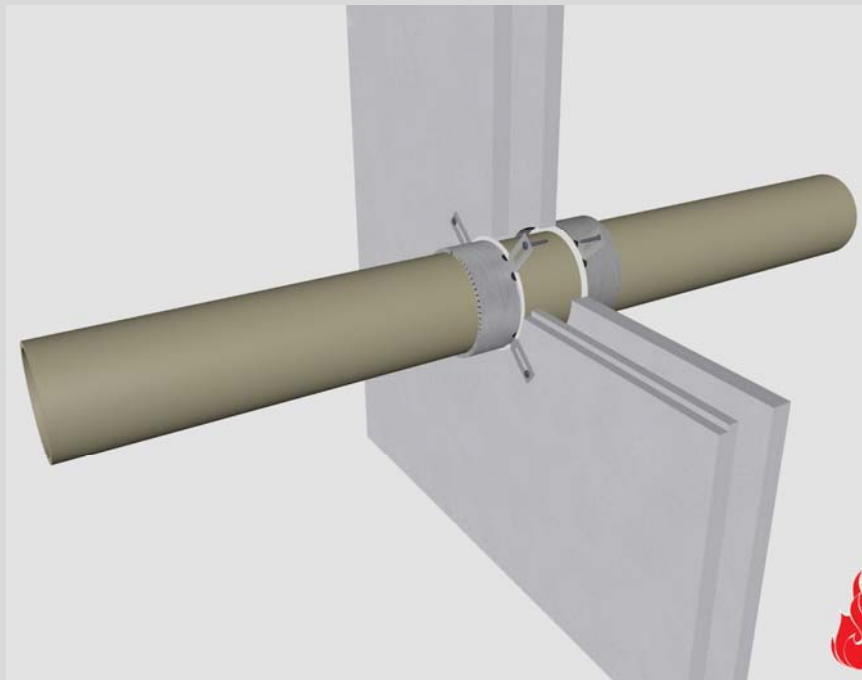
- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥100mm is also applicable for **rigid walls** ≥100mm
- angle: perpendicular + all angles between 90° and 45° (default for range) or 15° (individually tested)

principle detail

Firesafe

tested property
test method
service no.

fire resistance
EN 1366-3
30-5



PE + PP + PVC pipes

FIRE COLLAR

service type ¹⁾		EI	constructive element ²⁾	Firesafe pipe collar Ø in mm	application 1 or 2 sides	finish required	max. opening in construction	pipe end configuration	max. angle		
dØ (mm)	s1 (mm)									non-standard config.	
up to											
Ø110	PE	3,4 up to 10,0		EI 60	flexible walls ≥ 100 mm	Ø110	2 sides	*	110 mm	U/C + C/C + C/C	perpendicular + all angles between 90° and 45°
	PVC	2,7 up to 10,0	non-insulated walls	EI 60	flexible walls ≥ 100 mm	Ø110	2 sides	*	130 mm	U/C + C/C + C/C	
	PP	2,7 up to 6,3	non-insulated walls	EI 30	flexible walls ≥ 75 mm	Ø110	2 sides	*	130 mm	U/C + C/C + C/C	
			screwed on or cast-in with Firesafe FT Spirals	EI 60	flexible walls ≥ 100 mm	Ø110	2 sides	*	600x1500 mm	U/C + C/C + C/C	
				EI 60	flexible walls ≥ 100 mm	Ø110	2 sides	*	600 x 1200 mm	U/C + C/C + C/C	
				EI 60	flexible walls ≥ 100 mm	Ø110	2 sides	*	264 x 264 mm	U/C + C/C + C/C	
Ø125	PE	3,9 up to 11,7		EI 60	flexible walls ≥ 100 mm	Ø125	2 sides	*	127 mm	U/C + C/C + C/C	
	PVC	3,1 up to 11,7		EI 60	flexible walls ≥ 100 mm	Ø125	2 sides	*	145 mm	U/C + C/C + C/C	
	PP	3,1 up to 7,1	non-insulated walls	EI 60	flexible walls ≥ 100 mm	Ø125	2 sides	*	145 mm	U/C + C/C + C/C	
Ø140	PE	4,9 up to 14,6		EI 60	flexible walls ≥ 100 mm	Ø140	2 sides	*	140 mm	U/C + C/C + C/C	
	PVC	4,0 up to 14,6		EI 60	flexible walls ≥ 100 mm	Ø140	2 sides	*	160 mm	U/C + C/C + C/C	
	PP	4,0 up to 14,6	non-insulated walls	EI 60	flexible walls ≥ 100 mm	Ø140	2 sides	*	160 mm	U/C + C/C + C/C	
Ø160	PE	4,9 up to 14,6		EI 60	flexible walls ≥ 100 mm	Ø160	2 sides	*	160 mm	U/C + C/C + C/C	
	PVC	4,0 up to 14,6		EI 60	flexible walls ≥ 100 mm	Ø160	2 sides	*	180 mm	U/C + C/C + C/C	
	PP	4,0 up to 14,6	non-insulated walls	EI 60	flexible walls ≥ 100 mm	Ø160	2 sides	*	180 mm	U/C + C/C + C/C	
Ø200	PE	6,2 up to 18,2		EI 60	flexible walls ≥ 100 mm	Ø200	2 sides	*	200 mm	U/C + C/C + C/C	
	PVC	4,9 up to 18,2		EI 60	flexible walls ≥ 100 mm	Ø200	2 sides	*	220 mm	U/C + C/C + C/C	
	PP	4,9 up to 18,2	non-insulated walls	EI 60	flexible walls ≥ 100 mm	Ø200	2 sides	*	220 mm	U/C + C/C + C/C	
max.											
Ø250	PE	9,6 up to 22,7	screwed on with Firesafe FT Spirals	EI 60	flexible walls ≥ 100 mm	Ø250	2 sides	*	400 x 1375 mm	U/C + C/C + C/C	
	PVC	6,2 up to 22,7									
	PP	6,2 up to 22,7									

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in FT Board 2S 50 mm

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm!

Notes:

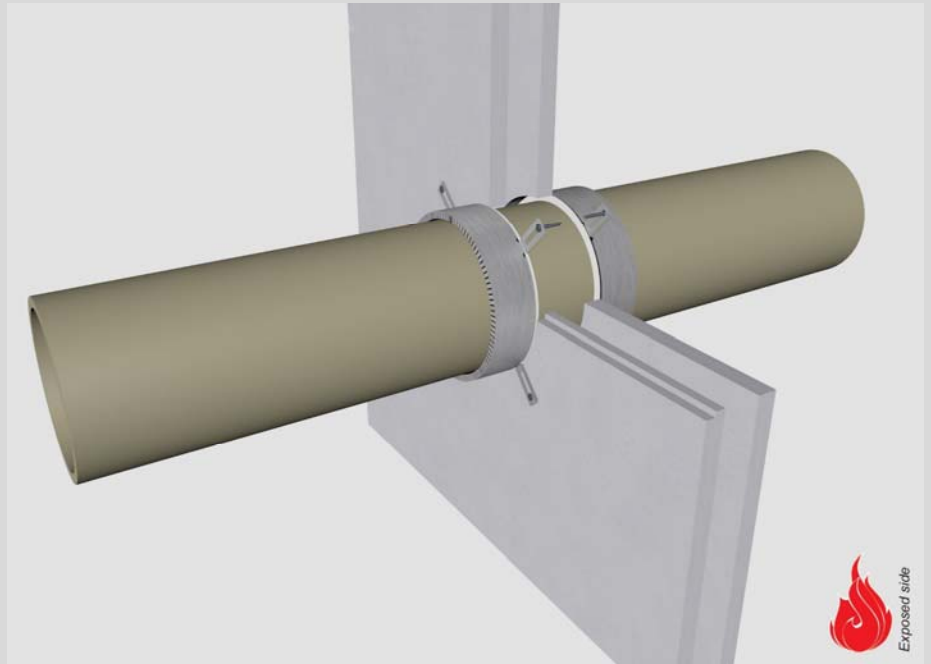
- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥ 100mm is also applicable for **rigid walls** ≥ 100mm
- angle: perpendicular + all angles between 90° and 45° (default for range) or 15° (individually tested)

principle detail

Firesafe

tested property
test method
service no.

fire resistance
EN 1366-3
30-9



PE + PP + PVC pipes

FIRE COLLAR

service type ¹⁾			 EI	constructive element ²⁾	Firesafe pipe collar Ø in mm	application 1 or 2 sides	finish required	max. opening in construction	pipe end configuration	max. angle	
dØ (mm)	s1 (mm)	non-standard config.									
up to											
Ø110	PE	3,4 up to 10,0		EI 60	flexible walls ≥ 100 mm	Ø110	2 sides	*	110 mm	U/C + C/C + C/C	perpendicular + all angles between 90° and 45°
	PVC	2,7 up to 10,0	non-insulated walls	EI 60	flexible walls ≥ 100 mm	Ø110	2 sides	*	130 mm	U/C + C/C + C/C	
	PP	2,7 up to 6,3	non-insulated walls	EI 30	flexible walls ≥ 75 mm	Ø110	2 sides	*	130 mm	U/C + C/C + C/C	
			screwed on or cast-in with Firesafe FT Spirals	EI 60	flexible walls ≥ 100 mm	Ø110	2 sides	*	600x1500 mm	U/C + C/C + C/C	
				EI 60	flexible walls ≥ 100 mm	Ø110	2 sides	*	600 x 1200 mm	U/C + C/C + C/C	
				EI 60	flexible walls ≥ 100 mm	Ø110	2 sides	*	264 x 264 mm	U/C + C/C + C/C	
Ø125	PE	3,9 up to 11,7		EI 60	flexible walls ≥ 100 mm	Ø125	2 sides	*	127 mm	U/C + C/C + C/C	
	PVC	3,1 up to 11,7		EI 60	flexible walls ≥ 100 mm	Ø125	2 sides	*	145 mm	U/C + C/C + C/C	
	PP	3,1 up to 7,1	non-insulated walls	EI 60	flexible walls ≥ 100 mm	Ø125	2 sides	*	145 mm	U/C + C/C + C/C	
Ø140	PE	4,9 up to 14,6		EI 60	flexible walls ≥ 100 mm	Ø140	2 sides	*	140 mm	U/C + C/C + C/C	
	PVC	4,0 up to 14,6		EI 60	flexible walls ≥ 100 mm	Ø140	2 sides	*	160 mm	U/C + C/C + C/C	
	PP	4,0 up to 14,6	non-insulated walls	EI 60	flexible walls ≥ 100 mm	Ø140	2 sides	*	160 mm	U/C + C/C + C/C	
Ø160	PE	4,9 up to 14,6		EI 60	flexible walls ≥ 100 mm	Ø160	2 sides	*	160 mm	U/C + C/C + C/C	
	PVC	4,0 up to 14,6		EI 60	flexible walls ≥ 100 mm	Ø160	2 sides	*	180 mm	U/C + C/C + C/C	
	PP	4,0 up to 14,6	non-insulated walls	EI 60	flexible walls ≥ 100 mm	Ø160	2 sides	*	180 mm	U/C + C/C + C/C	
Ø200	PE	6,2 up to 18,2		EI 60	flexible walls ≥ 100 mm	Ø200	2 sides	*	200 mm	U/C + C/C + C/C	
	PVC	4,9 up to 18,2		EI 60	flexible walls ≥ 100 mm	Ø200	2 sides	*	220 mm	U/C + C/C + C/C	
	PP	4,9 up to 18,2	non-insulated walls	EI 60	flexible walls ≥ 100 mm	Ø200	2 sides	*	220 mm	U/C + C/C + C/C	
max.											
Ø250	PE	9,6 up to 22,7		EI 60	flexible walls ≥ 100 mm	Ø250	2 sides	*	400 x 1375 mm	U/C + C/C + C/C	
	PVC	6,2 up to 22,7	screwed on with Firesafe FT Spirals								
	PP	6,2 up to 22,7									

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in FT Board 2S 50 mm

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥ 100mm is also applicable for rigid walls ≥ 100mm!

Notes:

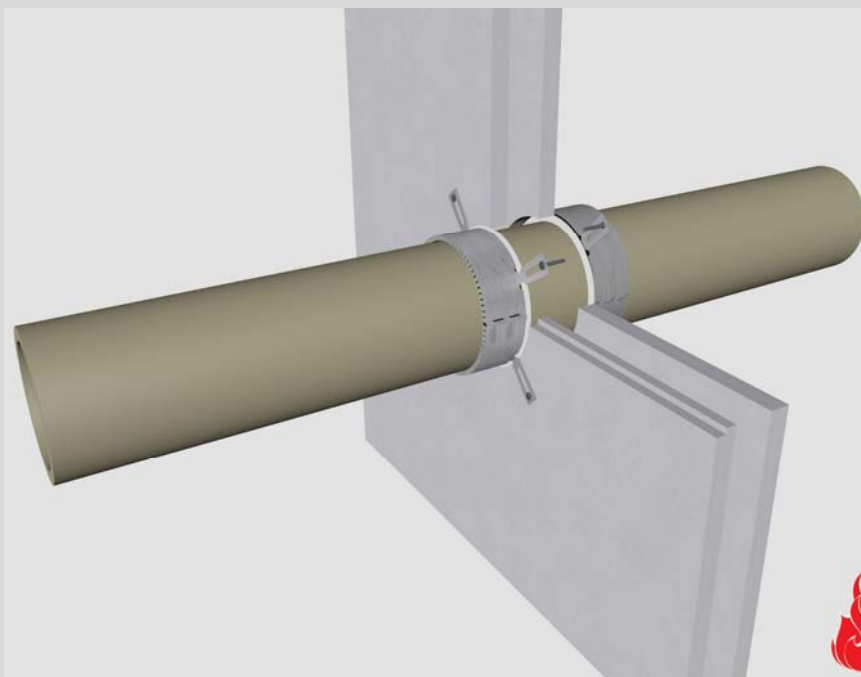
- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- other pipe dØ + s1 (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm
- angle: perpendicular + all angles between 90° and 45° (default for range) or 15° (individually tested)

principle detail

Firesafe

tested property
test method
service no.

fire resistance
EN 1366-3
30-7



PE + PP + PVC pipes

FIRE COLLAR

service type ¹⁾			EI	constructive element ²⁾	Firesafe pipe collar Ø in mm	application 1 or 2 sides	finish required	max. opening in construction	pipe end configuration	max. angle		
dØ (mm)	s1 (mm)										non-standard config.	
up to												
Ø110	PE	3,4 up to 10,0			EI 60	flexible walls ≥ 100 mm	Ø110	2 sides	*	110 mm	U/C + C/C + C/C	perpendicular + all angles between 90° and 45°
	PVC	2,7 up to 10,0	non-insulated walls		EI 60	flexible walls ≥ 100 mm	Ø110	2 sides	*	130 mm	U/C + C/C + C/C	
	PP	2,7 up to 6,3	non-insulated walls		EI 30	flexible walls ≥ 75 mm	Ø110	2 sides	*	130 mm	U/C + C/C + C/C	
				screwed on or cast-in with Firesafe FT Spirals	EI 60	flexible walls ≥ 100 mm	Ø110	2 sides	*	600x1500 mm	U/C + C/C + C/C	
					EI 60	flexible walls ≥ 100 mm	Ø110	2 sides	*	600 x 1200 mm	U/C + C/C + C/C	
			EI 60		flexible walls ≥ 100 mm	Ø110	2 sides	*	264 x 264 mm	U/C + C/C + C/C		
Ø125	PE	3,9 up to 11,7			EI 60	flexible walls ≥ 100 mm	Ø125	2 sides	*	127 mm	U/C + C/C + C/C	
	PVC	3,1 up to 11,7			EI 60	flexible walls ≥ 100 mm	Ø125	2 sides	*	145 mm	U/C + C/C + C/C	
	PP	3,1 up to 7,1	non-insulated walls									
Ø140	PE	4,9 up to 14,6			EI 60	flexible walls ≥ 100 mm	Ø140	2 sides	*	140 mm	U/C + C/C + C/C	
	PVC	4,0 up to 14,6			EI 60	flexible walls ≥ 100 mm	Ø140	2 sides	*	160 mm	U/C + C/C + C/C	
	PP	4,0 up to 14,6	non-insulated walls									
Ø160	PE	4,9 up to 14,6			EI 60	flexible walls ≥ 100 mm	Ø160	2 sides	*	160 mm	U/C + C/C + C/C	
	PVC	4,0 up to 14,6			EI 60	flexible walls ≥ 100 mm	Ø160	2 sides	*	180 mm	U/C + C/C + C/C	
	PP	4,0 up to 14,6	non-insulated walls									
Ø200	PE	6,2 up to 18,2			EI 60	flexible walls ≥ 100 mm	Ø200	2 sides	*	200 mm	U/C + C/C + C/C	
	PVC	4,9 up to 18,2			EI 60	flexible walls ≥ 100 mm	Ø200	2 sides	*	220 mm	U/C + C/C + C/C	
	PP	4,9 up to 18,2	non-insulated walls									
max.												
Ø250	PE	9,6 up to 22,7		screwed on with Firesafe FT Spirals	EI 60	flexible walls ≥ 100 mm	Ø250	2 sides	*	400 x 1375 mm	U/C + C/C + C/C	
	PVC	6,2 up to 22,7										
	PP	6,2 up to 22,7										

>> contined on page 2

in FT Board 2S 50 mm

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm!

Notes:

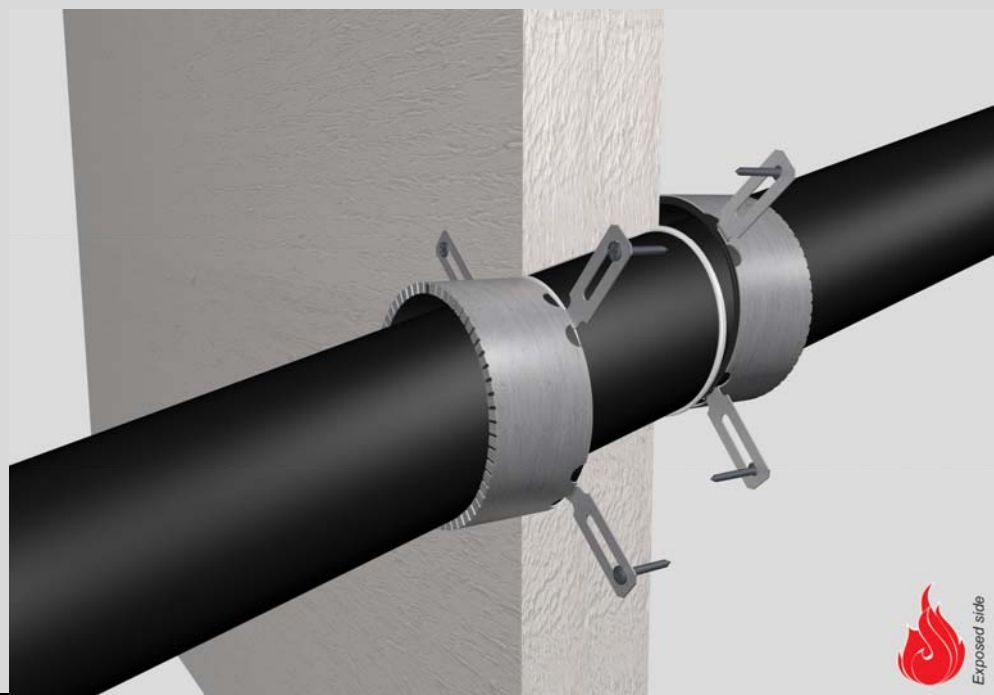
- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- other pipe dØ + s1 (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥ 100mm is also applicable for rigid walls ≥ 100mm
- angle: perpendicular + all angles between 90° and 45° (default for range) or 15° (individually tested)

principle detail

Firesafe

tested property
test method
service no.

fire resistance
EN 1366-3
0084



PE + PP + PVC pipes

FIRE COLLAR

service type ¹⁾			EI	constructive element ²⁾	Firesafe pipe collar Ø in mm	application 1 or 2 sides	finish required	max. opening in construction	pipe end configuration	max. angle	
dØ (mm)	s1 (mm)	non-standard config.									
individual test results											
Ø75	PE	3,0	non-insulated walls	with pipe insulation 13mm AF	EI 60	flexible walls ≥ 75 mm	Ø110	2 sides	*	121 mm	U/C + C/C
			non-insulated walls	with steel support	EI 60	flexible walls ≥ 75 mm	Ø80	2 sides	*	95 mm	U/C + C/C
Ø90	PE	4,0	non-insulated walls	with steel support	EI 60	flexible walls ≥ 75 mm	Ø90	2 sides	*	110 mm	U/C + C/C
Ø110	PE	3,4			EI 120	flexible walls ≥ 100 mm	Ø110	2 sides	*	110 mm	U/U + C/U + U/C + C/C + C/C
	PP	2,7			EI 120	flexible walls ≥ 100 mm	Ø110	2 sides	*	110 mm	U/U + C/U + U/C + C/C + C/C
	PE	4,2	non-insulated walls	with pipe insulation 13mm AF	EI 60	flexible walls ≥ 75 mm	Ø140	2 sides	*	156 mm	U/C + C/C
	PE	4,2	non-insulated walls	with steel support	EI 30	flexible walls ≥ 75 mm	Ø110	2 sides	*	130 mm	U/C + C/C
	PE	6,0	non-insulated walls	with acoustical demper	EI 60	flexible walls ≥ 75 mm	Ø110	2 sides	*	130 mm	U/U + C/U + U/C + C/C + C/C
	PE	4,2		max. 15° angle 3)	EI 120	rigid walls ≥ 100 mm	Ø125	2 sides	*	115 mm	U/C + C/C + C/C
	PE	10,0		3x bundled	EI 90	rigid walls ≥ 100 mm	Flex collar OR FMU chain	2 sides	*	330 x 330 mm	U/C + C/C
Ø125	uPVC	3,7		with pipe socket	EI 90	flexible walls ≥ 100 mm	Ø125	2 sides	*	125 mm	U/C + C/C
	PP	3,1		screwed on FT Board box	EI 90	flexible walls ≥ 100 mm	Ø125	2 sides	*	125 mm	U/C + C/C
Ø200	PVC	6,0		cast-in	EI 60	rigid walls ≥ 150 mm	Ø200	2 sides	*	255 mm	U/C + C/C
Ø400	PVC	12,5		XL size	EI 90	rigid walls ≥ 150 mm	up to Ø400	2 sides	*	405 mm	C/C

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥ 100mm is also applicable for rigid walls ≥ 100mm!

³⁾ Max. angle: perpendicular + all angles between 90° and 45° + 0° to max. 15°

Notes:

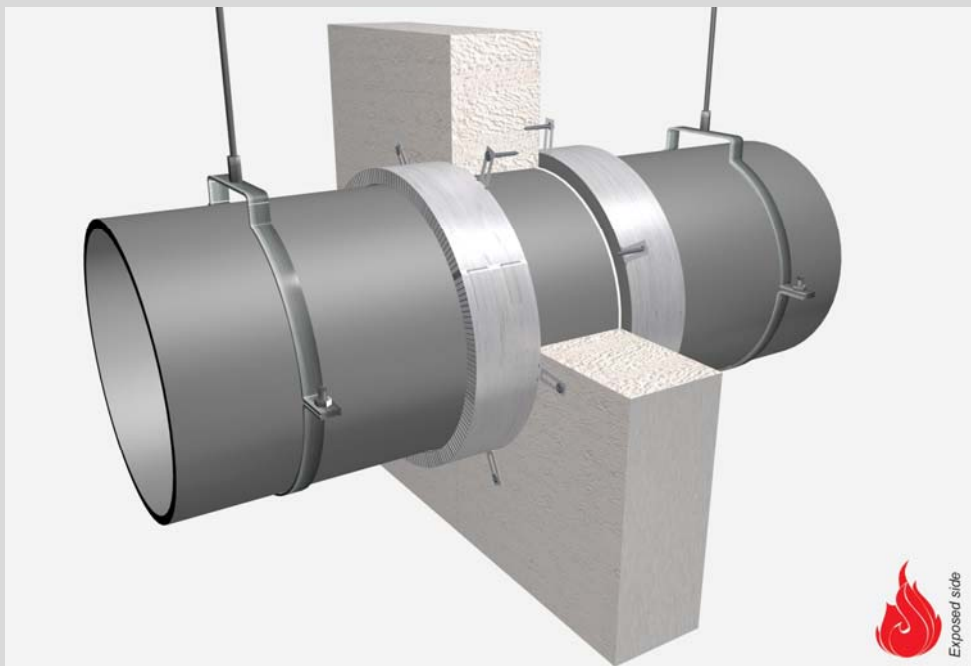
- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥100mm is also applicable for **rigid walls** ≥100mm
- angle: perpendicular + all angles between 90° and 45° (default for range) or 15° (individually tested)

principle detail

Firesafe

tested property
test method
service no.

fire resistance
EN 1366-3
0037



PE + PP + PVC pipes

FIRE COLLAR

service type ¹⁾				EI	constructive element ²⁾	Firesafe pipe collar Ø in mm	application 1 or 2 sides	finish required	max. opening in construction	pipe end configuration	max. angle
dØ (mm)	s1 (mm)	non-standard config.									
individual test results											
Ø75	PE	3,0	non-insulated walls	with pipe insulation 13mm AF	EI 60	flexible walls ≥ 75 mm	Ø110	2 sides	*	121 mm	U/C + C/C
			non-insulated walls	with steel support	EI 60	flexible walls ≥ 75 mm	Ø80	2 sides	*	95 mm	U/C + C/C
Ø90	PE	4,0	non-insulated walls	with steel support	EI 60	flexible walls ≥ 75 mm	Ø90	2 sides	*	110 mm	U/C + C/C
Ø110	PE	3,4			EI 120	flexible walls ≥ 100 mm	Ø110	2 sides	*	110 mm	U/U + C/U + U/C + C/C + C/C
	PP	2,7			EI 120	flexible walls ≥ 100 mm	Ø110	2 sides	*	110 mm	U/U + C/U + U/C + C/C + C/C
	PE	4,2	non-insulated walls	with pipe insulation 13mm AF	EI 60	flexible walls ≥ 75 mm	Ø140	2 sides	*	156 mm	U/C + C/C
	PE	4,2	non-insulated walls	with steel support	EI 30	flexible walls ≥ 75 mm	Ø110	2 sides	*	130 mm	U/C + C/C
	PE	6,0	non-insulated walls	with acoustical demper	EI 60	flexible walls ≥ 75 mm	Ø110	2 sides	*	130 mm	U/U + C/U + U/C + C/C + C/C
	PE	4,2		max. 15° angle 3)	EI 120	rigid walls ≥ 100 mm	Ø125	2 sides	*	115 mm	U/C + C/C + C/C
	PE	10,0		3x bundled	EI 90	rigid walls ≥ 100 mm	Flex collar OR FMU chain	2 sides	*	330 x 330 mm	U/C + C/C
Ø125	uPVC	3,7		with pipe socket	EI 90	flexible walls ≥ 100 mm	Ø125	2 sides	*	125 mm	U/C + C/C
	PP	3,1		screwed on FT Board box	EI 90	flexible walls ≥ 100 mm	Ø125	2 sides	*	125 mm	U/C + C/C
Ø200	PVC	6,0		cast-in	EI 60	rigid walls ≥ 150 mm	Ø200	2 sides	*	255 mm	U/C + C/C
Ø400	PVC	12,5		XL size	EI 90	rigid walls ≥ 150 mm	up to Ø400	2 sides	*	405 mm	C/C

default: perpendicular
+ all angles between
90° and 45°
or tested with max.
15° angle

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm!

³⁾ Max. angle: perpendicular + all angles between 90° and 45° + 0° to max. 15°

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides (default)
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45° (default for range) or 45° (individually tested)

principle detail

Firesafe

tested property

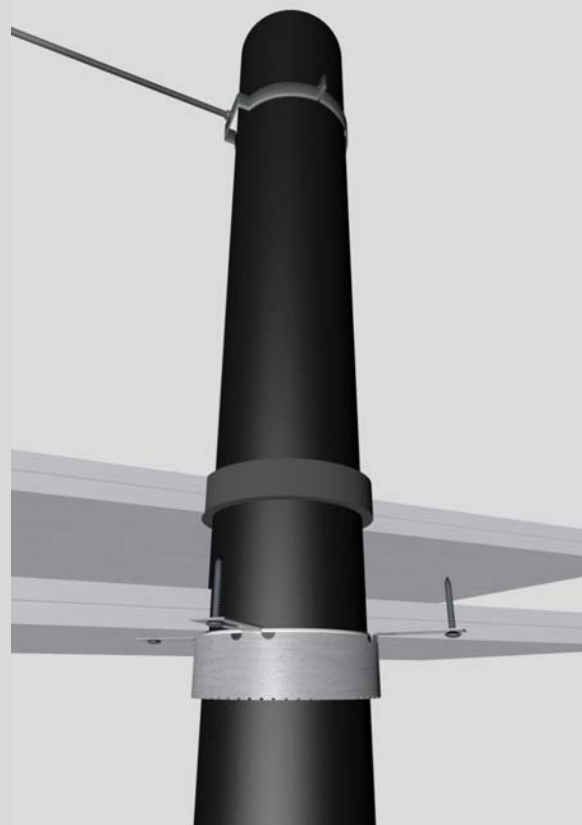
test method

service no.

fire resistance

EN 1366-3

0178



PE + PP + PVC pipes

FIRE COLLAR

service type ¹⁾			non-standard config.	EI 	constructive element ²⁾	Firesafe pipe collar	application	finish	max. opening	pipe end	
dØ (mm)		s1 (mm)				Ø in mm	1 or 2 sides	required	in construction	configuration	
up to											
Ø110	PE	3,4 up to 10,0		EI 120	rigid floors ≥ 150 mm	Ø110	1 side	*	110 mm	U/C + C/C	
	PVC	2,7 up to 10,0		EI 120	flexible ceilings ≥ 150 mm	Ø110	1 side	³⁾	110 mm	U/C + C/C	
	PP	2,7 up to 6,3		EI 90	CLT floors ≥ 140 mm	Ø110	1 side	*	129 mm	U/C + C/C	
			screwed on or cast-in	EI 60	rigid floors ≥ 150 mm	Ø110	1 side	*	600x5000 mm	U/C + C/C	
Ø140	PE	4,9 up to 14,6		EI 90	rigid floors ≥ 150 mm	Ø140	1 side	*	140 mm	U/C + C/C	
	PVC	4,0 up to 14,6									
	PP	4,0 up to 14,6									
max.										perpendicular + all angles between 90° and 45°	
Ø160	PE	4,9 up to 14,6		EI 90	rigid floors ≥ 150 mm	Ø160	1 side	*	160 mm		U/C + C/C
	PVC	4,0 up to 14,6									
	PP	4,0 up to 14,6									
individual test results											
Ø125	PE	3,9	max. 45° angle, ellipse shape	EI 120	rigid floors ≥ 150 mm	Ø160	1 side	*	125 mm	U/C + C/C	perpendicular + all angles between 90° and 0°
	PE	3,9	max. 45° angle, open collar	EI 180	rigid floors ≥ 150 mm	Ø200	1 side	*	125 mm	U/C + C/C	

in FT Board 2S 50 mm

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 400mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

³⁾ smoke seal FT Acrylic on exposed side; FT Graphite 8x25mm on unexposed side.

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides (default)
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45° (default for range) or 45° (individually tested)

principle detail

Firesafe

tested property

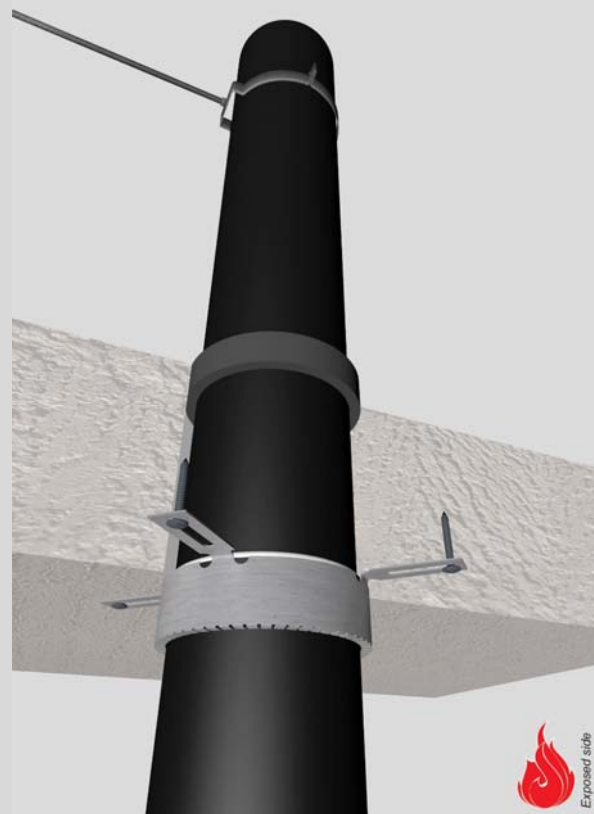
test method

service no.

fire resistance

EN 1366-3

0178r



PE + PP + PVC pipes

FIRE COLLAR

service type ¹⁾			non-standard config.	 EI	constructive element ²⁾	Firesafe pipe collar	application	finish	max. opening	pipe end
dØ (mm)		s1 (mm)				Ø in mm	1 or 2 sides	required	in construction	configuration
up to										
Ø110	PE	3,4 up to 10,0		EI 120	rigid floors ≥ 150 mm	Ø110	1 side	*	110 mm	U/C + C/C
	PVC	2,7 up to 10,0		EI 120	flexible ceilings ≥ 150 mm	Ø110	1 side	³⁾	110 mm	U/C + C/C
	PP	2,7 up to 6,3		EI 90	CLT floors ≥ 140 mm	Ø110	1 side	*	129 mm	U/C + C/C
			screwed on or cast-in	EI 60	rigid floors ≥ 150 mm	Ø110	1 side	*	600x5000 mm	U/C + C/C
Ø140	PE	4,9 up to 14,6		EI 90	rigid floors ≥ 150 mm	Ø140	1 side	*	140 mm	U/C + C/C
	PVC	4,0 up to 14,6								
	PP	4,0 up to 14,6								
max.										
Ø160	PE	4,9 up to 14,6		EI 90	rigid floors ≥ 150 mm	Ø160	1 side	*	160 mm	U/C + C/C
	PVC	4,0 up to 14,6								
	PP	4,0 up to 14,6								
individual test results										
Ø125	PE	3,9	max. 45° angle, ellipse shape	EI 120	rigid floors ≥ 150 mm	Ø160	1 side	*	125 mm	U/C + C/C
	PE	3,9	max. 45° angle, open collar	EI 180	rigid floors ≥ 150 mm	Ø200	1 side	*	125 mm	U/C + C/C

perpendicular + all angles between 90° and 45°

perpendicular + all angles between 90° and 0°

in FT Board 2S 50 mm

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 400mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

³⁾ smoke seal FT Acrylic on exposed side; FT Graphite 8x25mm on unexposed side.

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides (default)
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45° (default for range) or 45° (individually tested)

principle detail

Firesafe

tested property

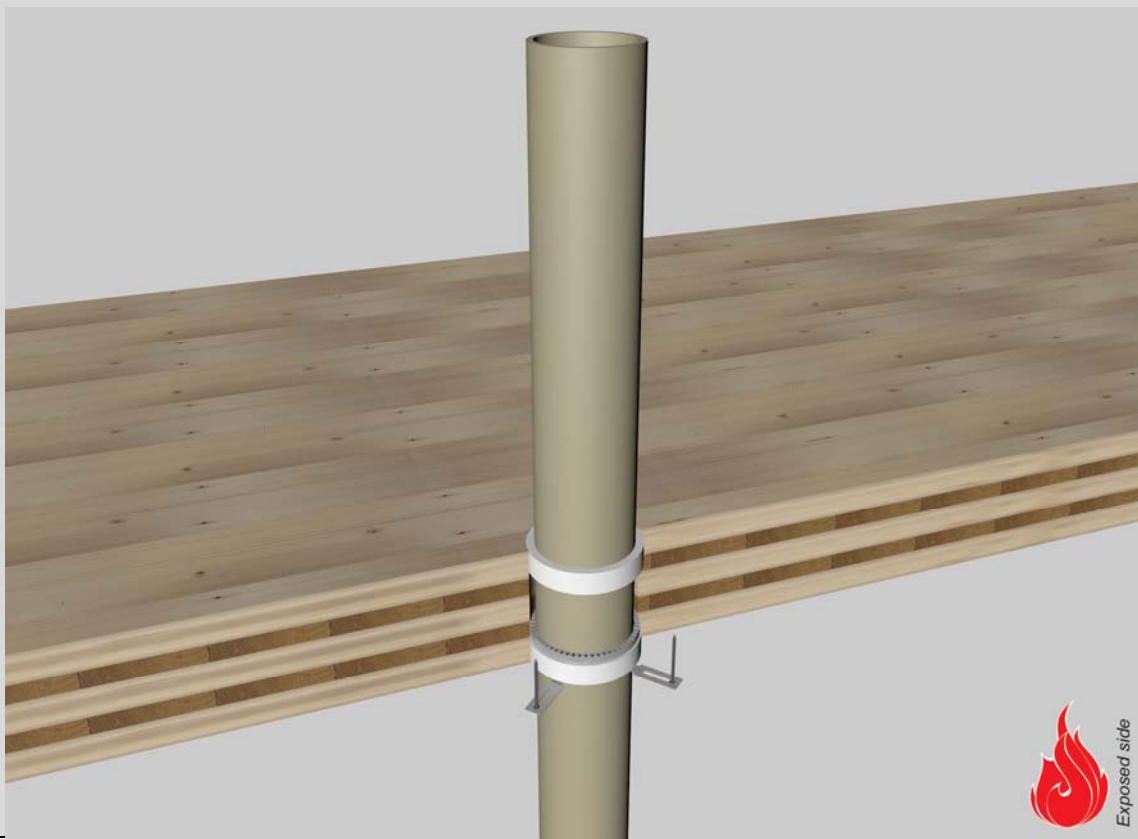
fire resistance

test method

EN 1366-3

service no.

28-36



PE + PP + PVC pipes

FIRE COLLAR

service type ¹⁾			non-standard config.	EI 	constructive element ²⁾	Firesafe pipe collar	application	finish	max. opening	pipe end	
dØ (mm)		s1 (mm)				Ø in mm	1 or 2 sides	required	in construction	configuration	
up to											
Ø110	PE	3,4 up to 10,0		EI 120	rigid floors ≥ 150 mm	Ø110	1 side	*	110 mm	U/C + C/C	
	PVC	2,7 up to 10,0		EI 120	flexible ceilings ≥ 150 mm	Ø110	1 side	³⁾	110 mm	U/C + C/C	
	PP	2,7 up to 6,3		EI 90	CLT floors ≥ 140 mm	Ø110	1 side	*	129 mm	U/C + C/C	
			screwed on or cast-in	EI 60	rigid floors ≥ 150 mm	Ø110	1 side	*	600x5000 mm	U/C + C/C	
Ø140	PE	4,9 up to 14,6		EI 90	rigid floors ≥ 150 mm	Ø140	1 side	*	140 mm	U/C + C/C	
	PVC	4,0 up to 14,6									
	PP	4,0 up to 14,6									
max.										perpendicular + all angles between 90° and 45°	
Ø160	PE	4,9 up to 14,6		EI 90	rigid floors ≥ 150 mm	Ø160	1 side	*	160 mm		U/C + C/C
	PVC	4,0 up to 14,6									
	PP	4,0 up to 14,6									
individual test results											
Ø125	PE	3,9	max. 45° angle, ellipse shape	EI 120	rigid floors ≥ 150 mm	Ø160	1 side	*	125 mm	U/C + C/C	perpendicular + all angles between 90° and 0°
	PE	3,9	max. 45° angle, open collar	EI 180	rigid floors ≥ 150 mm	Ø200	1 side	*	125 mm	U/C + C/C	

in FT Board 2S 50 mm

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 400mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

³⁾ smoke seal FT Acrylic on exposed side; FT Graphite 8x25mm on unexposed side.

Notes:

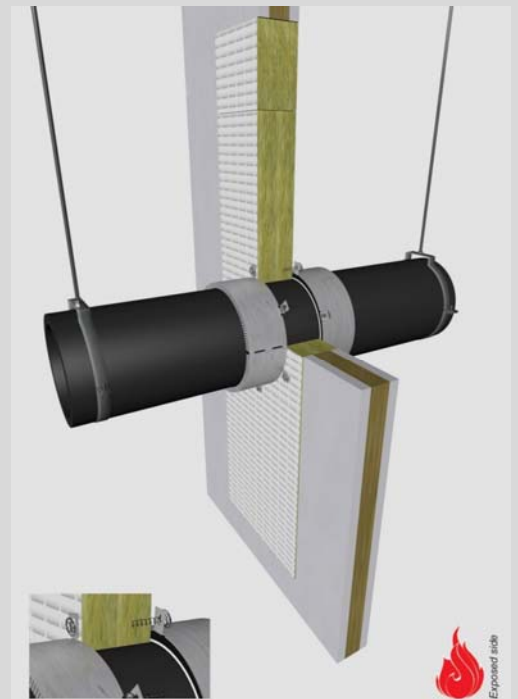
- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥100mm is also applicable for **rigid walls** ≥100mm
- angle: perpendicular + all angles between 90° and 45° (default for range) or 15° (individually tested)

principle detail

Firesafe

tested property
test method
service no.

fire resistance
EN 1366-3
7-14



PE + PP + PVC pipes

FIRE COLLAR

service type ¹⁾		EI	constructive element ²⁾	Firesafe pipe collar Ø in mm	application 1 or 2 sides	finish required	max. opening in construction	pipe end configuration	max. angle	
dØ (mm)	s1 (mm)									non-standard config.
up to										
Ø110	PE	3,4 up to 10,0		EI 60	flexible walls ≥ 100 mm	Ø110	2 sides	*	110 mm	U/C + C/C + C/C
	PVC	2,7 up to 10,0	non-insulated walls	EI 60	flexible walls ≥ 100 mm	Ø110	2 sides	*	130 mm	U/C + C/C + C/C
	PP	2,7 up to 6,3	non-insulated walls	EI 30	flexible walls ≥ 75 mm	Ø110	2 sides	*	130 mm	U/C + C/C + C/C
			screwed on or cast-in with Firesafe FT Spirals	EI 60	flexible walls ≥ 100 mm	Ø110	2 sides	*	600x1500 mm	U/C + C/C + C/C
				EI 60	flexible walls ≥ 100 mm	Ø110	2 sides	*	600 x 1200 mm	U/C + C/C + C/C
				EI 60	flexible walls ≥ 100 mm	Ø110	2 sides	*	264 x 264 mm	U/C + C/C + C/C
Ø125	PE	3,9 up to 11,7		EI 60	flexible walls ≥ 100 mm	Ø125	2 sides	*	127 mm	U/C + C/C + C/C
	PVC	3,1 up to 11,7		EI 60	flexible walls ≥ 100 mm	Ø125	2 sides	*	145 mm	U/C + C/C + C/C
	PP	3,1 up to 7,1	non-insulated walls							
Ø140	PE	4,9 up to 14,6		EI 60	flexible walls ≥ 100 mm	Ø140	2 sides	*	140 mm	U/C + C/C + C/C
	PVC	4,0 up to 14,6		EI 60	flexible walls ≥ 100 mm	Ø140	2 sides	*	160 mm	U/C + C/C + C/C
	PP	4,0 up to 14,6	non-insulated walls							
Ø160	PE	4,9 up to 14,6		EI 60	flexible walls ≥ 100 mm	Ø160	2 sides	*	160 mm	U/C + C/C + C/C
	PVC	4,0 up to 14,6		EI 60	flexible walls ≥ 100 mm	Ø160	2 sides	*	180 mm	U/C + C/C + C/C
	PP	4,0 up to 14,6	non-insulated walls							
Ø200	PE	6,2 up to 18,2		EI 60	flexible walls ≥ 100 mm	Ø200	2 sides	*	200 mm	U/C + C/C + C/C
	PVC	4,9 up to 18,2		EI 60	flexible walls ≥ 100 mm	Ø200	2 sides	*	220 mm	U/C + C/C + C/C
	PP	4,9 up to 18,2	non-insulated walls							
max.										
Ø250	PE	9,6 up to 22,7	screwed on with Firesafe FT Spirals	EI 60	flexible walls ≥ 100 mm	Ø250	2 sides	*	400 x 1375 mm	U/C + C/C + C/C
	PVC	6,2 up to 22,7								
	PP	6,2 up to 22,7								

>> contined on page 2

in FT Board 2S 50 mm

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm!

Notes:

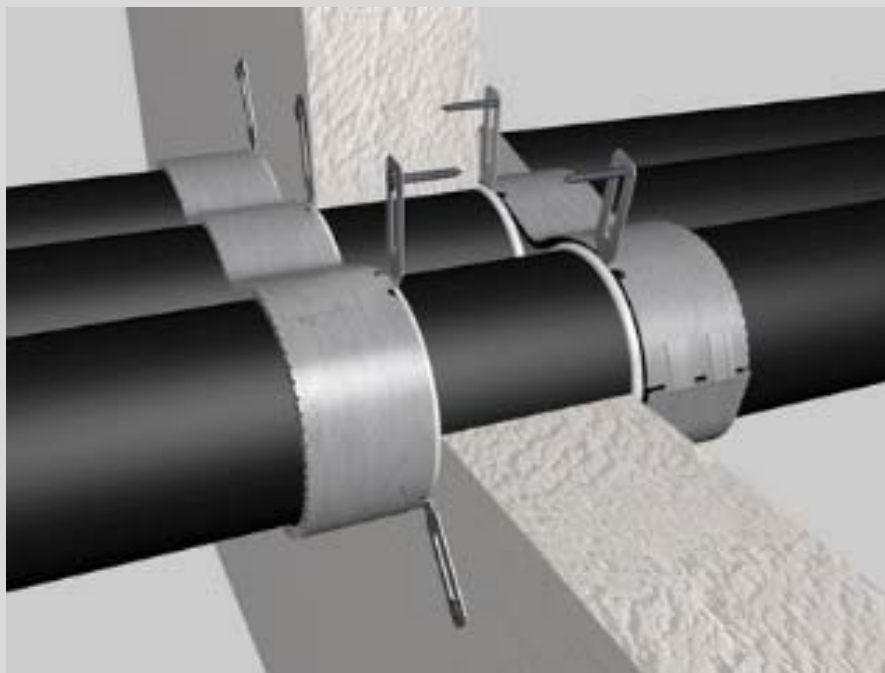
- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥ 100mm is also applicable for **rigid walls** ≥ 100mm
- angle: perpendicular + all angles between 90° and 45° (default for range) or 15° (individually tested)

principle detail

tested property
test method
service no.

Firesafe

fire resistance
EN 1366-3
0257



PE + PP + PVC pipes

FIRE COLLAR

service type ¹⁾			non-standard config.		EI	constructive element ²⁾	Firesafe pipe collar Ø in mm	application 1 or 2 sides	finish required	max. opening in construction	pipe end configuration	max. angle
dØ (mm)	s1 (mm)											
Individual test results												
Ø75	PE	3,0	non-insulated walls	with pipe insulation 13mm AF	EI 60	flexible walls ≥ 75 mm	Ø110	2 sides	*	121 mm	U/C + C/C	default: perpendicular + all angles between 90° and 45° or tested with max. 15° angle
			non-insulated walls	with steel support	EI 60	flexible walls ≥ 75 mm	Ø80	2 sides	*	95 mm	U/C + C/C	
Ø90	PE	4,0	non-insulated walls	with steel support	EI 60	flexible walls ≥ 75 mm	Ø90	2 sides	*	110 mm	U/C + C/C	
Ø110	PE	3,4			EI 120	flexible walls ≥ 100 mm	Ø110	2 sides	*	110 mm	U/U + C/U + U/C + C/C + C/C	
	PP	2,7			EI 120	flexible walls ≥ 100 mm	Ø110	2 sides	*	110 mm	U/U + C/U + U/C + C/C + C/C	
	PE	4,2	non-insulated walls	with pipe insulation 13mm AF	EI 60	flexible walls ≥ 75 mm	Ø140	2 sides	*	156 mm	U/C + C/C	
	PE	4,2	non-insulated walls	with steel support	EI 30	flexible walls ≥ 75 mm	Ø110	2 sides	*	130 mm	U/C + C/C	
	PE	6,0	non-insulated walls	with acoustical demper	EI 60	flexible walls ≥ 75 mm	Ø110	2 sides	*	130 mm	U/U + C/U + U/C + C/C + C/C	
	PE	4,2		max. 15° angle 3)	EI 120	rigid walls ≥ 100 mm	Ø125	2 sides	*	115 mm	U/C + C/C + C/C	
	PE	10,0		3x bundled	EI 90	rigid walls ≥ 100 mm	Flex collar OR FMU chain	2 sides	*	330 x 330 mm	U/C + C/C	
Ø125	uPVC	3,7		with pipe socket	EI 90	flexible walls ≥ 100 mm	Ø125	2 sides	*	125 mm	U/C + C/C	
	PP	3,1		screwed on FT Board box	EI 90	flexible walls ≥ 100 mm	Ø125	2 sides	*	125 mm	U/C + C/C	
Ø200	PVC	6,0		cast-in	EI 60	rigid walls ≥ 150 mm	Ø200	2 sides	*	255 mm	U/C + C/C	
Ø400	PVC	12,5		XL size	EI 90	rigid walls ≥ 150 mm	up to Ø400	2 sides	*	405 mm	C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥ 100mm is also applicable for rigid walls ≥ 100mm!

³⁾ Max. angle: perpendicular + all angles between 90° and 45° + 0° to max. 15°

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45°

principle detail**Firesafe**

tested property

test method

service no.

fire resistance

EN 1366-3

0170

**PE + PP + PVC pipes****FT Wrap**

service type ¹⁾			 EI	constructive element ²⁾	Firesafe pipe wrap		application	finish required	max. opening in construction	pipe end configuration	max. angle	
dØ (mm)		s1 (mm)			length π x Ø x	no. of layers						
up to												
Ø110	PE	3,4 up to 10,0	EI 180	rigid floors ≥ 150 mm	π x Ø x	2	1 side	*	120 mm	U/C + C/C	perpendicular + all angles between 90° and 45°	
	PVC	2,7 up to 10,0	EI 90	CLT floors ≥ 140 mm	π x Ø x	2	1 side	*	120 mm	U/C + C/C		
	PP	2,7 up to 6,3										
Ø125	PE	3,9 up to 11,7	EI 180	rigid floors ≥ 150 mm	π x Ø x	3	1 side	*	137 mm	U/C + C/C		
	PVC	3,1 up to 11,7										
	PP	3,1 up to 7,1										
Ø140	PE	4,9 up to 14,6	EI 180	rigid floors ≥ 150 mm	π x Ø x	3	1 side	*	176 mm	U/C + C/C		
	PVC	4,0 up to 14,6										
	PP	4,0 up to 14,6										
max.												
Ø160	PE	4,9 up to 14,6	EI 180	rigid floors ≥ 150 mm	π x Ø x	3	1 side	*	176 mm	U/C + C/C		
	PVC	4,0 up to 14,6										
	PP	4,0 up to 14,6										
individual test results												
Ø110	PVC	3,4	EI 90	rigid floors ≥ 150 mm	π x Ø x	2	1 side	*	400 x 400 mm	U/C + C/C	perpendicular + all angles between 90° and 45°	

in FT Board 2S 50 mm

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 400mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45°

principle detail**Firesafe****tested property**

fire resistance

test method

EN 1366-3

service no.

28-7

**PE + PP + PVC pipes****FT Wrap**

service type ¹⁾			 EI	constructive element ²⁾	Firesafe pipe wrap		application	finish required	max. opening in construction	pipe end configuration	max. angle	
dØ (mm)	s1 (mm)				length π x Ø x	no. of layers						
up to												
Ø110	PE	3,4 up to 10,0	EI 180	rigid floors ≥ 150 mm	π x Ø x	2	1 side	*	120 mm	U/C + C/C	perpendicular + all angles between 90° and 45°	
	PVC	2,7 up to 10,0	EI 90	CLT floors ≥ 140 mm	π x Ø x	2	1 side	*	120 mm	U/C + C/C		
	PP	2,7 up to 6,3										
Ø125	PE	3,9 up to 11,7	EI 180	rigid floors ≥ 150 mm	π x Ø x	3	1 side	*	137 mm	U/C + C/C		
	PVC	3,1 up to 11,7										
	PP	3,1 up to 7,1										
Ø140	PE	4,9 up to 14,6	EI 180	rigid floors ≥ 150 mm	π x Ø x	3	1 side	*	176 mm	U/C + C/C		
	PVC	4,0 up to 14,6										
	PP	4,0 up to 14,6										
max.												
Ø160	PE	4,9 up to 14,6	EI 180	rigid floors ≥ 150 mm	π x Ø x	3	1 side	*	176 mm	U/C + C/C		
	PVC	4,0 up to 14,6										
	PP	4,0 up to 14,6										
individual test results												
Ø110	PVC	3,4	EI 90	rigid floors ≥ 150 mm	π x Ø x	2	1 side	*	400 x 400 mm	U/C + C/C	perpendicular + all angles between 90° and 45°	

in FT Board 2S 50 mm

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 400mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

PP-R classification ≤ Ø125 mm

Fire performances are valid for **range** of dØ pipe diameter + s1 pipe thickness within the same pipe material:

PP-R acc. EN norms

dØ 40 up to 125 mm

s1 3,7 up to 17,1 mm

pipe brands eg Aquatherm, Aquatechnik, Wavin Pilsa

suitable Firesafe products within classification:

FT Graphite

DoP CPR-16/0094

FIRE COLLAR

DoP CPR-15/0339

Fire Wrap

DoP CPR-15/0339

supporting construction

Constructive element must be classified acc. EN 13501-2 for the required fire resistance period:

- flexible wall ≥100mm, insulated
- 1-n100**: flexible wall ≥100mm, **non-insulated**
- 1-n75**: flexible wall ≥75mm, **non-insulated**
- rigid wall ≥100mm
- rigid wall ≥150mm
- flexible ceiling ≥150mm
- rigid floor ≥150mm
- CLT wall ≥100mm
- CLT floor ≥140mm

Max. opening in constructive element: see principle detail. Use FT Board if opening is larger; see how-to-read.

Penetration services must be **supported**;
support distance walls max. 500mm
support distance floors max. 400mm

Min. length pipe insulation LI / LS / CS / CI:
see principle detail.

► INDEX

PE + PP + PVC

plastic cable conduits

PP-R

PP-MD

PP-MX

aluPE-X

PE-Xa

copper

steel

steel conduits

cast iron

trays + ladders + wire mesh

cables + bundles

fire dampers

air transfer grilles

duct cladding

linear joints

socket boxes

blank seals

EN norms for plastic pipes

how-to-read

acoustical

environmental

dØ s1 pipe insulation

walls

floors

walls

floors

floors

Ø40

3,7 up to 5,5 non-insulated

+ pipe insulation
+ polythylene rubber, min. 25 kg/m³
25 mm

[EI 120 in wall 1+2](#)

results max.

[EI 240 in wall 3](#)[EI 240 in floor 5](#)

results max.

[EI 120 in wall 1+2](#)[EI 240 in wall 3](#)

collar Ø40

results max.

[EI 240 in floor 5](#)

collar Ø40

individual result:
[EI 60 in wall 1-n100](#)
in FT Board

Ø50

4,6 non-insulated

individual result:
[EI 60 in wall 1-n75](#)

Ø63

5,8 up to 8,6 non-insulated

results max.

[EI 120 in wall 1+2](#)[EI 240 in wall 3](#)

results max.

[EI 240 in floor 5](#)[EI 90 in wall 1+2](#)[EI 120 in wall 3](#)

collar Ø63

results max.

[EI 120 in floor 5](#)

collar Ø63

Ø75

6,8 up to 10,3
s1 up to 10,3 non-insulated

results max.

[EI 120 in wall 1+2](#)[EI 240 in wall 3](#)

results max.

[EI 240 in floor 5](#)[EI 90 in wall 1+2](#)[EI 120 in wall 3](#)

collar Ø75

[EI 120 in floor 5](#)

collar Ø75

individual result:
[EI 60 in wall 1-n75](#)

Ø90

8,2
+ pipe insulation
+ polythylene rubber, min. 25 kg/m³
25 mm

individual result:
[EI 60 in wall 1-n100](#)

Ø110

10,0 up to 15,1 non-insulated

results max.

[EI 120 in wall 1+2+3](#)

results max.

[EI 180 in floor 5](#)[EI 60 in wall 1+2+3](#)

collar Ø110

results max.

[EI 120 in floor 5](#)

collar Ø110

Ø125

11,4 up to 17,1 non-insulated

results max.

[EI 180 in floor 5](#)

collar Ø125

[EI 240 in floor 5](#)

3 layer

joint details: min. W x D, default:
walls: 10 x 40 mm, apply on 2 sides
floors: 15 x 40mm, apply on 2 sides

default:
walls: apply on 2 sides
floors: apply on 1 side
always apply smoke seal FT Acrylic on 2 sides

default:
floors: apply on 1 side
always apply smoke seal FT Acrylic on 2 sides

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥100mm is also applicable for **rigid walls** ≥100mm
- angle: perpendicular + all angles between 90° and 45°

principle detail**Firesafe**

tested property

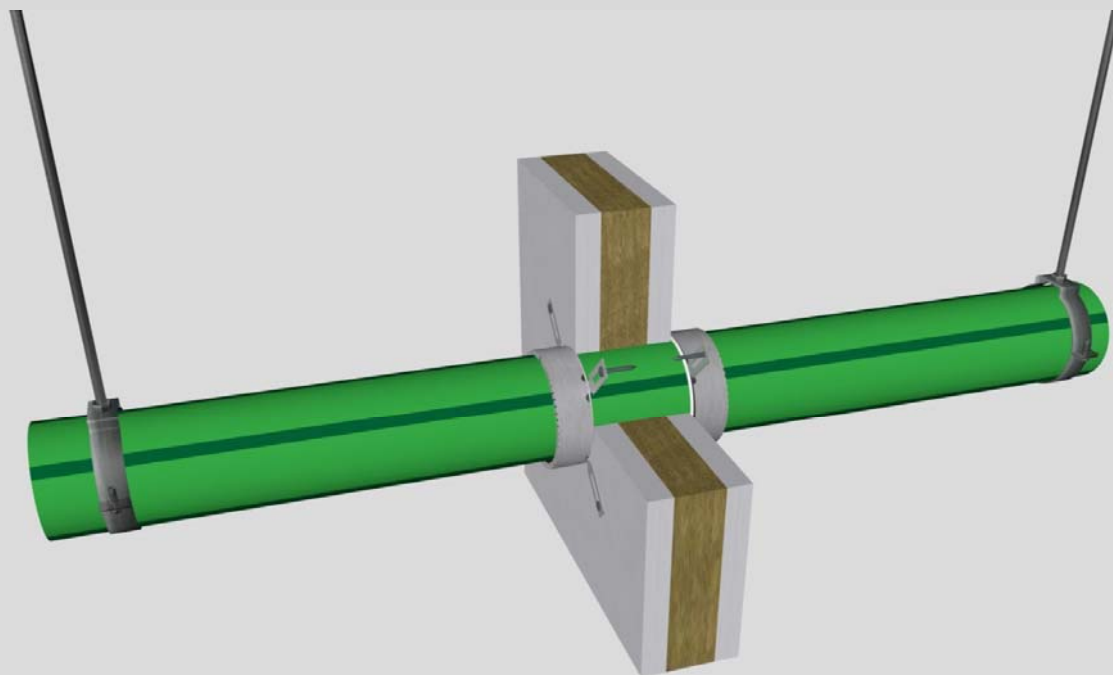
fire resistance

test method

EN 1366-3

service no.

19-12

**PP-R pipes****FIRE COLLAR**

service type		 EI	constructive element ²⁾	Firesafe pipe collar Ø in mm	application 1 or 2 sides	finish required	max. opening in construction	pipe end configuration	max. angle
dØ (mm)	s1 (mm)								
Ø40	min. 3,7	EI 120	flexible walls ≥ 100 mm	Ø40	2 sides	*	40 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
		EI 240	rigid walls ≥ 150 mm	Ø40	2 sides	*	40 mm	U/C + C/C	
	max. 5,5	EI 60	flexible walls ≥ 100 mm	Ø40	2 sides	*	40 mm	U/C + C/C	
		EI 180	rigid walls ≥ 150 mm	Ø40	2 sides	*	40 mm	U/C + C/C	
Ø63	min. 5,8	EI 90	flexible walls ≥ 100 mm	Ø63	2 sides	*	63 mm	U/C + C/C	
		EI 120	rigid walls ≥ 150 mm	Ø63	2 sides	*	63 mm	U/C + C/C	
	max. 8,6	EI 90	flexible walls ≥ 100 mm	Ø63	2 sides	*	63 mm	U/C + C/C	
		EI 120	rigid walls ≥ 150 mm	Ø40	2 sides	*	63 mm	U/C + C/C	
Ø75	min. 6,8	EI 90	flexible walls ≥ 100 mm	Ø75	2 sides	*	75 mm	U/C + C/C	
		EI 120	rigid walls ≥ 150 mm	Ø75	2 sides	*	75 mm	U/C + C/C	
	max. 10,3	EI 90	flexible walls ≥ 100 mm	Ø75	2 sides	*	75 mm	U/C + C/C	
		EI 120	rigid walls ≥ 150 mm	Ø75	2 sides	*	75 mm	U/C + C/C	
max.									
Ø110	min. 10	EI 60	flexible walls ≥ 100 mm	Ø110	2 sides	*	110 mm	U/C + C/C	
		EI 60	rigid walls ≥ 150 mm	Ø110	2 sides	*	110 mm	U/C + C/C	
	max. 15,1	EI 60	flexible walls ≥ 100 mm	Ø110	2 sides	*	110 mm	U/C + C/C	
		EI 60	rigid walls ≥ 150 mm	Ø110	2 sides	*	110 mm	U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm!

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥100mm is also applicable for **rigid walls** ≥100mm
- angle: perpendicular + all angles between 90° and 45°

principle detail**Firesafe**

tested property

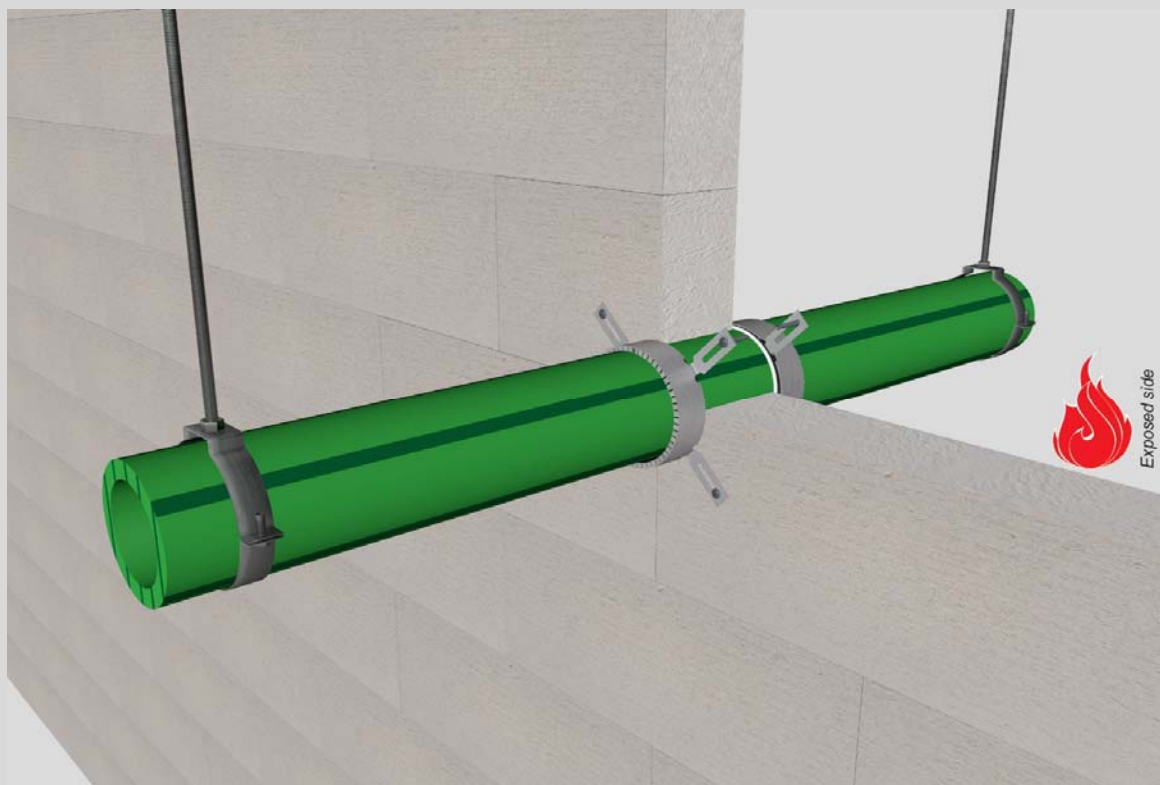
fire resistance

test method

EN 1366-3

service no.

19-12r

**PP-R pipes****FIRE COLLAR**

service type		 EI	constructive element ²⁾	Firesafe pipe collar	application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)								
Ø40	min. 3,7	EI 120	flexible walls ≥ 100 mm	Ø40	2 sides	*	40 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
		EI 240	rigid walls ≥ 150 mm	Ø40	2 sides	*	40 mm	U/C + C/C	
	max. 5,5	EI 60	flexible walls ≥ 100 mm	Ø40	2 sides	*	40 mm	U/C + C/C	
		EI 180	rigid walls ≥ 150 mm	Ø40	2 sides	*	40 mm	U/C + C/C	
Ø63	min. 5,8	EI 90	flexible walls ≥ 100 mm	Ø63	2 sides	*	63 mm	U/C + C/C	
		EI 120	rigid walls ≥ 150 mm	Ø63	2 sides	*	63 mm	U/C + C/C	
	max. 8,6	EI 90	flexible walls ≥ 100 mm	Ø63	2 sides	*	63 mm	U/C + C/C	
		EI 120	rigid walls ≥ 150 mm	Ø40	2 sides	*	63 mm	U/C + C/C	
Ø75	min. 6,8	EI 90	flexible walls ≥ 100 mm	Ø75	2 sides	*	75 mm	U/C + C/C	
		EI 120	rigid walls ≥ 150 mm	Ø75	2 sides	*	75 mm	U/C + C/C	
	max. 10,3	EI 90	flexible walls ≥ 100 mm	Ø75	2 sides	*	75 mm	U/C + C/C	
		EI 120	rigid walls ≥ 150 mm	Ø75	2 sides	*	75 mm	U/C + C/C	
max.									
Ø110	min. 10	EI 60	flexible walls ≥ 100 mm	Ø110	2 sides	*	110 mm	U/C + C/C	
		EI 60	rigid walls ≥ 150 mm	Ø110	2 sides	*	110 mm	U/C + C/C	
	max. 15,1	EI 60	flexible walls ≥ 100 mm	Ø110	2 sides	*	110 mm	U/C + C/C	
		EI 60	rigid walls ≥ 150 mm	Ø110	2 sides	*	110 mm	U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm!

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- other pipe dØ + s1 (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

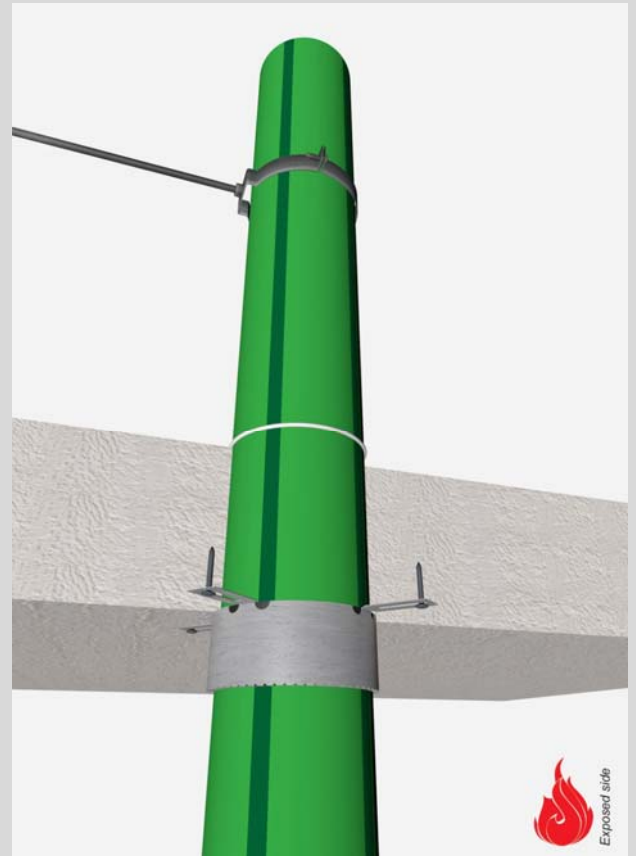
fire resistance

test method

EN 1366-3

service no.

24-58



PP-R pipes

FIRE COLLAR

service type		pipe insulation		EI	constructive element ²⁾	Firesafe pipe collar	application	finish	max. opening	pipe end	max. angle	
dØ (mm)	s1 (mm)	min. 28 kg/m3 eg Uponor				Ø in mm	1 or 2 sides	required	in construction	configuration		
Ø40	min. 3,7	-		EI 240	rigid floors ≥ 150 mm	Ø40	1 side	*	40 mm	U/C + C/C	perpendicular + all angles between 90° and 45°	
	max. 5,5	-		EI 180	rigid floors ≥ 150 mm	Ø40	1 side	*	40 mm	U/C + C/C		
Ø63	min. 5,8	-		EI 120	rigid floors ≥ 150 mm	Ø63	1 side	*	63 mm	U/C + C/C		
	max. 8,6	-		EI 120	rigid floors ≥ 150 mm	Ø63	1 side	*	63 mm	U/C + C/C		
	2x bundled	5,8	polyolefin 25mm 750 LS + LI + CS + CI	EI 60	rigid floors ≥ 150 mm	Ø63	1 side	*	600 x 800 mm	U/C + C/C		
Ø75	min. 6,8	-		EI 120	rigid floors ≥ 150 mm	Ø75	1 side	*	75 mm	U/C + C/C		
	max. 10,3	-		EI 120	rigid floors ≥ 150 mm	Ø75	1 side	*	75 mm	U/C + C/C		
Ø110	min. 10	-		EI 90	rigid floors ≥ 150 mm	Ø110	1 side	*	110 mm	U/C + C/C		
	max. 15,1	-		EI 120	rigid floors ≥ 150 mm	Ø110	1 side	*	110 mm	U/C + C/C		
max.												
Ø125	11,4	-		EI 180	rigid floors ≥ 150 mm	Ø125	1 side	*	132 mm	U/C + C/C		
	17,1	-		EI 120	rigid floors ≥ 150 mm	Ø125	1 side	*	132 mm	U/C + C/C		

in FT Board 2S 50 mm

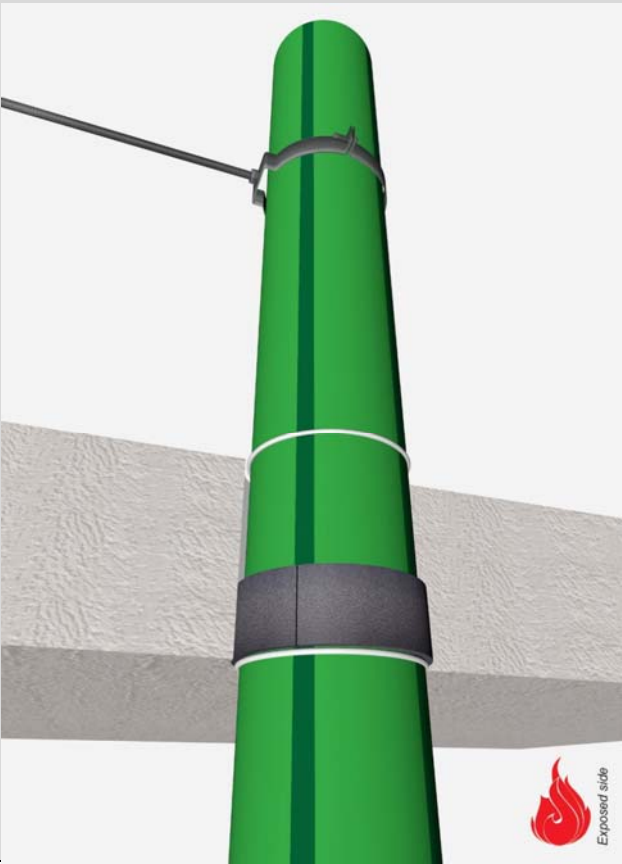
* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 400mm.

³⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

- Notes:
- installation instructions in TDS
 - apply smoke seal Firesafe FT Acrylic on 2 sides
 - angle: perpendicular + all angles between 90° and 45°

principle detail	Firesafe
tested property	fire resistance
test method	EN 1366-3
service no.	24-55



PP-R pipes

service type		pipe insulation	EI	constructive element ²⁾	Fire Wrap		application	finish	max. opening	pipe end configuration	max. angle
dØ (mm)	s1 (mm)				Firesafe pipe wrap	length					
max.		min. 28 kg/m³ eg Uponor			π x Ø x	no. of layers	1 or 2 sides	required	in construction		
Ø125	11,4	-	EI 240	rigid floors ≥ 150 mm	π x Ø x	3	1 side	*	132 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
	17,1	-	EI 240	rigid floors ≥ 150 mm	π x Ø x	3	1 side	*	132 mm	U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 400mm.
²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

Installation:

- installation instructions in TDS
- FIRE COLLAR fastened onto FT Board with FT Board spiral screws
- 5mm Firesafe FT Acrylic around cables + wire mesh cable tray
- no coat back!

principle detail**Firesafe**

tested property

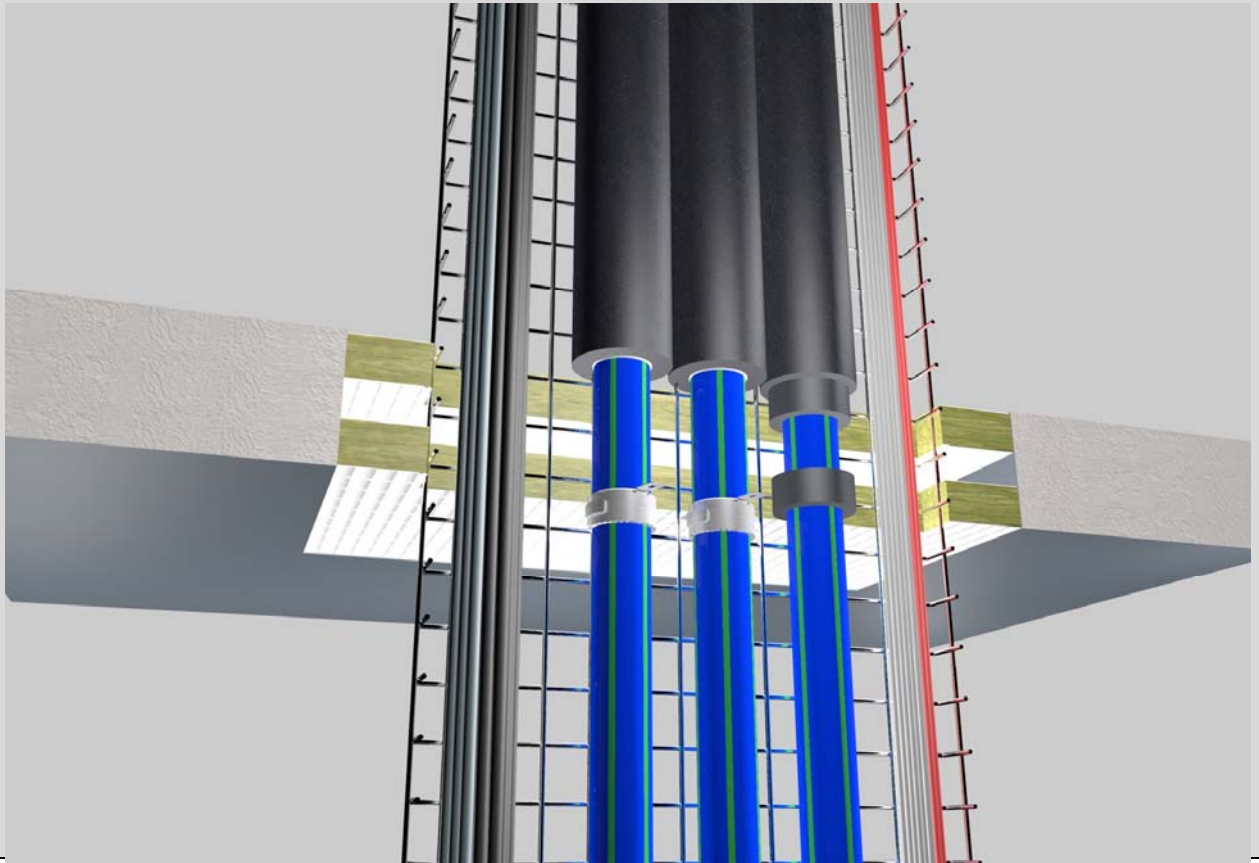
fire resistance

test method

EN 1366-3

service no.

17-6-6

**PP-R pipes****FIRE COLLAR**

service type		pipe insulation		 EI	constructive element ²⁾	Firesafe pipe collar Ø in mm	application 1 or 2 sides	finish required	max. opening in construction	pipe end configuration	max. angle	
dØ (mm)	s1 (mm)	min. 28 kg/m3 eg Uponor										
Ø40	min. 3,7	-		EI 240	rigid floors ≥ 150 mm	Ø40	1 side	*	40 mm	U/C + C/C	perpendicular + all angles between 90° and 45°	
	max. 5,5	-		EI 180	rigid floors ≥ 150 mm	Ø40	1 side	*	40 mm	U/C + C/C		
Ø63	min. 5,8	-		EI 120	rigid floors ≥ 150 mm	Ø63	1 side	*	63 mm	U/C + C/C		
	max. 8,6	-		EI 120	rigid floors ≥ 150 mm	Ø63	1 side	*	63 mm	U/C + C/C		
2x bundled	5,8	polyolefin 25mm	750 LS + LI + CS + CI	EI 60	rigid floors ≥ 150 mm	Ø63	1 side	*	600 x 800 mm	U/C + C/C		
Ø75	min. 6,8	-		EI 120	rigid floors ≥ 150 mm	Ø75	1 side	*	75 mm	U/C + C/C		
	max. 10,3	-		EI 120	rigid floors ≥ 150 mm	Ø75	1 side	*	75 mm	U/C + C/C		
Ø110	min. 10	-		EI 90	rigid floors ≥ 150 mm	Ø110	1 side	*	110 mm	U/C + C/C		
	max. 15,1	-		EI 120	rigid floors ≥ 150 mm	Ø110	1 side	*	110 mm	U/C + C/C		
max.												
Ø125	11,4	-		EI 180	rigid floors ≥ 150 mm	Ø125	1 side	*	132 mm	U/C + C/C		
	17,1	-		EI 120	rigid floors ≥ 150 mm	Ø125	1 side	*	132 mm	U/C + C/C		

in FT Board 2S 50 mm

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 400mm.

³⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

field of application			fire resistance - EI classification acc. EN 13501-2 / EN 1366-3						Firesafe		
plastic pipe penetrations			certification - EAD 350454-00-1104								
PP-MD classification ≤ Ø160 mm			suitable Firesafe products within classification:								
Fire performances are valid for range of dØ pipe diameter + s1 pipe thickness within the same pipe material: PP-MD acc. EN norms dØ 32 up to 160 mm s1 1,8 up to 5,4 mm pipe brands eg Uponor, Poloplast, Rehau, Geberit, Pipelife acoustical damper brands eg Uponor Bottom Bend			FT Graphite DoP CPR-16/0094		FIRE COLLAR DoP CPR-15/0339		Fire Wrap DoP CPR-15/0339		supporting construction		
dØ	s1	configuration	walls	floors	walls	floors	walls	floors	Constructive element must be classified acc. EN 13501-2 for the required fire resistance period: 1: flexible wall ≥100mm, insulated 1-n100: flexible wall ≥100mm, non-insulated 1-n75: flexible wall ≥75mm, non-insulated 2: rigid wall ≥100mm 3: rigid wall ≥150mm 4: flexible ceiling ≥150mm 5: rigid floor ≥150mm 6: CLT wall ≥100mm 7: CLT floor ≥140mm Max. opening in constructive element: see principle detail. Use FT Board if opening is larger; see how-to-read. Penetration services must be supported; support distance walls max. 500mm support distance floors max. 400mm		
Ø32	1,8	non-insulated	EI 120 in wall 1+2 EI 240 in wall 3	EI 240 in floor 5	EI 120 in wall 1+2 EI 240 in wall 3 collar Ø40	EI 240 in floor 5 collar Ø40	EI 120 in wall 1+2 EI 180 in wall 3 1 layer	EI 180 in floor 5 2 layer			
Ø50	2,0	non-insulated	EI 90 in wall 1+2 EI 180 in wall 3	EI 180 in floor 5	EI 120 in wall 1+2 EI 180 in wall 3 collar Ø50	EI 240 in floor 5 collar Ø50	EI 120 in wall 1+2 EI 240 in wall 3 1 layer	EI 240 in floor 5 1 layer			
Ø75	2,6	non-insulated	EI 60 in wall 1+2 EI 240 in wall 3	EI 240 in floor 5	EI 120 in wall 1+2 EI 240 in wall 3 collar Ø75	EI 240 in floor 5 collar Ø75	EI 120 in wall 1+2 EI 240 in wall 3 1 layer	EI 240 in floor 5 1 layer			
Ø110	3,8	non-insulated	EI 60 in wall 1+2+3	EI 60 in floor 5	EI 120 in wall 1+2+3 collar Ø110	EI 180 in floor 5 collar Ø110	EI 120 in wall 1+2+3 2 layer	EI 240 in floor 5 2 layer			
		+ pipe socket			EI 90 in floor 7 collar Ø160 in GPG or FT Board		EI 90 in floor 7 2 layer				
					EI 60 in wall 1+2+3 collar Ø140	EI 240 in floor 5 collar Ø140	EI 90 in wall 1+2+3 3 layer				
Ø110		+ acoustical damper			EI 90 in floor 7 collar Ø160 in GPG or FT Board						
				EI 180 in floor 5 collar Ø110 in GPG or FT Board							
Ø160	5,4	non-insulated + pipe socket			EI 60 in wall 1+2+3 collar Ø160	EI 180 in floor 5 collar Ø160		EI 240 in floor 5 3 layer			
			joint details: min. W x D, default: walls: 10 x 25 mm, apply on 2 sides floors: 15 x 25 mm, apply on 2 sides		default: walls: apply on 2 sides floors: apply on 1 side always apply smoke seal FT Acrylic on 2 sides		default: walls: apply on 2 sides floors: apply on 1 side always apply smoke seal FT Acrylic on 2 sides				
Firesafe FoA d22-1 - page 7			▶ INDEX PE + PP + PVC plastic cable conduits PP-R PP-MD PP-MX aluPE-X PE-Xa copper steel steel conduits cast iron trays + ladders + wire mesh cables + bundles fire dampers air transfer grilles duct cladding linear joints socket boxes blank seals EN norms for plastic pipes how-to-read acoustical environmental								

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥100mm is also applicable for **rigid walls** ≥100mm
- angle: perpendicular + all angles between 90° and 45°

principle detail**Firesafe**

tested property

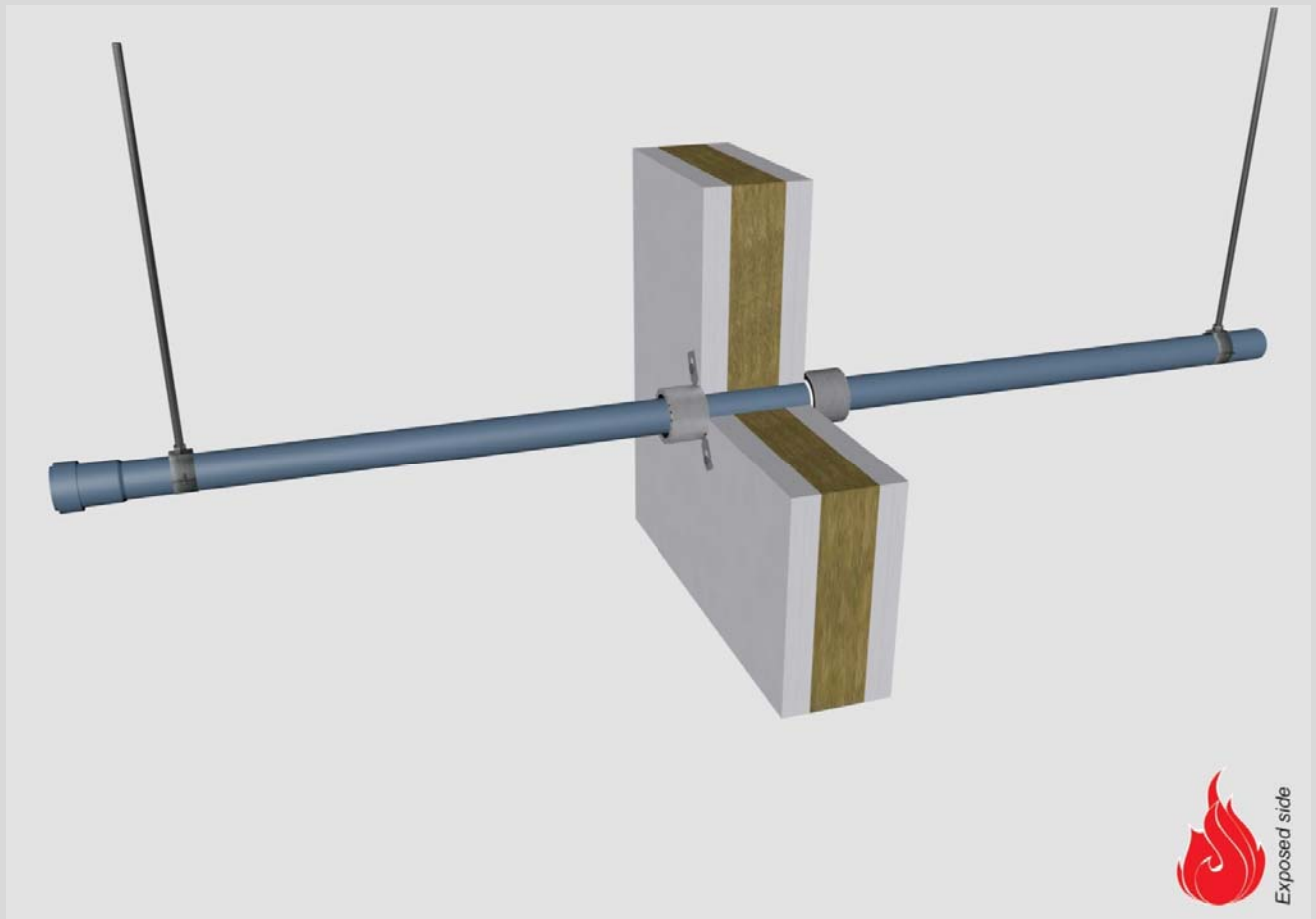
fire resistance

test method

EN 1366-3

service no.

19-62

**PP-MD pipes****FIRE COLLAR**

service type		pipe socket	 EI	constructive element ²⁾	Firesafe pipe collar	application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)				Ø in mm	1 or 2 sides	required	in construction	configuration	
Ø32	1,8	-	EI 120	flexible walls ≥ 100 mm	Ø40	2 sides	*	32 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
		-	EI 240	rigid walls ≥ 150 mm	Ø40	2 sides	*	32mm	U/C + C/C	
Ø50	2,0	-	EI 120	flexible walls ≥ 100 mm	Ø50	2 sides	*	50 mm	U/C + C/C	
		-	EI 180	rigid walls ≥ 150 mm	Ø50	2 sides	*	50 mm	U/C + C/C	
Ø75	2,6	-	EI 120	flexible walls ≥ 100 mm	Ø75	2 sides	*	75 mm	U/C + C/C	
		-	EI 240	rigid walls ≥ 150 mm	Ø75	2 sides	*	75 mm	U/C + C/C	
Ø110	3,8	-	EI 120	flexible walls ≥ 100 mm	Ø110	2 sides	*	110 mm	U/C + C/C	
		socket on 2 sides	EI 60	flexible walls ≥ 100 mm	Ø140	2 sides	*	135 mm	U/C + C/C	
max.										
Ø160	5,4	-	EI 60	flexible walls ≥ 100 mm	Ø160	2 sides	*	160 mm	U/C + C/C	
		socket on 2 sides	EI 60	flexible walls ≥ 100 mm	Ø200	2 sides	*	185 mm	U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm!

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥100mm is also applicable for **rigid walls** ≥100mm
- angle: perpendicular + all angles between 90° and 45°

principle detail**Firesafe****tested property**

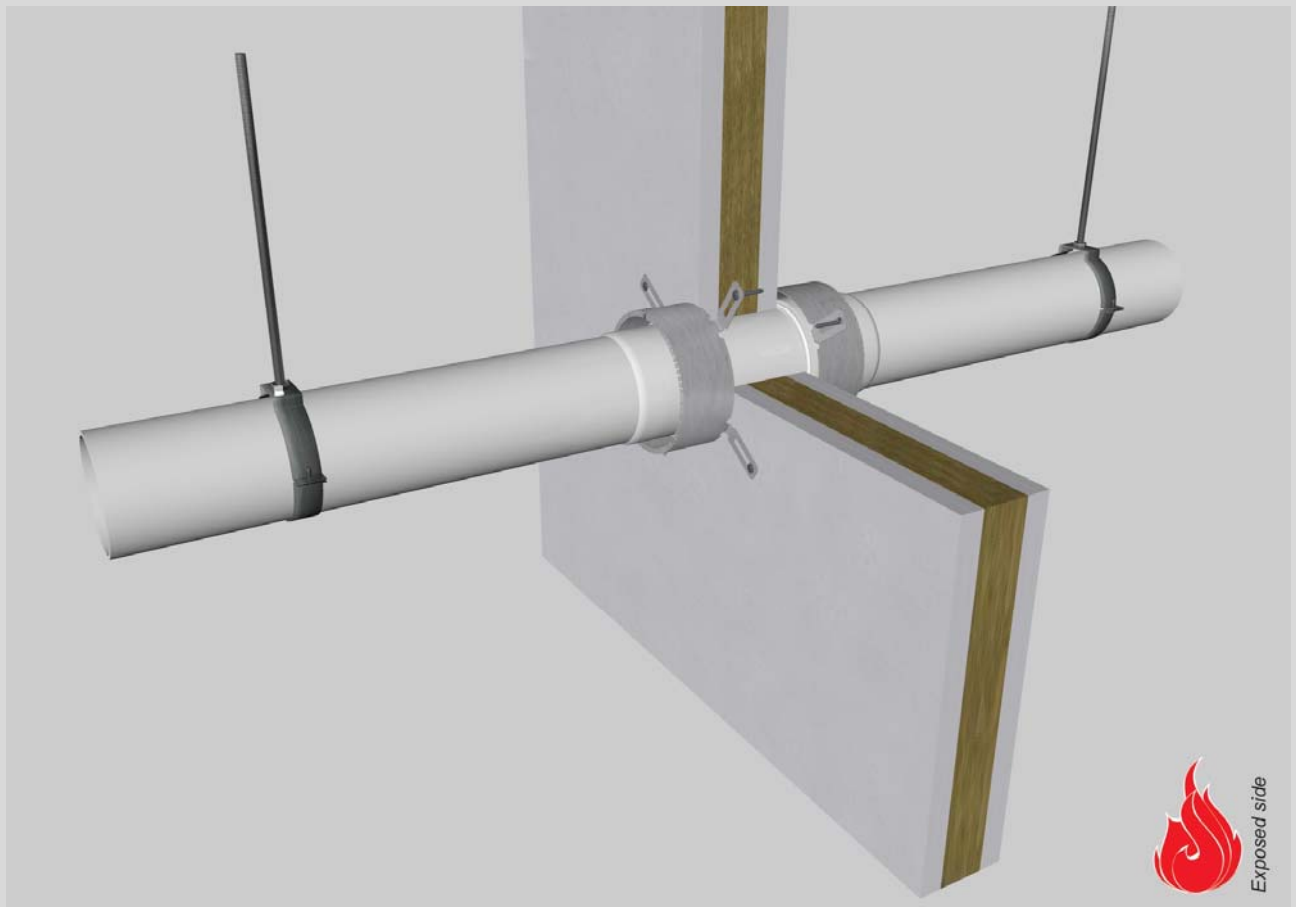
fire resistance

test method

EN 1366-3

service no.

15-37

**PP-MD pipes****FIRE COLLAR**

service type		pipe socket	 EI	constructive element ²⁾	Firesafe pipe collar	application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)				Ø in mm	1 or 2 sides	required	in construction	configuration	
Ø32	1,8	-	EI 120	flexible walls ≥ 100 mm	Ø40	2 sides	*	32 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
		-	EI 240	rigid walls ≥ 150 mm	Ø40	2 sides	*	32mm	U/C + C/C	
Ø50	2,0	-	EI 120	flexible walls ≥ 100 mm	Ø50	2 sides	*	50 mm	U/C + C/C	
		-	EI 180	rigid walls ≥ 150 mm	Ø50	2 sides	*	50 mm	U/C + C/C	
Ø75	2,6	-	EI 120	flexible walls ≥ 100 mm	Ø75	2 sides	*	75 mm	U/C + C/C	
		-	EI 240	rigid walls ≥ 150 mm	Ø75	2 sides	*	75 mm	U/C + C/C	
Ø110	3,8	-	EI 120	flexible walls ≥ 100 mm	Ø110	2 sides	*	110 mm	U/C + C/C	
		socket on 2 sides	EI 60	flexible walls ≥ 100 mm	Ø140	2 sides	*	135 mm	U/C + C/C	
max.										
Ø160	5,4	-	EI 60	flexible walls ≥ 100 mm	Ø160	2 sides	*	160 mm	U/C + C/C	
		socket on 2 sides	EI 60	flexible walls ≥ 100 mm	Ø200	2 sides	*	185 mm	U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm!

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥100mm is also applicable for **rigid walls** ≥100mm
- angle: perpendicular + all angles between 90° and 45°

principle detail**Firesafe****tested property**

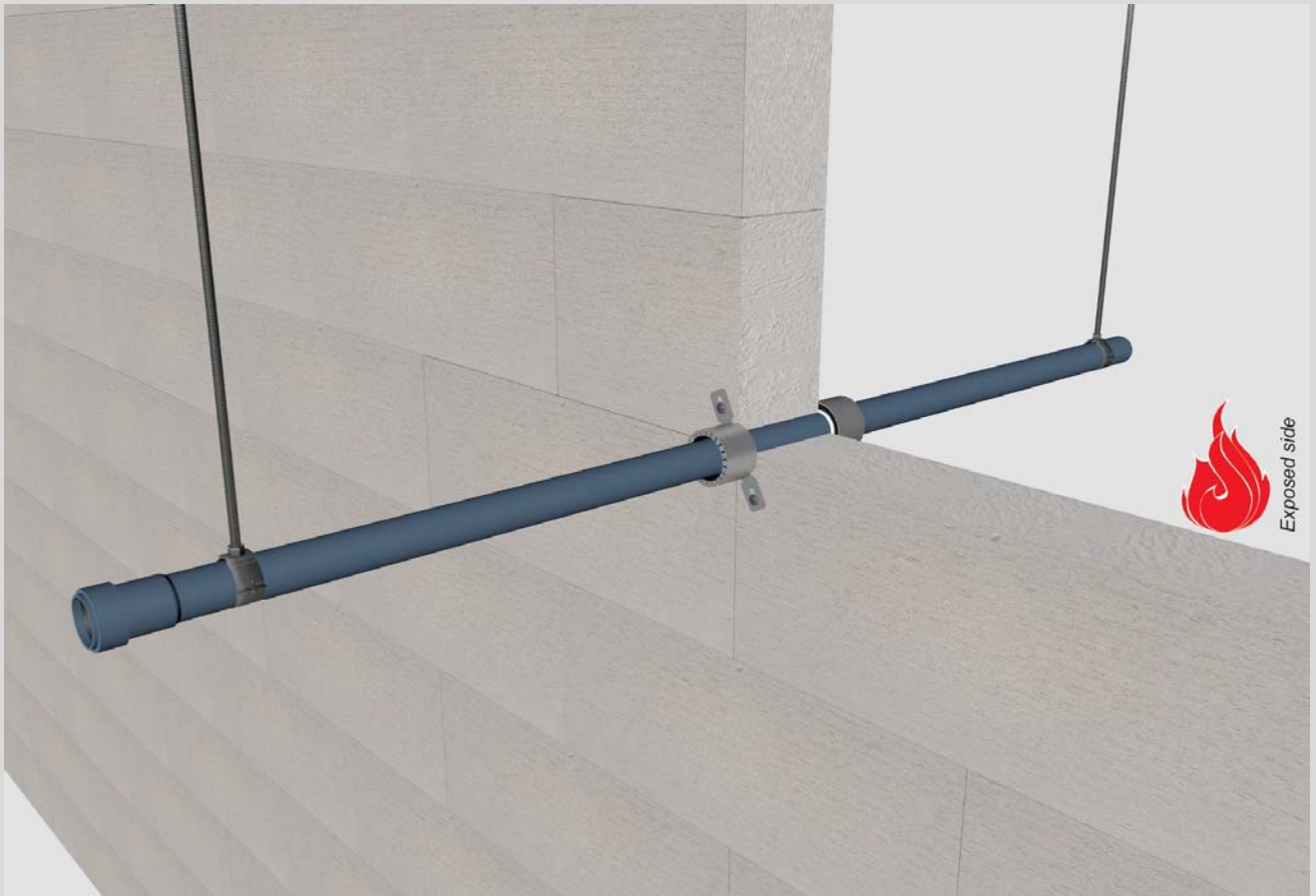
fire resistance

test method

EN 1366-3

service no.

19-62r

**PP-MD pipes****FIRE COLLAR**

service type		pipe socket	 EI	constructive element ²⁾	Firesafe pipe collar	application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)				Ø in mm	1 or 2 sides	required	in construction	configuration	
Ø32	1,8	-	EI 120	flexible walls ≥ 100 mm	Ø40	2 sides	*	32 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
		-	EI 240	rigid walls ≥ 150 mm	Ø40	2 sides	*	32mm	U/C + C/C	
Ø50	2,0	-	EI 120	flexible walls ≥ 100 mm	Ø50	2 sides	*	50 mm	U/C + C/C	
		-	EI 180	rigid walls ≥ 150 mm	Ø50	2 sides	*	50 mm	U/C + C/C	
Ø75	2,6	-	EI 120	flexible walls ≥ 100 mm	Ø75	2 sides	*	75 mm	U/C + C/C	
		-	EI 240	rigid walls ≥ 150 mm	Ø75	2 sides	*	75 mm	U/C + C/C	
Ø110	3,8	-	EI 120	flexible walls ≥ 100 mm	Ø110	2 sides	*	110 mm	U/C + C/C	
		socket on 2 sides	EI 60	flexible walls ≥ 100 mm	Ø140	2 sides	*	135 mm	U/C + C/C	
max.										
Ø160	5,4	-	EI 60	flexible walls ≥ 100 mm	Ø160	2 sides	*	160 mm	U/C + C/C	
		socket on 2 sides	EI 60	flexible walls ≥ 100 mm	Ø200	2 sides	*	185 mm	U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm!

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

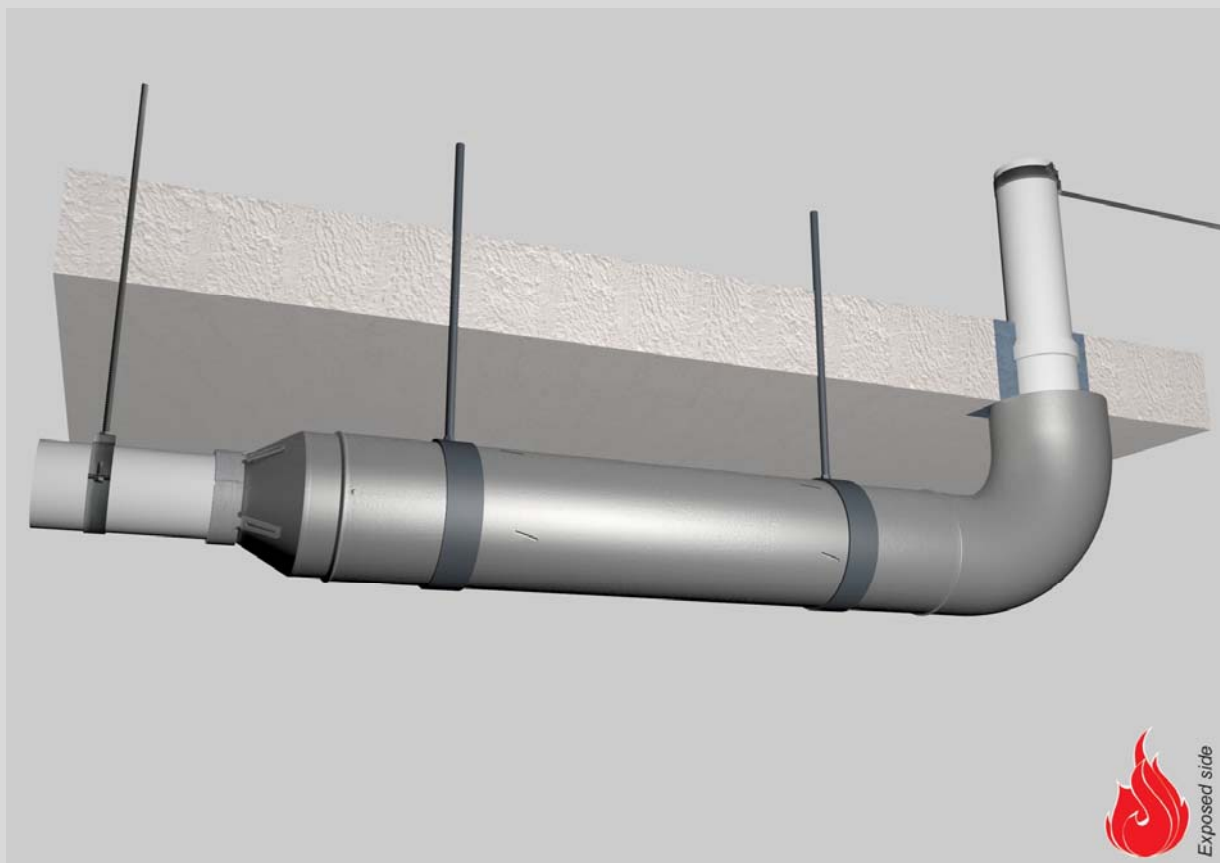
fire resistance

test method

EN 1366-3

service no.

17-6-1



PP-MD pipes

FIRE COLLAR

service type ¹⁾		pipe socket	non-standard config.	 EI	constructive element ²⁾	Firesafe pipe collar Ø in mm	application 1 or 2 sides	finish required	max. opening in construction	pipe end configuration	max. angle
dØ (mm)	s1 (mm)										
Ø32	1,8	-		EI 240	rigid floors ≥ 150 mm	Ø40	1 side	*	32 mm	U/U + U/C + C/C	perpendicular + all angles between 90° and 45°
Ø50	2,0	-		EI 240	rigid floors ≥ 150 mm	Ø50	1 side	*	50 mm	U/U + U/C + C/C	
Ø75	2,6	-		EI 240	rigid floors ≥ 150 mm	Ø75	1 side	*	75 mm	U/U + U/C + C/C	
Ø110	3,8	-		EI 180	rigid floors ≥ 150 mm	Ø110	1 side	*	110 mm	U/U + U/C + C/C	
		-		EI 90	CLT floors ≥ 140 mm	Ø110	1 side	3)	150 mm	U/C + C/C	
		-	at 45° angle, U-shape	EI 90	CLT floors ≥ 140 mm	Ø160	1 side	3)	336 mm	U/C + C/C	
		socket on 1 side		EI 240	rigid floors ≥ 150 mm	Ø140	1 side	*	140 mm	U/C + C/C	
		socket on 1 side	at 90° angle	EI 90	CLT floors ≥ 140 mm	Ø160	1 side	*	140 mm	U/C + C/C	
		-	with acoustical damper	EI 180	rigid floors ≥ 150 mm	Ø110	1 side	*	250 x 250 mm	U/C + C/C	
		-	with acoustical damper	EI 180	rigid floors ≥ 150 mm in FR mortar	Ø110	1 side	*	202 mm	U/C + C/C	
max.											
Ø160	5,4	-		EI 180	rigid floors ≥ 150 mm	Ø160	1 side	*	160 mm	U/C + C/C	

in FT Board 2S 50 mm

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 400mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

³⁾ Aperture sealed with Firesafe GPG 140mm depth.

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45°

principle detail
Firesafe
tested property

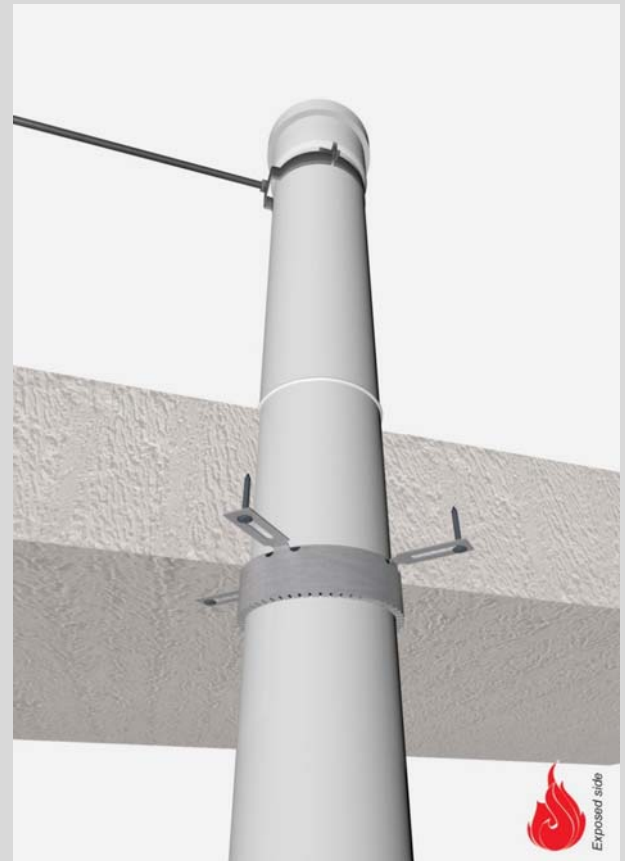
fire resistance

test method

EN 1366-3

service no.

24-15



PP-MD pipes

FIRE COLLAR

service type ¹⁾		pipe socket	non-standard config.	EI 	constructive element ²⁾	Firesafe pipe collar Ø in mm	application 1 or 2 sides	finish required	max. opening in construction	pipe end configuration	max. angle
dØ (mm)	s1 (mm)										
Ø32	1,8	-		EI 240	rigid floors ≥ 150 mm	Ø40	1 side	*	32 mm	U/U + U/C + C/C	perpendicular + all angles between 90° and 45°
Ø50	2,0	-		EI 240	rigid floors ≥ 150 mm	Ø50	1 side	*	50 mm	U/U + U/C + C/C	
Ø75	2,6	-		EI 240	rigid floors ≥ 150 mm	Ø75	1 side	*	75 mm	U/U + U/C + C/C	
Ø110	3,8	-		EI 180	rigid floors ≥ 150 mm	Ø110	1 side	*	110 mm	U/U + U/C + C/C	
		-		EI 90	CLT floors ≥ 140 mm	Ø110	1 side	3)	150 mm	U/C + C/C	
		-	at 45° angle, U-shape	EI 90	CLT floors ≥ 140 mm	Ø160	1 side	3)	336 mm	U/C + C/C	
		socket on 1 side		EI 240	rigid floors ≥ 150 mm	Ø140	1 side	*	140 mm	U/C + C/C	
		socket on 1 side	at 90° angle	EI 90	CLT floors ≥ 140 mm	Ø160	1 side	*	140 mm	U/C + C/C	
		-	with acoustical damper	EI 180	rigid floors ≥ 150 mm	Ø110	1 side	*	250 x 250 mm	U/C + C/C	
		-	with acoustical damper	EI 180	rigid floors ≥ 150 mm in FR mortar	Ø110	1 side	*	202 mm	U/C + C/C	
max.											
Ø160	5,4	-		EI 180	rigid floors ≥ 150 mm	Ø160	1 side	*	160 mm	U/C + C/C	

in FT Board 2S 50 mm

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 400mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

³⁾ Aperture sealed with Firesafe GPG 140mm depth.

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45°

principle detail
Firesafe
tested property

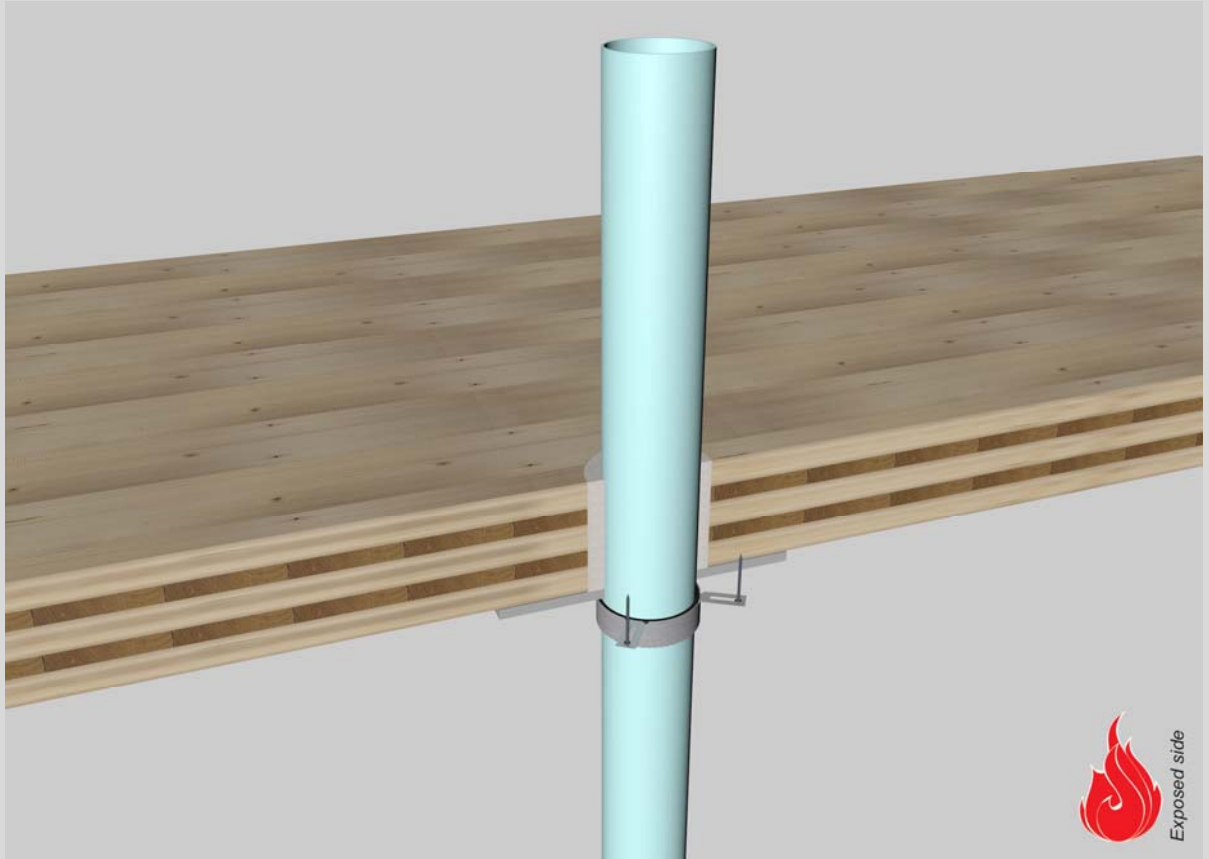
fire resistance

test method

EN 1366-3

service no.

28-35



PP-MD pipes

FIRE COLLAR

service type ¹⁾		pipe socket	non-standard config.	EI 	constructive element ²⁾	Firesafe pipe collar Ø in mm	application 1 or 2 sides	finish required	max. opening in construction	pipe end configuration	max. angle	
dØ (mm)	s1 (mm)											
Ø32	1,8	-		EI 240	rigid floors ≥ 150 mm	Ø40	1 side	*	32 mm	U/U + U/C + C/C	perpendicular + all angles between 90° and 45°	
Ø50	2,0	-		EI 240	rigid floors ≥ 150 mm	Ø50	1 side	*	50 mm	U/U + U/C + C/C		
Ø75	2,6	-		EI 240	rigid floors ≥ 150 mm	Ø75	1 side	*	75 mm	U/U + U/C + C/C		
Ø110	3,8	-		EI 180	rigid floors ≥ 150 mm	Ø110	1 side	*	110 mm	U/U + U/C + C/C		
		-		EI 90	CLT floors ≥ 140 mm	Ø110	1 side	3)	150 mm	U/C + C/C		
		-	at 45° angle, U-shape	EI 90	CLT floors ≥ 140 mm	Ø160	1 side	3)	336 mm	U/C + C/C		
		socket on 1 side		EI 240	rigid floors ≥ 150 mm	Ø140	1 side	*	140 mm	U/C + C/C		
		socket on 1 side	at 90° angle	EI 90	CLT floors ≥ 140 mm	Ø160	1 side	*	140 mm	U/C + C/C		
		-	with acoustical damper	EI 180	rigid floors ≥ 150 mm	Ø110	1 side	*	250 x 250 mm	U/C + C/C		
		-	with acoustical damper	EI 180	rigid floors ≥ 150 mm in FR mortar	Ø110	1 side	*	202 mm	U/C + C/C		
max.												
Ø160	5,4	-		EI 180	rigid floors ≥ 150 mm	Ø160	1 side	*	160 mm	U/C + C/C		

in FT Board 2S 50 mm

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 400mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

³⁾ Aperture sealed with Firesafe GPG 140mm depth and plasterboard cover 12,5mm.

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

fire resistance

test method

EN 1366-3

service no.

28-26



PP-MD pipes

FIRE COLLAR

service type ¹⁾		pipe socket	non-standard config.	 EI	constructive element ²⁾	Firesafe pipe collar Ø in mm	application 1 or 2 sides	finish required	max. opening in construction	pipe end configuration	max. angle
dØ (mm)	s1 (mm)										
Ø32	1,8	-		EI 240	rigid floors ≥ 150 mm	Ø40	1 side	*	32 mm	U/U + U/C + C/C	perpendicular + all angles between 90° and 45°
Ø50	2,0	-		EI 240	rigid floors ≥ 150 mm	Ø50	1 side	*	50 mm	U/U + U/C + C/C	
Ø75	2,6	-		EI 240	rigid floors ≥ 150 mm	Ø75	1 side	*	75 mm	U/U + U/C + C/C	
Ø110	3,8	-		EI 180	rigid floors ≥ 150 mm	Ø110	1 side	*	110 mm	U/U + U/C + C/C	
		-		EI 90	CLT floors ≥ 140 mm	Ø110	1 side	3)	150 mm	U/C + C/C	
		-	at 45° angle, U-shape	EI 90	CLT floors ≥ 140 mm	Ø160	1 side	3)	336 mm	U/C + C/C	
		socket on 1 side		EI 240	rigid floors ≥ 150 mm	Ø140	1 side	*	140 mm	U/C + C/C	
		socket on 1 side	at 90° angle	EI 90	CLT floors ≥ 140 mm	Ø160	1 side	*	140 mm	U/C + C/C	
		-	with acoustical damper	EI 180	rigid floors ≥ 150 mm	Ø110	1 side	*	250 x 250 mm	U/C + C/C	
		-	with acoustical damper	EI 180	rigid floors ≥ 150 mm in FR mortar	Ø110	1 side	*	202 mm	U/C + C/C	
max.											
Ø160	5,4	-		EI 180	rigid floors ≥ 150 mm	Ø160	1 side	*	160 mm	U/C + C/C	

in FT Board 2S 50 mm

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 400mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

³⁾ Aperture sealed with Firesafe GPG 140mm depth and plasterboard cover 12,5mm.

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45°

principle detail
Firesafe
tested property

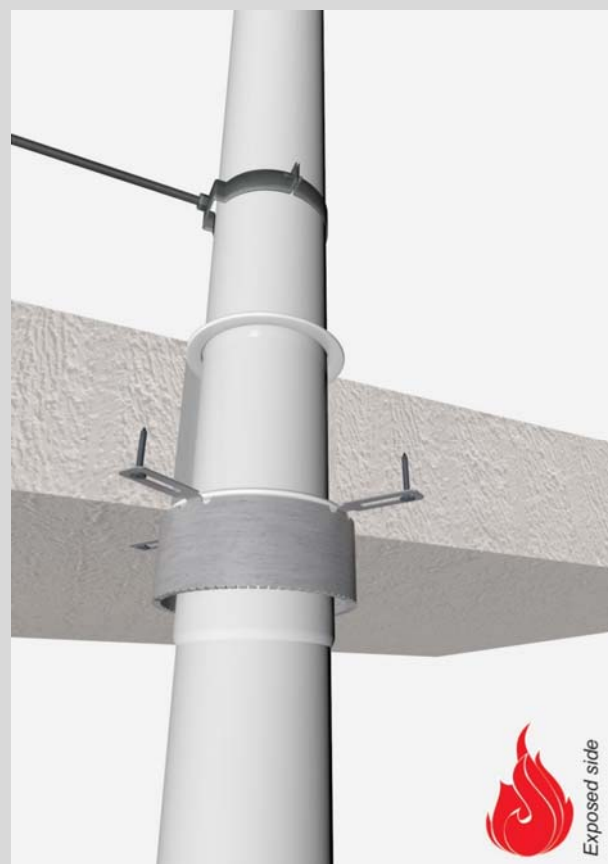
fire resistance

test method

EN 1366-3

service no.

17-4-9



PP-MD pipes

FIRE COLLAR

service type ¹⁾		pipe socket	non-standard config.	 EI	constructive element ²⁾	Firesafe pipe collar Ø in mm	application 1 or 2 sides	finish required	max. opening in construction	pipe end configuration	max. angle
dØ (mm)	s1 (mm)										
Ø32	1,8	-		EI 240	rigid floors ≥ 150 mm	Ø40	1 side	*	32 mm	U/U + U/C + C/C	perpendicular + all angles between 90° and 45°
Ø50	2,0	-		EI 240	rigid floors ≥ 150 mm	Ø50	1 side	*	50 mm	U/U + U/C + C/C	
Ø75	2,6	-		EI 240	rigid floors ≥ 150 mm	Ø75	1 side	*	75 mm	U/U + U/C + C/C	
Ø110	3,8	-		EI 180	rigid floors ≥ 150 mm	Ø110	1 side	*	110 mm	U/U + U/C + C/C	
		-		EI 90	CLT floors ≥ 140 mm	Ø110	1 side	3)	150 mm	U/C + C/C	
		-	at 45° angle, U-shape	EI 90	CLT floors ≥ 140 mm	Ø160	1 side	3)	336 mm	U/C + C/C	
		socket on 1 side		EI 240	rigid floors ≥ 150 mm	Ø140	1 side	*	140 mm	U/C + C/C	
		socket on 1 side	at 90° angle	EI 90	CLT floors ≥ 140 mm	Ø160	1 side	*	140 mm	U/C + C/C	
		-	with acoustical damper	EI 180	rigid floors ≥ 150 mm	Ø110	1 side	*	250 x 250 mm	U/C + C/C	
		-	with acoustical damper	EI 180	rigid floors ≥ 150 mm in FR mortar	Ø110	1 side	*	202 mm	U/C + C/C	
max.											
Ø160	5,4	-		EI 180	rigid floors ≥ 150 mm	Ø160	1 side	*	160 mm	U/C + C/C	

in FT Board 2S 50 mm

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 400mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

3) Aperture sealed with Firesafe GPG 140mm depth.

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

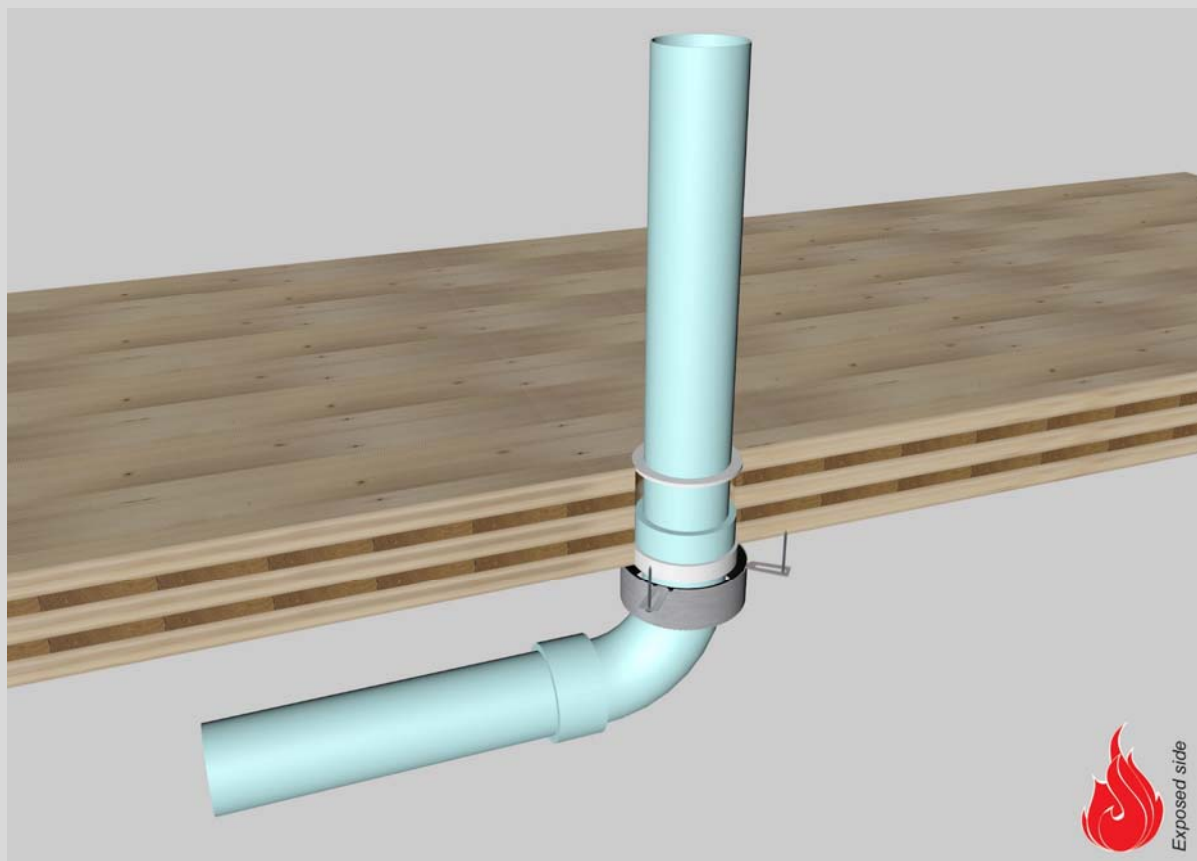
fire resistance

test method

EN 1366-3

service no.

28-20



PP-MD pipes

FIRE COLLAR

service type ¹⁾		pipe socket	non-standard config.	 EI	constructive element ²⁾	Firesafe pipe collar Ø in mm	application 1 or 2 sides	finish required	max. opening in construction	pipe end configuration	max. angle
dØ (mm)	s1 (mm)										
Ø32	1,8	-		EI 240	rigid floors ≥ 150 mm	Ø40	1 side	*	32 mm	U/U + U/C + C/C	perpendicular + all angles between 90° and 45°
Ø50	2,0	-		EI 240	rigid floors ≥ 150 mm	Ø50	1 side	*	50 mm	U/U + U/C + C/C	
Ø75	2,6	-		EI 240	rigid floors ≥ 150 mm	Ø75	1 side	*	75 mm	U/U + U/C + C/C	
Ø110	3,8	-		EI 180	rigid floors ≥ 150 mm	Ø110	1 side	*	110 mm	U/U + U/C + C/C	
		-		EI 90	CLT floors ≥ 140 mm	Ø110	1 side	3)	150 mm	U/C + C/C	
		-	at 45° angle, U-shape	EI 90	CLT floors ≥ 140 mm	Ø160	1 side	3)	336 mm	U/C + C/C	
		socket on 1 side		EI 240	rigid floors ≥ 150 mm	Ø140	1 side	*	140 mm	U/C + C/C	
		socket on 1 side	at 90° angle	EI 90	CLT floors ≥ 140 mm	Ø160	1 side	*	140 mm	U/C + C/C	
		-	with acoustical damper	EI 180	rigid floors ≥ 150 mm	Ø110	1 side	*	250 x 250 mm	U/C + C/C	
-		with acoustical damper	EI 180	rigid floors ≥ 150 mm in FR mortar	Ø110	1 side	*	202 mm	U/C + C/C		
max.											
Ø160	5,4	-		EI 180	rigid floors ≥ 150 mm	Ø160	1 side	*	160 mm	U/C + C/C	

in FT Board 2S 50 mm

* smoke seal FT Acrylic on 2 sides

p

¹⁾ Penetration services must be supported; support distance ≤ 400mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

³⁾ Aperture sealed with Firesafe GPG 140mm depth and plasterboard cover 12,5mm.

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥100mm is also applicable for **rigid walls** ≥100mm
- angle: perpendicular + all angles between 90° and 45°

principle detail**Firesafe**

tested property

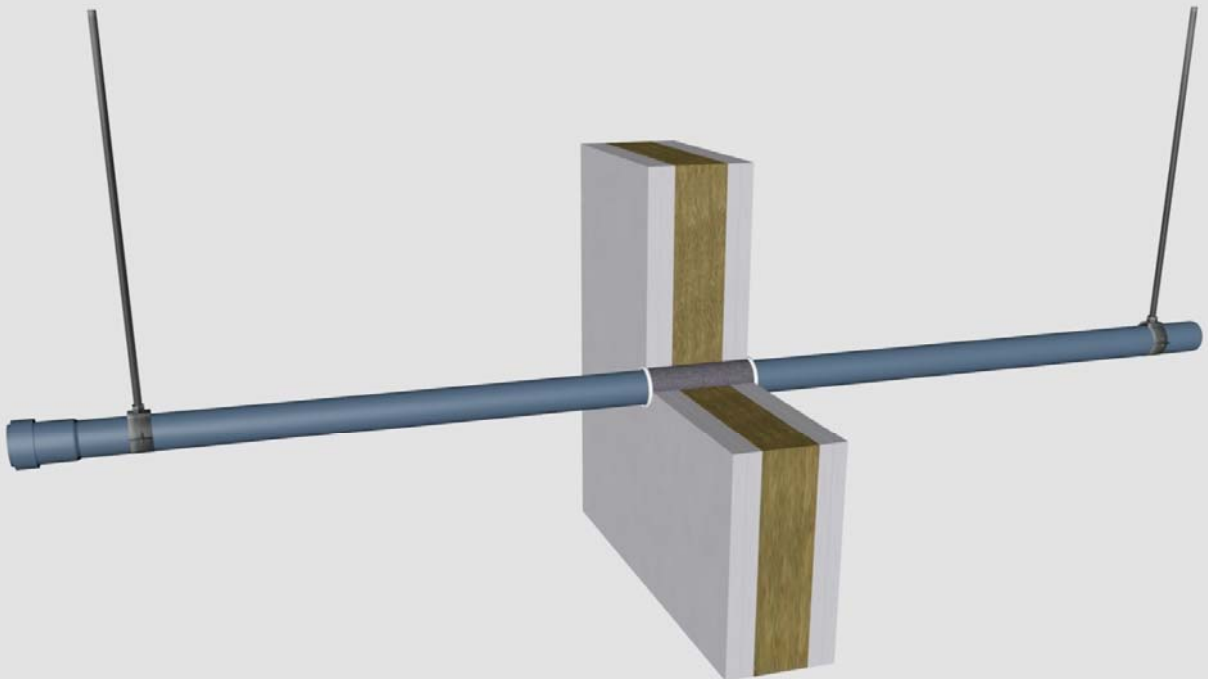
fire resistance

test method

EN 1366-3

service no.

19-61

**PP-MD pipes****Fire Wrap**

service type		pipe socket	 EI	constructive element ²⁾	Firesafe pipe wrap		application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)				length TT x Ø x	no. of layers	1 or 2 sides	required	in construction	configuration	
Ø32	1,8	-	EI 120	flexible walls ≥ 100 mm	TT x Ø x	1	2 sides	*	36 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
			EI 180	rigid walls ≥ 150 mm	TT x Ø x	2	2 sides	*	44 mm	U/C + C/C	
Ø50	2,0	-	EI 120	flexible walls ≥ 100 mm	TT x Ø x	1	2 sides	*	55 mm	U/C + C/C	
			EI 240	rigid walls ≥ 150 mm	TT x Ø x	1	2 sides	*	54 mm	U/C + C/C	
Ø75	2,6	-	EI 120	flexible walls ≥ 100 mm	TT x Ø x	1	2 sides	*	79 mm	U/C + C/C	
			EI 240	rigid walls ≥ 150 mm	TT x Ø x	1	2 sides	*	79 mm	U/C + C/C	
max.											
Ø110	3,8	-	EI 120	flexible walls ≥ 100 mm	TT x Ø x	2	2 sides	*	118 mm	U/C + C/C	
		socket on 2 sides	EI 90	flexible walls ≥ 100 mm	TT x Ø x	3	2 sides	*	160 mm	U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for **rigid walls** ≥100mm!

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥100mm is also applicable for **rigid walls** ≥100mm
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

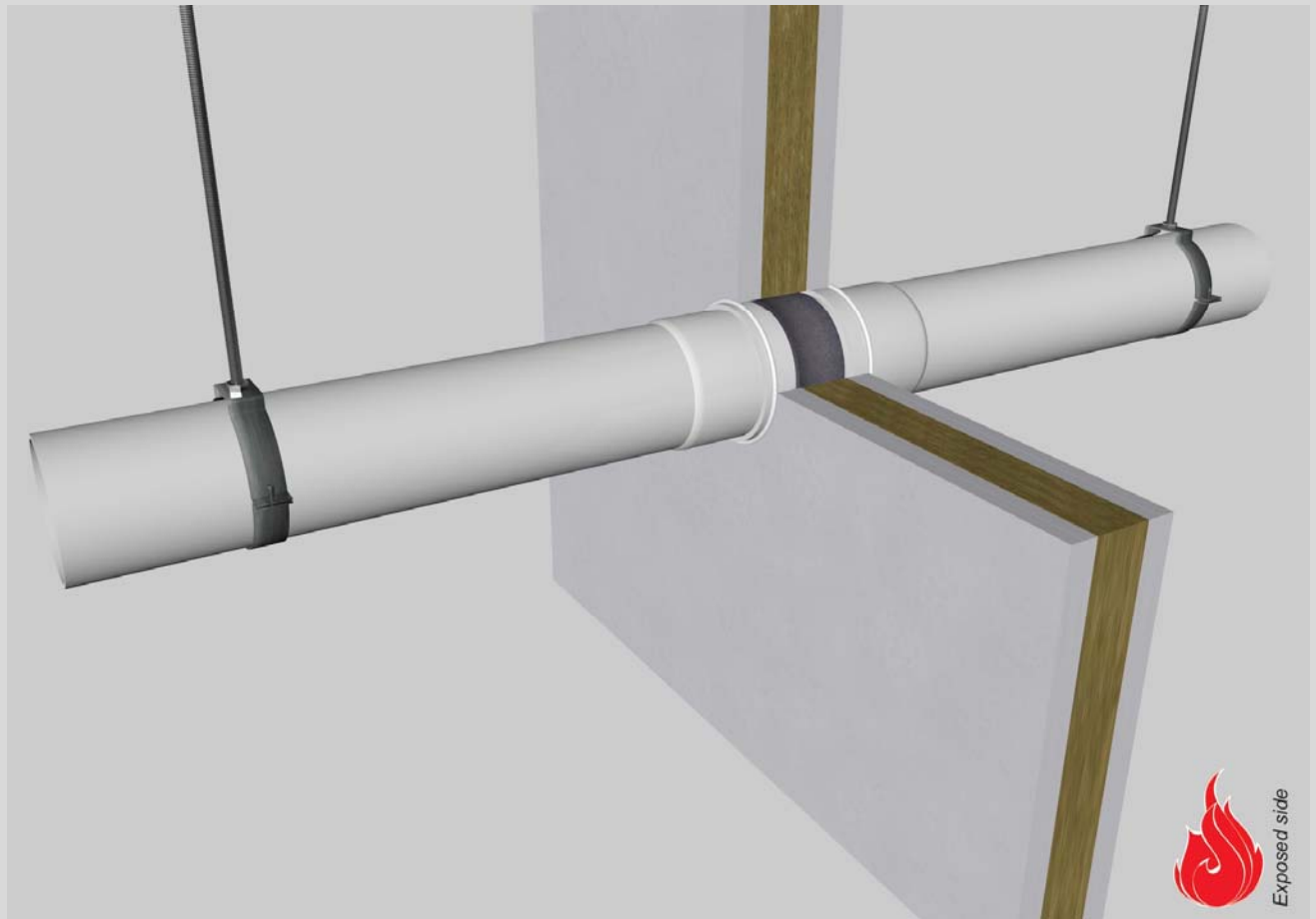
fire resistance

test method

EN 1366-3

service no.

15-38



PP-MD pipes

Fire Wrap

service type		pipe socket	 EI	constructive element ²⁾	Firesafe pipe wrap		application	finish	max. opening	pipe end	max. angle	
dØ (mm)	s1 (mm)				length TT x Ø x	no. of layers	1 or 2 sides	required	in construction	configuration		
Ø32	1,8	-	EI 120	flexible walls ≥ 100 mm	TT x Ø x	1	2 sides	*	36 mm	U/C + C/C	perpendicular + all angles between 90° and 45°	
			EI 180	rigid walls ≥ 150 mm	TT x Ø x	2	2 sides	*	44 mm	U/C + C/C		
Ø50	2,0	-	EI 120	flexible walls ≥ 100 mm	TT x Ø x	1	2 sides	*	55 mm	U/C + C/C		
			EI 240	rigid walls ≥ 150 mm	TT x Ø x	1	2 sides	*	54 mm	U/C + C/C		
Ø75	2,6	-	EI 120	flexible walls ≥ 100 mm	TT x Ø x	1	2 sides	*	79 mm	U/C + C/C		
			EI 240	rigid walls ≥ 150 mm	TT x Ø x	1	2 sides	*	79 mm	U/C + C/C		
max.												
Ø110	3,8	-	EI 120	flexible walls ≥ 100 mm	TT x Ø x	2	2 sides	*	118 mm	U/C + C/C		
		socket on 2 sides	EI 90	flexible walls ≥ 100 mm	TT x Ø x	3	2 sides	*	160 mm	U/C + C/C		

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm!

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥100mm is also applicable for **rigid walls** ≥100mm
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

test method

service no.

fire resistance

EN 1366-3

19-61r



PP-MD pipes

Fire Wrap

service type	pipe socket	EI	constructive element ²⁾	Firesafe pipe wrap	application	finish	max. opening	pipe end	max. angle
dØ (mm) s1 (mm)				length TT x Ø x no. of layers	1 or 2 sides	required	in construction	configuration	
Ø32	1,8	-	flexible walls ≥ 100 mm	TT x Ø x 1	2 sides	*	36 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
			rigid walls ≥ 150 mm	TT x Ø x 2	2 sides	*	44 mm	U/C + C/C	
Ø50	2,0	-	flexible walls ≥ 100 mm	TT x Ø x 1	2 sides	*	55 mm	U/C + C/C	
			rigid walls ≥ 150 mm	TT x Ø x 1	2 sides	*	54 mm	U/C + C/C	
Ø75	2,6	-	flexible walls ≥ 100 mm	TT x Ø x 1	2 sides	*	79 mm	U/C + C/C	
			rigid walls ≥ 150 mm	TT x Ø x 1	2 sides	*	79 mm	U/C + C/C	
max. Ø110	3,8	-	flexible walls ≥ 100 mm	TT x Ø x 2	2 sides	*	118 mm	U/C + C/C	
			socket on 2 sides flexible walls ≥ 100 mm	TT x Ø x 3	2 sides	*	160 mm	U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm!

Notes:

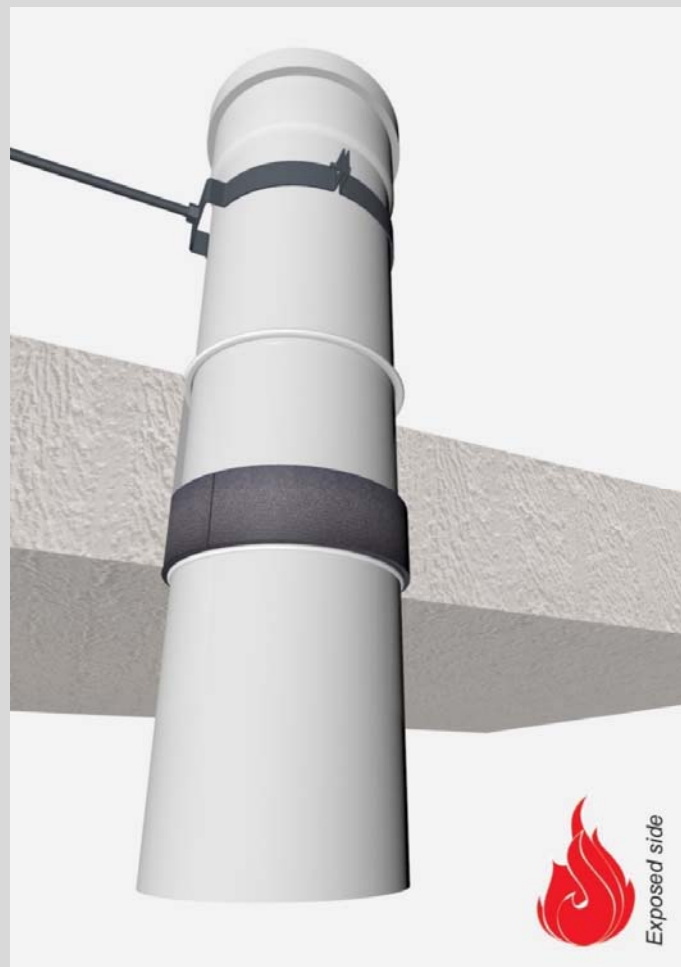
- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45°

principle detail**Firesafe****tested property****test method****service no.**

fire resistance

EN 1366-3

22-20

**PP-MD pipes****Fire Wrap**

service type ¹⁾		pipe socket	 EI	constructive element ²⁾	Firesafe pipe wrap		application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)				length	no. of layers	1 or 2 sides	required	in construction	configuration	
Ø32	1,8	-	EI 180	rigid floors ≥ 150 mm	TT x Ø x	2	1 side	*	44 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
Ø50	2,0	-	EI 240	rigid floors ≥ 150 mm	TT x Ø x	1	1 side	*	54 mm	U/C + C/C	
Ø75	2,6	-	EI 240	rigid floors ≥ 150 mm	TT x Ø x	1	1 side	*	79 mm	U/C + C/C	
Ø110	3,8	-	EI 240	rigid floors ≥ 150 mm	TT x Ø x	2	1 side	*	118 mm	U/C + C/C	
		-	EI 90	CLT floors ≥ 140 mm	TT x Ø x	2	1 side	³⁾	150 mm	U/C + C/C	
max.											
Ø160	5,4	-	EI 240	rigid floors ≥ 150 mm	TT x Ø x	3	1 side	*	180 mm	U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 400mm.²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.³⁾ Aperture sealed with Firesafe GPG 140mm depth.

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45°

principle detail**Firesafe**

tested property

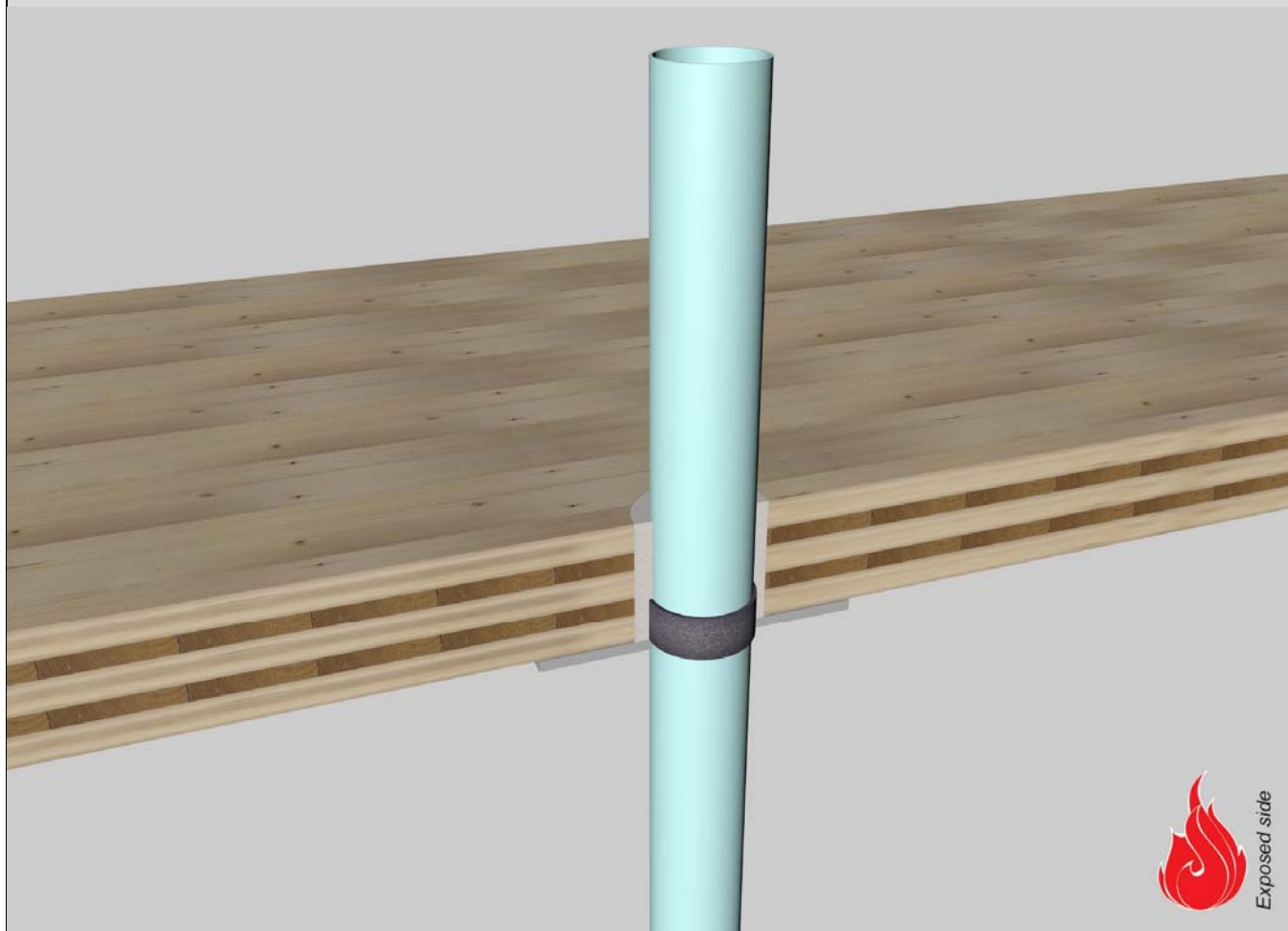
fire resistance

test method

EN 1366-3

service no.

28-11

**PP-MD pipes****Fire Wrap**

service type ¹⁾		pipe socket	 EI	constructive element ²⁾	Firesafe pipe wrap	application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)				length TT x Ø x no. of layers	1 or 2 sides	required	in construction	configuration	
Ø32	1,8	-	EI 180	rigid floors ≥ 150 mm	TT x Ø x 2	1 side	*	44 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
Ø50	2,0	-	EI 240	rigid floors ≥ 150 mm	TT x Ø x 1	1 side	*	54 mm	U/C + C/C	
Ø75	2,6	-	EI 240	rigid floors ≥ 150 mm	TT x Ø x 1	1 side	*	79 mm	U/C + C/C	
Ø110	3,8	-	EI 240	rigid floors ≥ 150 mm	TT x Ø x 2	1 side	*	118 mm	U/C + C/C	
		-	EI 90	CLT floors ≥ 140 mm	TT x Ø x 2	1 side	³⁾	150 mm	U/C + C/C	
max.										
Ø160	5,4	-	EI 240	rigid floors ≥ 150 mm	TT x Ø x 3	1 side	*	180 mm	U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 400mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

³⁾ Aperture sealed with Firesafe GPG 140mm depth and plasterboard cover 12,5mm.

field of application			fire resistance - EI classification acc. EN 13501-2 / EN 1366-3						Firesafe	
plastic pipe penetrations			certification - EAD 350454-00-1104							
PP-MX classification ≤ Ø160 mm			suitable Firesafe products within classification:							
Fire performances are valid for range of dØ pipe diameter + s1 pipe thickness within the same pipe material: PP-MX acc. EN norms dØ 50 up to 160 mm s1 2.7 up to 5.7 mm pipe brands eg Geberit			FT Graphite DoP CPR-16/0094		FIRE COLLAR DoP CPR-15/0339		Fire Wrap DoP CPR-15/0339		supporting construction	
dØ	s1	configuration	walls	floors	walls	floors	walls	floors	Constructive element must be classified acc. EN 13501-2 for the required fire resistance period: 1: flexible wall ≥100mm, insulated 1-n100: flexible wall ≥100mm, non-insulated 1-n75: flexible wall ≥75mm, non-insulated 2: rigid wall ≥100mm 3: rigid wall ≥150mm 4: flexible ceiling ≥150mm 5: rigid floor ≥150mm 6: CLT wall ≥100mm 7: CLT floor ≥140mm Max. opening in constructive element: see principle detail. Use FT Board if opening is larger; see how-to-read. Penetration services must be supported; support distance walls max. 500mm support distance floors max. 400mm	
Ø50	2.7	non-insulated	EI 120 in wall 1+2 EI 240 in wall 3	EI 240 in floor 5	EI 90 in wall 1+2 EI 240 in wall 3 collar Ø50	EI 240 in floor 5 collar Ø50	EI 120 in wall 1+2 EI 240 in wall 3 2 layer	EI 240 in floor 5 2 layer		
		+ pipe socket	EI 120 in wall 1+2 EI 240 in wall 3	EI 240 in floor 5	EI 120 in wall 1+2 EI 240 in wall 3 collar Ø63	EI 240 in floor 5 collar Ø63	EI 120 in wall 1+2 EI 240 in wall 3 2 layer	EI 240 in floor 5 2 layer		
Ø110	4.2	non-insulated	EI 90 in wall 1+2+3	EI 60 in floor 5	EI 90 in wall 1+2+3 collar Ø110	EI 240 in floor 5 collar Ø110	EI 120 in wall 1+2+3 2 layer	EI 180 in floor 5 2 layer		
		+ pipe socket		EI 240 in floor 5	EI 90 in wall 1+2+3 collar Ø125	EI 240 in floor 5 collar Ø125	EI 60 in wall 1+2+3 3 layer	EI 60 in floor 5 3 layer		
Ø125	4.7	non-insulated			EI 120 in wall 1+2+3 collar Ø125	EI 180 in floor 5 collar Ø125	EI 120 in wall 1+2+3 3 layer	EI 120 in floor 5 3 layer		
		+ pipe socket				EI 180 in floor 5 collar Ø140		EI 240 in floor 5 3 layer		
Ø160	5.7	non-insulated				EI 120 in floor 5 collar Ø160	EI 90 in wall 1+2+3 3 layer	EI 240 in floor 5 3 layer		
		+ pipe socket			EI 120 in wall 1+2+3 collar Ø200	EI 180 in floor 5 collar Ø200	EI 120 in wall 1+2+3 3 layer	EI 240 in floor 5 3 layer		
Firesafe FoA d22-1 - page 8			joint details: min. W x D, default: walls: 10 x 25 mm, apply on 2 sides floors: 10 x 25 mm, apply on 2 sides		default: walls: apply on 2 sides floors: apply on 1 side always apply smoke seal FT Acrylic on 2 sides		default: walls: apply on 2 sides floors: apply on 1 side always apply smoke seal FT Acrylic on 2 sides			
									► INDEX PE + PP + PVC plastic cable conduits PP-R PP-MD PP-MX aluPE-X PE-Xa copper steel steel conduits cast iron trays + ladders + wire mesh cables + bundles fire dampers air transfer grilles duct cladding linear joints socket boxes blank seals EN norms for plastic pipes how-to-read acoustical environmental	

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

fire resistance

test method

EN 1366-3

service no.

24-18



PP-MX pipes

FIRE COLLAR

service type ¹⁾		pipe socket	non-standard config.	EI 	constructive element ²⁾	Firesafe pipe collar	application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	exposed side				Ø in mm	1 or 2 sides	required	in construction	configuration	
Ø50	2,7	-		EI 240	rigid floors ≥ 150 mm	Ø50	1 side	*	50 mm	U/C + CC	perpendicular + all angles between 90° and 45°
		socket on 1 side	socket flush with floor	EI 240	rigid floors ≥ 150 mm	Ø63	1 side	*	63 mm	U/C + CC	
Ø110	4,2	-		EI 240	rigid floors ≥ 150 mm	Ø110	1 side	*	110 mm	U/C + CC	
		socket on 1 side	socket flush with floor	EI 240	rigid floors ≥ 150 mm	Ø125	1 side	*	120 mm	U/C + CC	
Ø125	4,7	-		EI 180	rigid floors ≥ 150 mm	Ø125	1 side	*	132 mm	U/C + CC	
		socket on 1 side	socket flush with floor	EI 180	rigid floors ≥ 150 mm	Ø140	1 side	*	132 mm	U/C + CC	
max.											
Ø160	5,7	-		EI 120	rigid floors ≥ 150 mm	Ø160	1 side	*	180 mm	U/C + CC	
		socket on 1 side	socket flush with floor	EI 180	rigid floors ≥ 150 mm	Ø200	1 side	*	180 mm	U/C + CC	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 400mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥100mm is also applicable for **rigid walls** ≥100mm
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

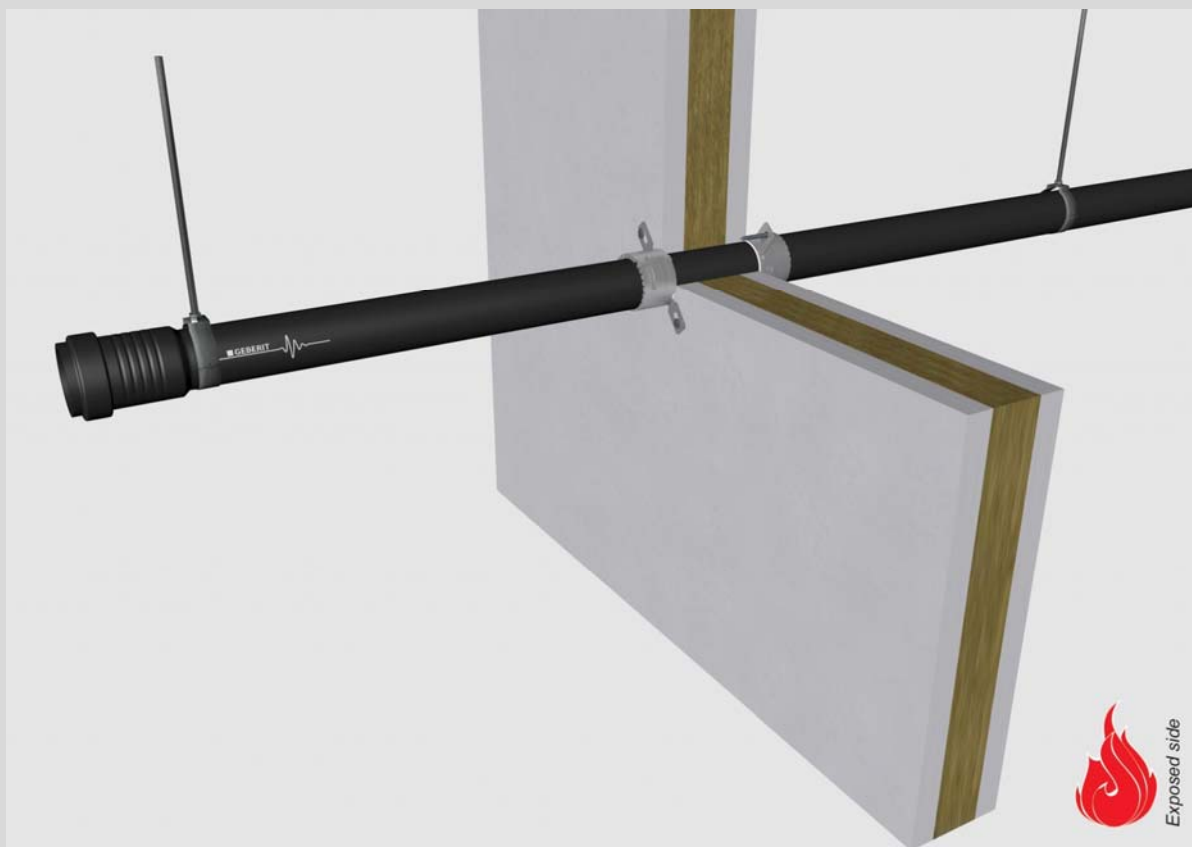
fire resistance

test method

EN 1366-3

service no.

23-17



PP-MX pipes

FIRE COLLAR

service type ¹⁾		pipe socket	non-standard config.	 EI	constructive element ²⁾	Firesafe pipe collar	application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	exposed side				Ø in mm	1 or 2 sides	required	in construction	configuration	
Ø50	2,7	-		EI 90	flexible walls ≥ 100 mm	Ø50	2 sides	*	50 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
		-		EI 240	rigid walls ≥ 150 mm	Ø50	2 sides	*	50 mm	U/C + CC	
		socket on 1 side	socket flush with wall	EI 120	flexible walls ≥ 100 mm	Ø63	2 sides	*	50 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 240	rigid walls ≥ 150 mm	Ø63	2 sides	*	63 mm	U/C + CC	
Ø110	4,2	-		EI 90	flexible walls ≥ 100 mm	Ø110	2 sides	*	110 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 90	flexible walls ≥ 100 mm	Ø125	2 sides	*	110 mm	U/C + C/C	
Ø125	4,7	-		EI 120	flexible walls ≥ 100 mm	Ø125	2 sides	*	125 mm	U/C + C/C	
max.											
Ø160	5,7	socket on 1 side	socket flush with wall	EI 120	flexible walls ≥ 100 mm	Ø200	2 sides	*	160 mm	U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm!

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥100mm is also applicable for **rigid walls** ≥100mm
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

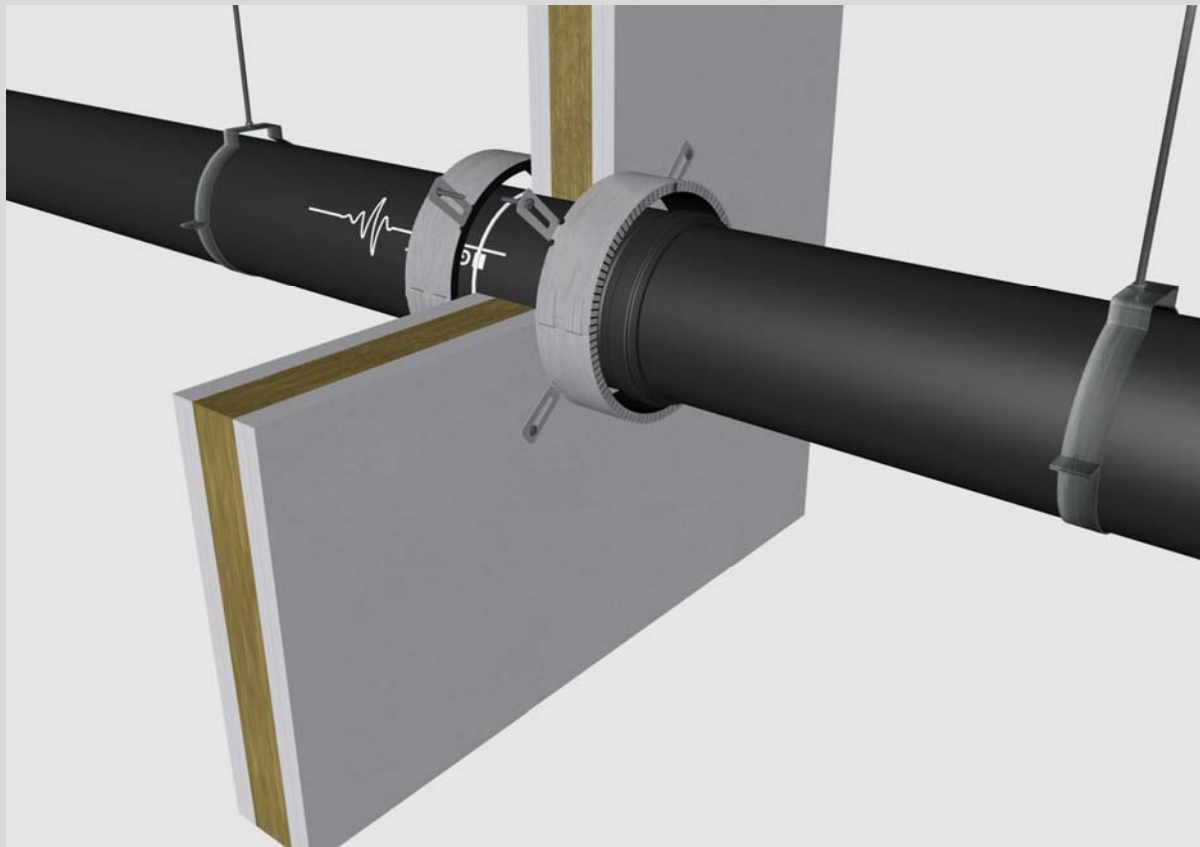
fire resistance

test method

EN 1366-3

service no.

23-23



PP-MX pipes

FIRE COLLAR

service type ¹⁾		pipe socket	non-standard config.	EI	constructive element ²⁾	Firesafe pipe collar	application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	exposed side				Ø in mm	1 or 2 sides	required	in construction	configuration	
Ø50	2,7	-		EI 90	flexible walls ≥ 100 mm	Ø50	2 sides	*	50 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
		-		EI 240	rigid walls ≥ 150 mm	Ø50	2 sides	*	50 mm	U/C + CC	
		socket on 1 side	socket flush with wall	EI 120	flexible walls ≥ 100 mm	Ø63	2 sides	*	50 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 240	rigid walls ≥ 150 mm	Ø63	2 sides	*	63 mm	U/C + CC	
Ø110	4,2	-		EI 90	flexible walls ≥ 100 mm	Ø110	2 sides	*	110 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 90	flexible walls ≥ 100 mm	Ø125	2 sides	*	110 mm	U/C + C/C	
Ø125	4,7	-		EI 120	flexible walls ≥ 100 mm	Ø125	2 sides	*	125 mm	U/C + C/C	
max.											
Ø160	5,7	socket on 1 side	socket flush with wall	EI 120	flexible walls ≥ 100 mm	Ø200	2 sides	*	160 mm	U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm!

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥100mm is also applicable for **rigid walls** ≥100mm
- angle: perpendicular + all angles between 90° and 45°

principle detail**Firesafe**

tested property

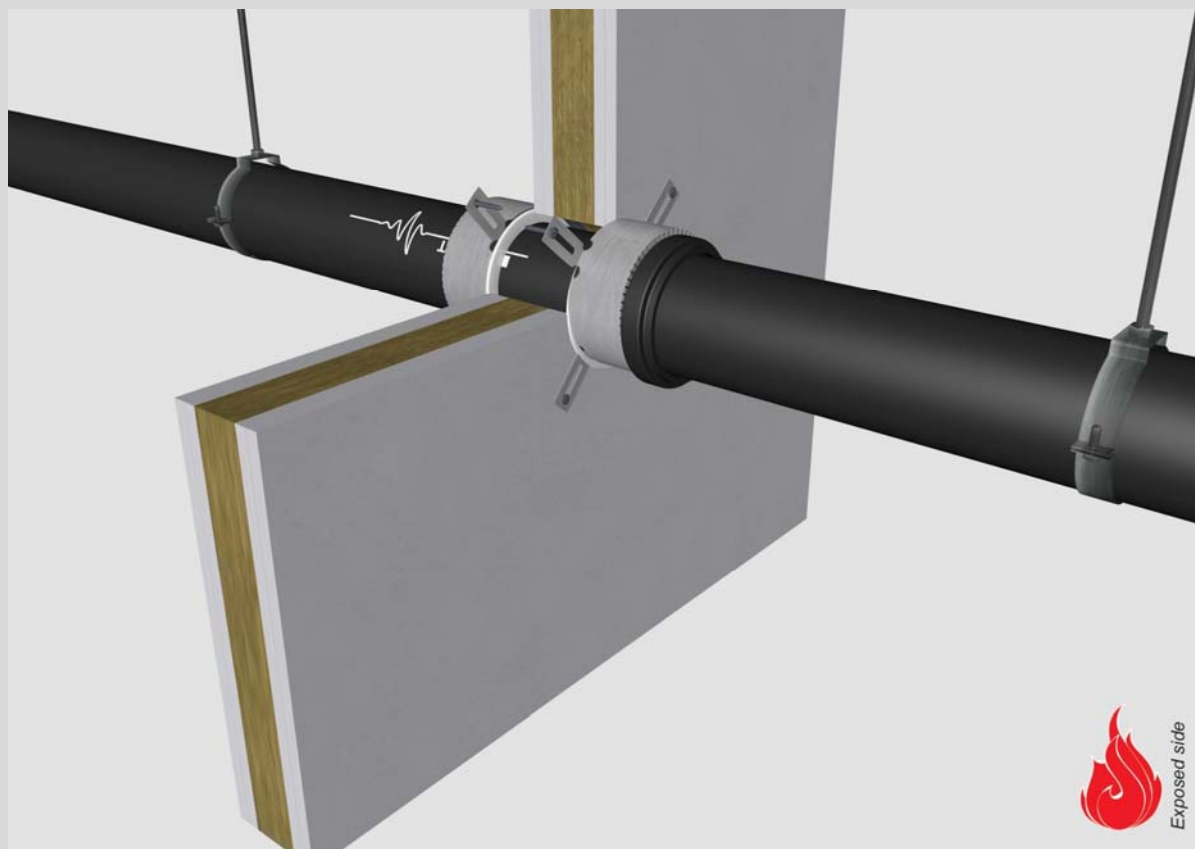
fire resistance

test method

EN 1366-3

service no.

23-41

**PP-MX pipes****FIRE COLLAR**

service type ¹⁾		pipe socket	non-standard config.	 EI	constructive element ²⁾	Firesafe pipe collar	application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	exposed side				Ø in mm	1 or 2 sides	required	in construction	configuration	
Ø50	2,7	-		EI 90	flexible walls ≥ 100 mm	Ø50	2 sides	*	50 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
		-		EI 240	rigid walls ≥ 150 mm	Ø50	2 sides	*	50 mm	U/C + CC	
		socket on 1 side	socket flush with wall	EI 120	flexible walls ≥ 100 mm	Ø63	2 sides	*	50 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 240	rigid walls ≥ 150 mm	Ø63	2 sides	*	63 mm	U/C + CC	
Ø110	4,2	-		EI 90	flexible walls ≥ 100 mm	Ø110	2 sides	*	110 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 90	flexible walls ≥ 100 mm	Ø125	2 sides	*	110 mm	U/C + C/C	
Ø125	4,7	-		EI 120	flexible walls ≥ 100 mm	Ø125	2 sides	*	125 mm	U/C + C/C	
max.											
Ø160	5,7	socket on 1 side	socket flush with wall	EI 120	flexible walls ≥ 100 mm	Ø200	2 sides	*	160 mm	U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm!

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥100mm is also applicable for **rigid walls** ≥100mm
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

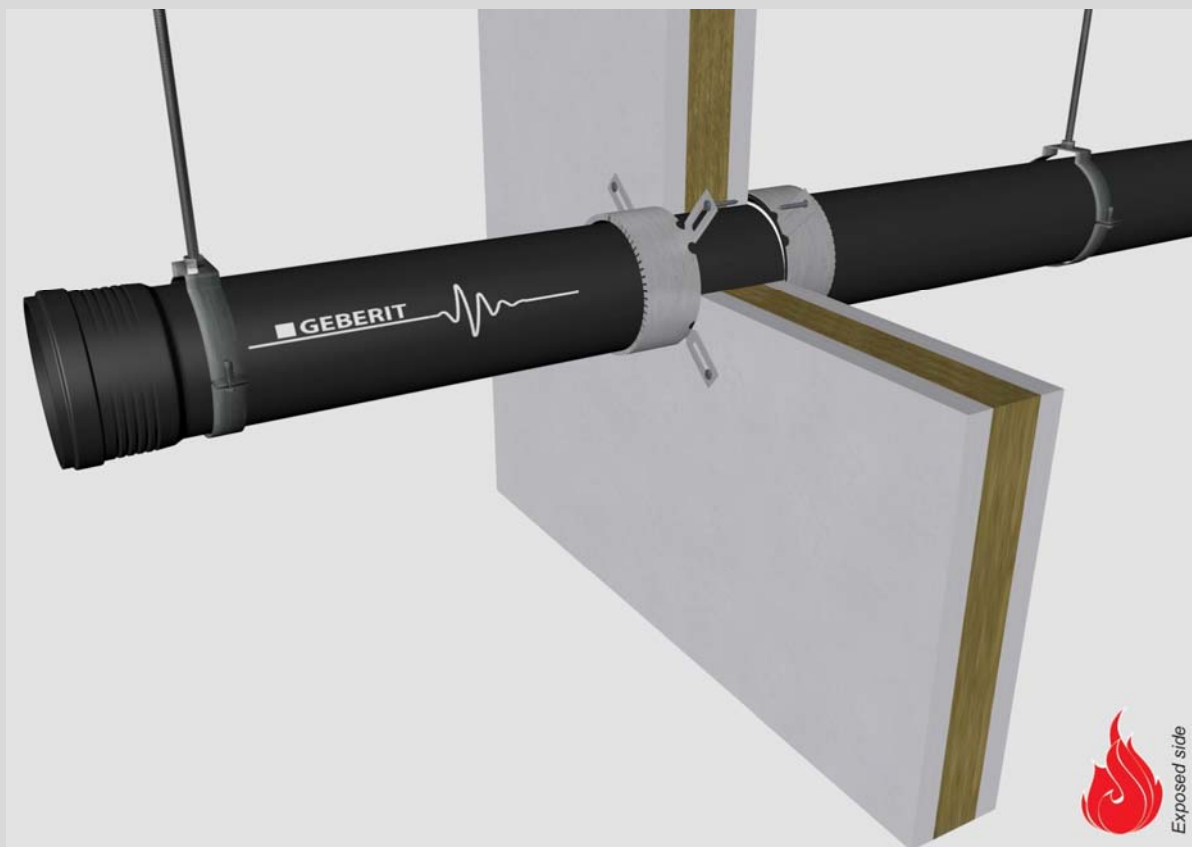
fire resistance

test method

EN 1366-3

service no.

23-36



PP-MX pipes

FIRE COLLAR

service type ¹⁾		pipe socket	non-standard config.	 EI	constructive element ²⁾	Firesafe pipe collar	application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	exposed side				Ø in mm	1 or 2 sides	required	in construction	configuration	
Ø50	2,7	-		EI 90	flexible walls ≥ 100 mm	Ø50	2 sides	*	50 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
		-		EI 240	rigid walls ≥ 150 mm	Ø50	2 sides	*	50 mm	U/C + CC	
		socket on 1 side	socket flush with wall	EI 120	flexible walls ≥ 100 mm	Ø63	2 sides	*	50 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 240	rigid walls ≥ 150 mm	Ø63	2 sides	*	63 mm	U/C + CC	
Ø110	4,2	-		EI 90	flexible walls ≥ 100 mm	Ø110	2 sides	*	110 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 90	flexible walls ≥ 100 mm	Ø125	2 sides	*	110 mm	U/C + C/C	
Ø125	4,7	-		EI 120	flexible walls ≥ 100 mm	Ø125	2 sides	*	125 mm	U/C + C/C	
max.											
Ø160	5,7	socket on 1 side	socket flush with wall	EI 120	flexible walls ≥ 100 mm	Ø200	2 sides	*	160 mm	U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm!

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥100mm is also applicable for **rigid walls** ≥100mm
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

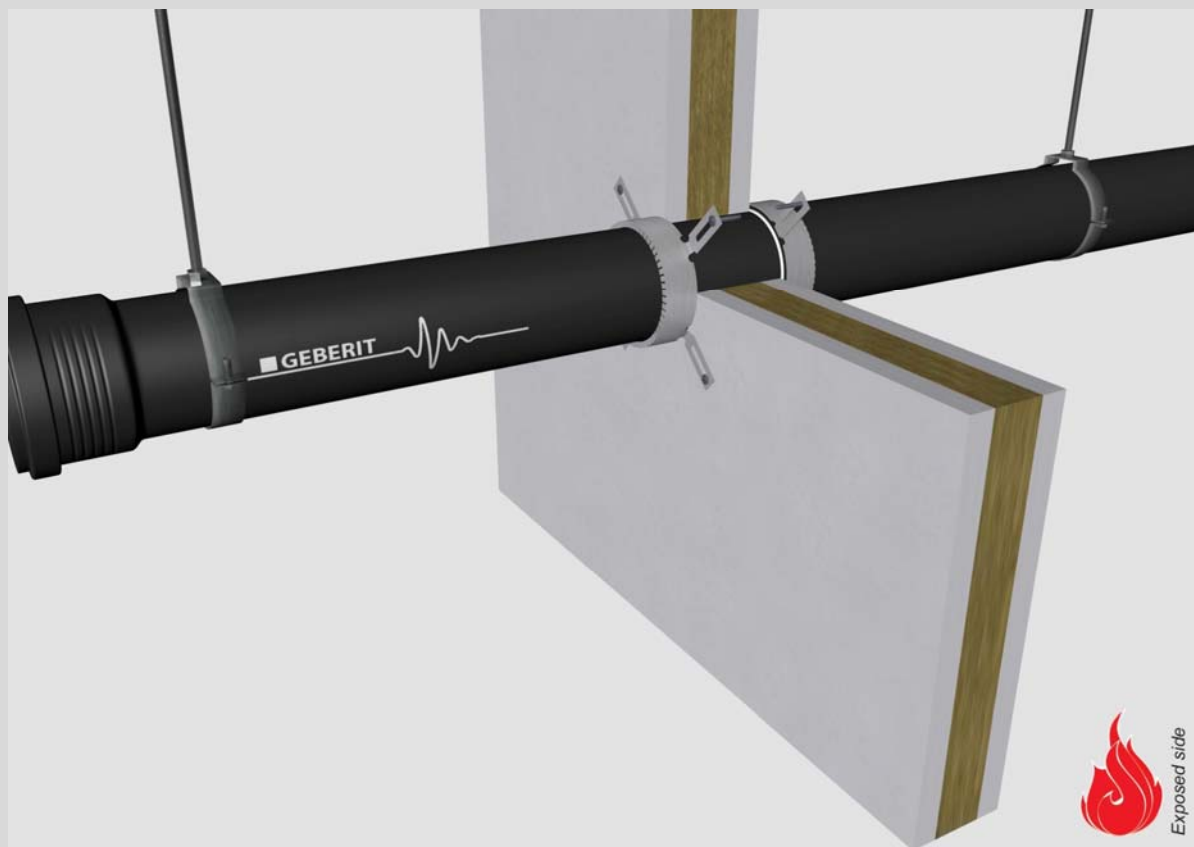
fire resistance

test method

EN 1366-3

service no.

23-35



PP-MX pipes

FIRE COLLAR

service type ¹⁾		pipe socket	non-standard config.	 EI	constructive element ²⁾	Firesafe pipe collar	application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	exposed side				Ø in mm	1 or 2 sides	required	in construction	configuration	
Ø50	2,7	-		EI 90	flexible walls ≥ 100 mm	Ø50	2 sides	*	50 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
		-		EI 240	rigid walls ≥ 150 mm	Ø50	2 sides	*	50 mm	U/C + CC	
		socket on 1 side	socket flush with wall	EI 120	flexible walls ≥ 100 mm	Ø63	2 sides	*	50 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 240	rigid walls ≥ 150 mm	Ø63	2 sides	*	63 mm	U/C + CC	
Ø110	4,2	-		EI 90	flexible walls ≥ 100 mm	Ø110	2 sides	*	110 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 90	flexible walls ≥ 100 mm	Ø125	2 sides	*	110 mm	U/C + C/C	
Ø125	4,7	-		EI 120	flexible walls ≥ 100 mm	Ø125	2 sides	*	125 mm	U/C + C/C	
		max.									
Ø160	5,7	socket on 1 side	socket flush with wall	EI 120	flexible walls ≥ 100 mm	Ø200	2 sides	*	160 mm	U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm!

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥100mm is also applicable for **rigid walls** ≥100mm
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

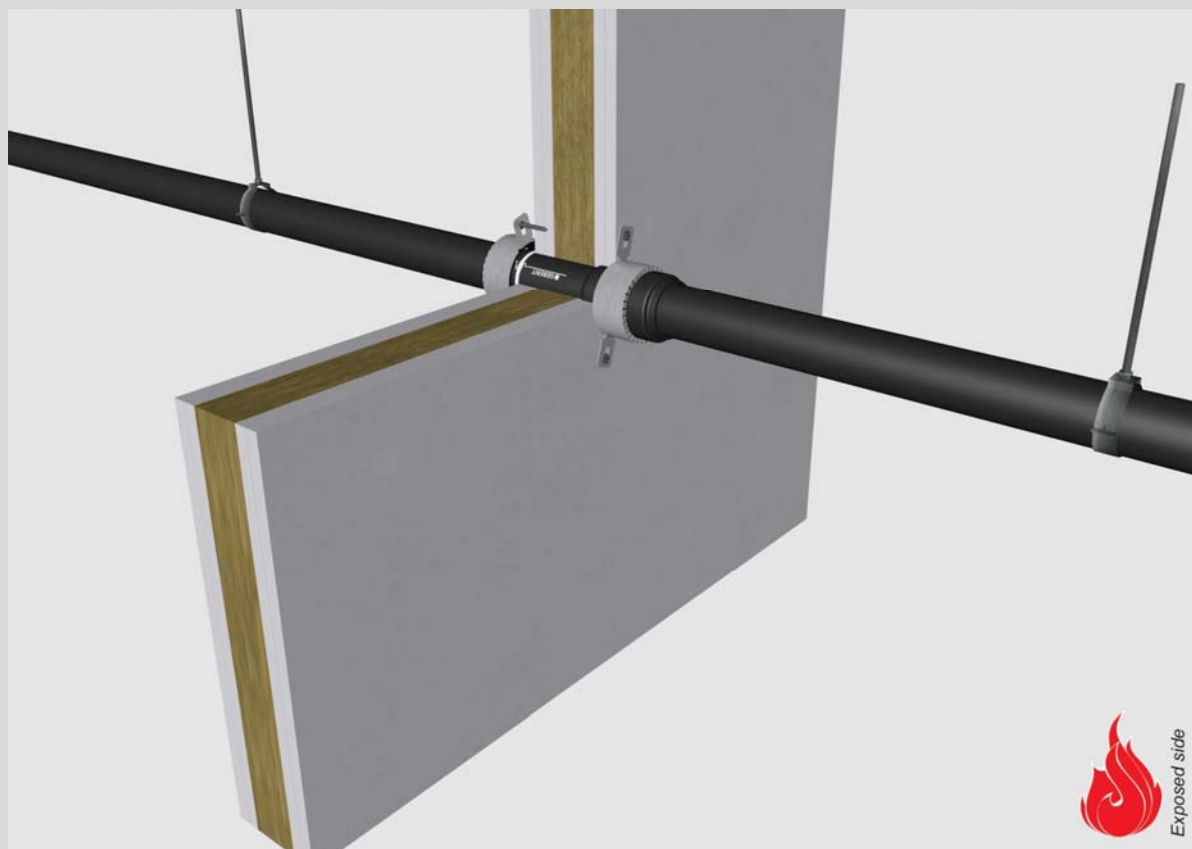
fire resistance

test method

EN 1366-3

service no.

23-26



PP-MX pipes

FIRE COLLAR

service type ¹⁾		pipe socket	non-standard config.	 EI	constructive element ²⁾	Firesafe pipe collar	application	finish	max. opening	pipe end	max. angle	
dØ (mm)	s1 (mm)	exposed side				Ø in mm	1 or 2 sides	required	in construction	configuration		
Ø50	2,7	-		EI 90	flexible walls ≥ 100 mm	Ø50	2 sides	*	50 mm	U/C + C/C	perpendicular + all angles between 90° and 45°	
		-		EI 240	rigid walls ≥ 150 mm	Ø50	2 sides	*	50 mm	U/C + CC		
		socket on 1 side	socket flush with wall	EI 120	flexible walls ≥ 100 mm	Ø63	2 sides	*	50 mm	U/C + C/C		
		socket on 1 side	socket flush with wall	EI 240	rigid walls ≥ 150 mm	Ø63	2 sides	*	63 mm	U/C + CC		
Ø110	4,2	-		EI 90	flexible walls ≥ 100 mm	Ø110	2 sides	*	110 mm	U/C + C/C		
		socket on 1 side	socket flush with wall	EI 90	flexible walls ≥ 100 mm	Ø125	2 sides	*	110 mm	U/C + C/C		
Ø125	4,7	-		EI 120	flexible walls ≥ 100 mm	Ø125	2 sides	*	125 mm	U/C + C/C		
max.												
Ø160	5,7	socket on 1 side	socket flush with wall	EI 120	flexible walls ≥ 100 mm	Ø200	2 sides	*	160 mm	U/C + C/C		

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm!

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥100mm is also applicable for **rigid walls** ≥100mm
- angle: perpendicular + all angles between 90° and 45°

principle detail**Firesafe****tested property**

fire resistance

test method

EN 1366-3

service no.

23-26r

**PP-MX pipes****FIRE COLLAR**

service type ¹⁾		pipe socket	non-standard config.	 EI	constructive element ²⁾	Firesafe pipe collar	application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	exposed side				Ø in mm	1 or 2 sides	required	in construction	configuration	
Ø50	2,7	-		EI 90	flexible walls ≥ 100 mm	Ø50	2 sides	*	50 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
		-		EI 240	rigid walls ≥ 150 mm	Ø50	2 sides	*	50 mm	U/C + CC	
		socket on 1 side	socket flush with wall	EI 120	flexible walls ≥ 100 mm	Ø63	2 sides	*	50 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 240	rigid walls ≥ 150 mm	Ø63	2 sides	*	63 mm	U/C + CC	
Ø110	4,2	-		EI 90	flexible walls ≥ 100 mm	Ø110	2 sides	*	110 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 90	flexible walls ≥ 100 mm	Ø125	2 sides	*	110 mm	U/C + C/C	
Ø125	4,7	-		EI 120	flexible walls ≥ 100 mm	Ø125	2 sides	*	125 mm	U/C + C/C	
max.											
Ø160	5,7	socket on 1 side	socket flush with wall	EI 120	flexible walls ≥ 100 mm	Ø200	2 sides	*	160 mm	U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm!

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥100mm is also applicable for **rigid walls** ≥100mm
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

fire resistance

test method

EN 1366-3

service no.

23-17r



PP-MX pipes

FIRE COLLAR

service type ¹⁾		pipe socket	non-standard config.	 EI	constructive element ²⁾	Firesafe pipe collar	application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	exposed side				Ø in mm	1 or 2 sides	required	in construction	configuration	
Ø50	2,7	-		EI 90	flexible walls ≥ 100 mm	Ø50	2 sides	*	50 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
		-		EI 240	rigid walls ≥ 150 mm	Ø50	2 sides	*	50 mm	U/C + CC	
		socket on 1 side	socket flush with wall	EI 120	flexible walls ≥ 100 mm	Ø63	2 sides	*	50 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 240	rigid walls ≥ 150 mm	Ø63	2 sides	*	63 mm	U/C + CC	
Ø110	4,2	-		EI 90	flexible walls ≥ 100 mm	Ø110	2 sides	*	110 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 90	flexible walls ≥ 100 mm	Ø125	2 sides	*	110 mm	U/C + C/C	
Ø125	4,7	-		EI 120	flexible walls ≥ 100 mm	Ø125	2 sides	*	125 mm	U/C + C/C	
max.											
Ø160	5,7	socket on 1 side	socket flush with wall	EI 120	flexible walls ≥ 100 mm	Ø200	2 sides	*	160 mm	U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm!

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

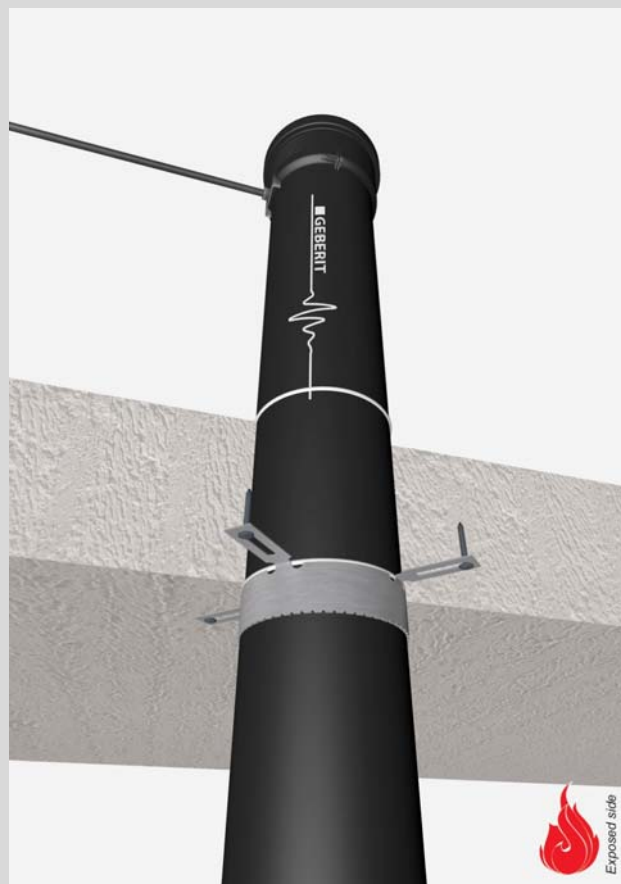
fire resistance

test method

EN 1366-3

service no.

24-17



PP-MX pipes

FIRE COLLAR

service type ¹⁾		pipe socket	non-standard config.	 EI	constructive element ²⁾	Firesafe pipe collar	application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	exposed side				Ø in mm	1 or 2 sides	required	in construction	configuration	
Ø50	2,7	-		EI 240	rigid floors ≥ 150 mm	Ø50	1 side	*	50 mm	U/C + CC	perpendicular + all angles between 90° and 45°
		socket on 1 side	socket flush with floor	EI 240	rigid floors ≥ 150 mm	Ø63	1 side	*	63 mm	U/C + CC	
Ø110	4,2	-		EI 240	rigid floors ≥ 150 mm	Ø110	1 side	*	110 mm	U/C + CC	
		socket on 1 side	socket flush with floor	EI 240	rigid floors ≥ 150 mm	Ø125	1 side	*	120 mm	U/C + CC	
Ø125	4,7	-		EI 180	rigid floors ≥ 150 mm	Ø125	1 side	*	132 mm	U/C + CC	
		socket on 1 side	socket flush with floor	EI 180	rigid floors ≥ 150 mm	Ø140	1 side	*	132 mm	U/C + CC	
max.											
Ø160	5,7	-		EI 120	rigid floors ≥ 150 mm	Ø160	1 side	*	180 mm	U/C + CC	
		socket on 1 side	socket flush with floor	EI 180	rigid floors ≥ 150 mm	Ø200	1 side	*	180 mm	U/C + CC	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 400mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

fire resistance

test method

EN 1366-3

service no.

24-16



PP-MX pipes

FIRE COLLAR

service type ¹⁾		pipe socket	non-standard config.	 EI	constructive element ²⁾	Firesafe pipe collar	application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	exposed side				Ø in mm	1 or 2 sides	required	in construction	configuration	
Ø50	2,7	-		EI 240	rigid floors ≥ 150 mm	Ø50	1 side	*	50 mm	U/C + CC	perpendicular + all angles between 90° and 45°
		socket on 1 side	socket flush with floor	EI 240	rigid floors ≥ 150 mm	Ø63	1 side	*	63 mm	U/C + CC	
Ø110	4,2	-		EI 240	rigid floors ≥ 150 mm	Ø110	1 side	*	110 mm	U/C + CC	
		socket on 1 side	socket flush with floor	EI 240	rigid floors ≥ 150 mm	Ø125	1 side	*	120 mm	U/C + CC	
Ø125	4,7	-		EI 180	rigid floors ≥ 150 mm	Ø125	1 side	*	132 mm	U/C + CC	
		socket on 1 side	socket flush with floor	EI 180	rigid floors ≥ 150 mm	Ø140	1 side	*	132 mm	U/C + CC	
max.											
Ø160	5,7	-		EI 120	rigid floors ≥ 150 mm	Ø160	1 side	*	180 mm	U/C + CC	
		socket on 1 side	socket flush with floor	EI 180	rigid floors ≥ 150 mm	Ø200	1 side	*	180 mm	U/C + CC	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 400mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45°

principle detail**Firesafe**

tested property

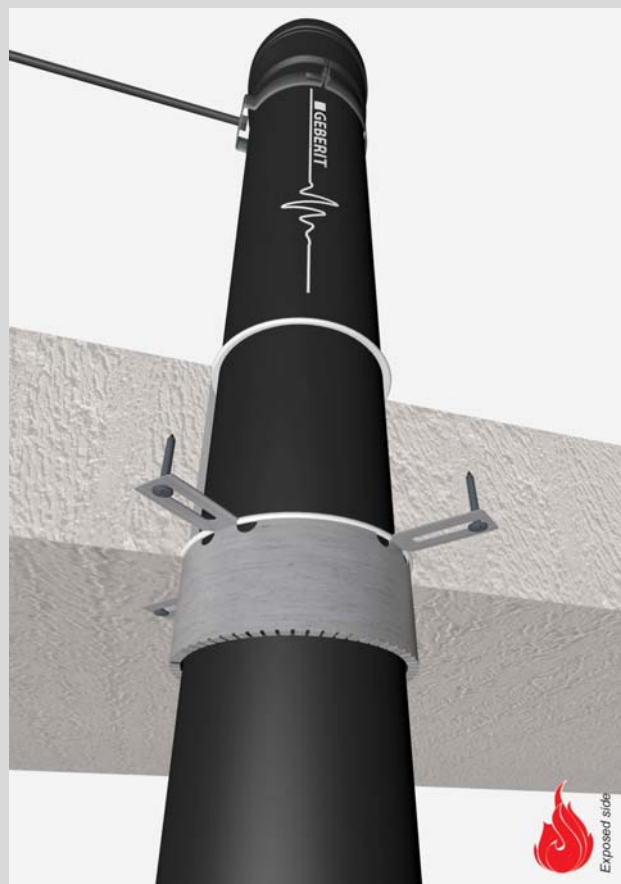
fire resistance

test method

EN 1366-3

service no.

24-23

**PP-MX pipes****FIRE COLLAR**

service type ¹⁾		pipe socket	non-standard config.	 EI	constructive element ²⁾	Firesafe pipe collar	application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	exposed side				Ø in mm	1 or 2 sides	required	in construction	configuration	
Ø50	2,7	-		EI 240	rigid floors ≥ 150 mm	Ø50	1 side	*	50 mm	U/C + CC	perpendicular + all angles between 90° and 45°
		socket on 1 side	socket flush with floor	EI 240	rigid floors ≥ 150 mm	Ø63	1 side	*	63 mm	U/C + CC	
Ø110	4,2	-		EI 240	rigid floors ≥ 150 mm	Ø110	1 side	*	110 mm	U/C + CC	
		socket on 1 side	socket flush with floor	EI 240	rigid floors ≥ 150 mm	Ø125	1 side	*	120 mm	U/C + CC	
Ø125	4,7	-		EI 180	rigid floors ≥ 150 mm	Ø125	1 side	*	132 mm	U/C + CC	
		socket on 1 side	socket flush with floor	EI 180	rigid floors ≥ 150 mm	Ø140	1 side	*	132 mm	U/C + CC	
max.											
Ø160	5,7	-		EI 120	rigid floors ≥ 150 mm	Ø160	1 side	*	180 mm	U/C + CC	
		socket on 1 side	socket flush with floor	EI 180	rigid floors ≥ 150 mm	Ø200	1 side	*	180 mm	U/C + CC	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 400mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

fire resistance

test method

EN 1366-3

service no.

24-19



PP-MX pipes

FIRE COLLAR

service type ¹⁾		pipe socket	non-standard config.	 EI	constructive element ²⁾	Firesafe pipe collar	application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	exposed side				Ø in mm	1 or 2 sides	required	in construction	configuration	
Ø50	2,7	-		EI 240	rigid floors ≥ 150 mm	Ø50	1 side	*	50 mm	U/C + CC	perpendicular + all angles between 90° and 45°
		socket on 1 side	socket flush with floor	EI 240	rigid floors ≥ 150 mm	Ø63	1 side	*	63 mm	U/C + CC	
Ø110	4,2	-		EI 240	rigid floors ≥ 150 mm	Ø110	1 side	*	110 mm	U/C + CC	
		socket on 1 side	socket flush with floor	EI 240	rigid floors ≥ 150 mm	Ø125	1 side	*	120 mm	U/C + CC	
Ø125	4,7	-		EI 180	rigid floors ≥ 150 mm	Ø125	1 side	*	132 mm	U/C + CC	
		socket on 1 side	socket flush with floor	EI 180	rigid floors ≥ 150 mm	Ø140	1 side	*	132 mm	U/C + CC	
max.											
Ø160	5,7	-		EI 120	rigid floors ≥ 150 mm	Ø160	1 side	*	180 mm	U/C + CC	
		socket on 1 side	socket flush with floor	EI 180	rigid floors ≥ 150 mm	Ø200	1 side	*	180 mm	U/C + CC	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 400mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

fire resistance

test method

EN 1366-3

service no.

24-26



PP-MX pipes

FIRE COLLAR

service type ¹⁾		pipe socket	non-standard config.	 EI	constructive element ²⁾	Firesafe pipe collar	application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	exposed side				Ø in mm	1 or 2 sides	required	in construction	configuration	
Ø50	2,7	-		EI 240	rigid floors ≥ 150 mm	Ø50	1 side	*	50 mm	U/C + CC	perpendicular + all angles between 90° and 45°
		socket on 1 side	socket flush with floor	EI 240	rigid floors ≥ 150 mm	Ø63	1 side	*	63 mm	U/C + CC	
Ø110	4,2	-		EI 240	rigid floors ≥ 150 mm	Ø110	1 side	*	110 mm	U/C + CC	
		socket on 1 side	socket flush with floor	EI 240	rigid floors ≥ 150 mm	Ø125	1 side	*	120 mm	U/C + CC	
Ø125	4,7	-		EI 180	rigid floors ≥ 150 mm	Ø125	1 side	*	132 mm	U/C + CC	
		socket on 1 side	socket flush with floor	EI 180	rigid floors ≥ 150 mm	Ø140	1 side	*	132 mm	U/C + CC	
max.											
Ø160	5,7	-		EI 120	rigid floors ≥ 150 mm	Ø160	1 side	*	180 mm	U/C + CC	
		socket on 1 side	socket flush with floor	EI 180	rigid floors ≥ 150 mm	Ø200	1 side	*	180 mm	U/C + CC	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 400mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

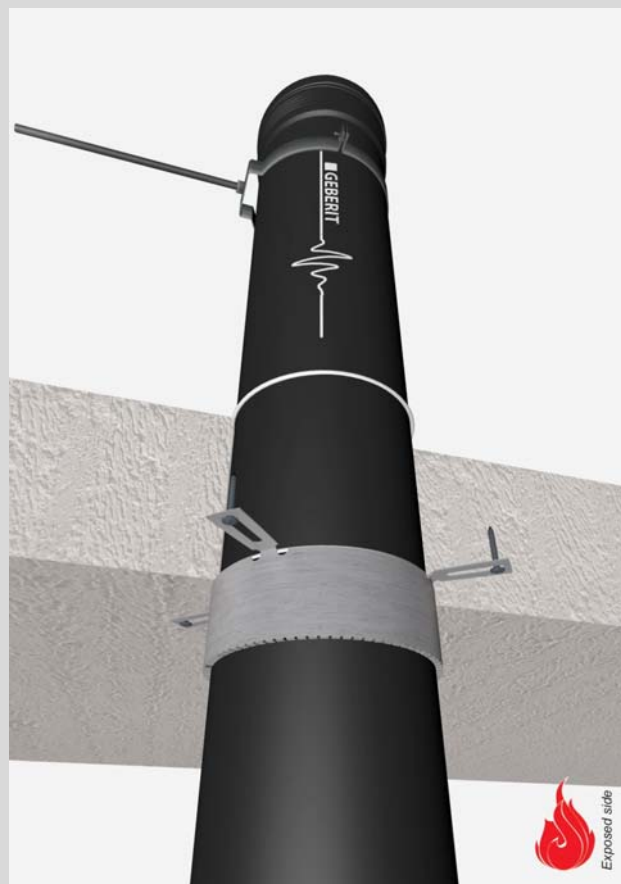
fire resistance

test method

EN 1366-3

service no.

24-25



PP-MX pipes

FIRE COLLAR

service type ¹⁾		pipe socket	non-standard config.	 EI	constructive element ²⁾	Firesafe pipe collar	application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	exposed side				Ø in mm	1 or 2 sides	required	in construction	configuration	
Ø50	2,7	-		EI 240	rigid floors ≥ 150 mm	Ø50	1 side	*	50 mm	U/C + CC	perpendicular + all angles between 90° and 45°
		socket on 1 side	socket flush with floor	EI 240	rigid floors ≥ 150 mm	Ø63	1 side	*	63 mm	U/C + CC	
Ø110	4,2	-		EI 240	rigid floors ≥ 150 mm	Ø110	1 side	*	110 mm	U/C + CC	
		socket on 1 side	socket flush with floor	EI 240	rigid floors ≥ 150 mm	Ø125	1 side	*	120 mm	U/C + CC	
Ø125	4,7	-		EI 180	rigid floors ≥ 150 mm	Ø125	1 side	*	132 mm	U/C + CC	
		socket on 1 side	socket flush with floor	EI 180	rigid floors ≥ 150 mm	Ø140	1 side	*	132 mm	U/C + CC	
max.											
Ø160	5,7	-		EI 120	rigid floors ≥ 150 mm	Ø160	1 side	*	180 mm	U/C + CC	
		socket on 1 side	socket flush with floor	EI 180	rigid floors ≥ 150 mm	Ø200	1 side	*	180 mm	U/C + CC	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 400mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

fire resistance

test method

EN 1366-3

service no.

24-24



PP-MX pipes

FIRE COLLAR

service type ¹⁾		pipe socket	non-standard config.	 EI	constructive element ²⁾	Firesafe pipe collar	application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	exposed side				Ø in mm	1 or 2 sides	required	in construction	configuration	
Ø50	2,7	-		EI 240	rigid floors ≥ 150 mm	Ø50	1 side	*	50 mm	U/C + CC	perpendicular + all angles between 90° and 45°
		socket on 1 side	socket flush with floor	EI 240	rigid floors ≥ 150 mm	Ø63	1 side	*	63 mm	U/C + CC	
Ø110	4,2	-		EI 240	rigid floors ≥ 150 mm	Ø110	1 side	*	110 mm	U/C + CC	
		socket on 1 side	socket flush with floor	EI 240	rigid floors ≥ 150 mm	Ø125	1 side	*	120 mm	U/C + CC	
Ø125	4,7	-		EI 180	rigid floors ≥ 150 mm	Ø125	1 side	*	132 mm	U/C + CC	
		socket on 1 side	socket flush with floor	EI 180	rigid floors ≥ 150 mm	Ø140	1 side	*	132 mm	U/C + CC	
max.											
Ø160	5,7	-		EI 120	rigid floors ≥ 150 mm	Ø160	1 side	*	180 mm	U/C + CC	
		socket on 1 side	socket flush with floor	EI 180	rigid floors ≥ 150 mm	Ø200	1 side	*	180 mm	U/C + CC	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 400mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥100mm is also applicable for **rigid walls** ≥100mm
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

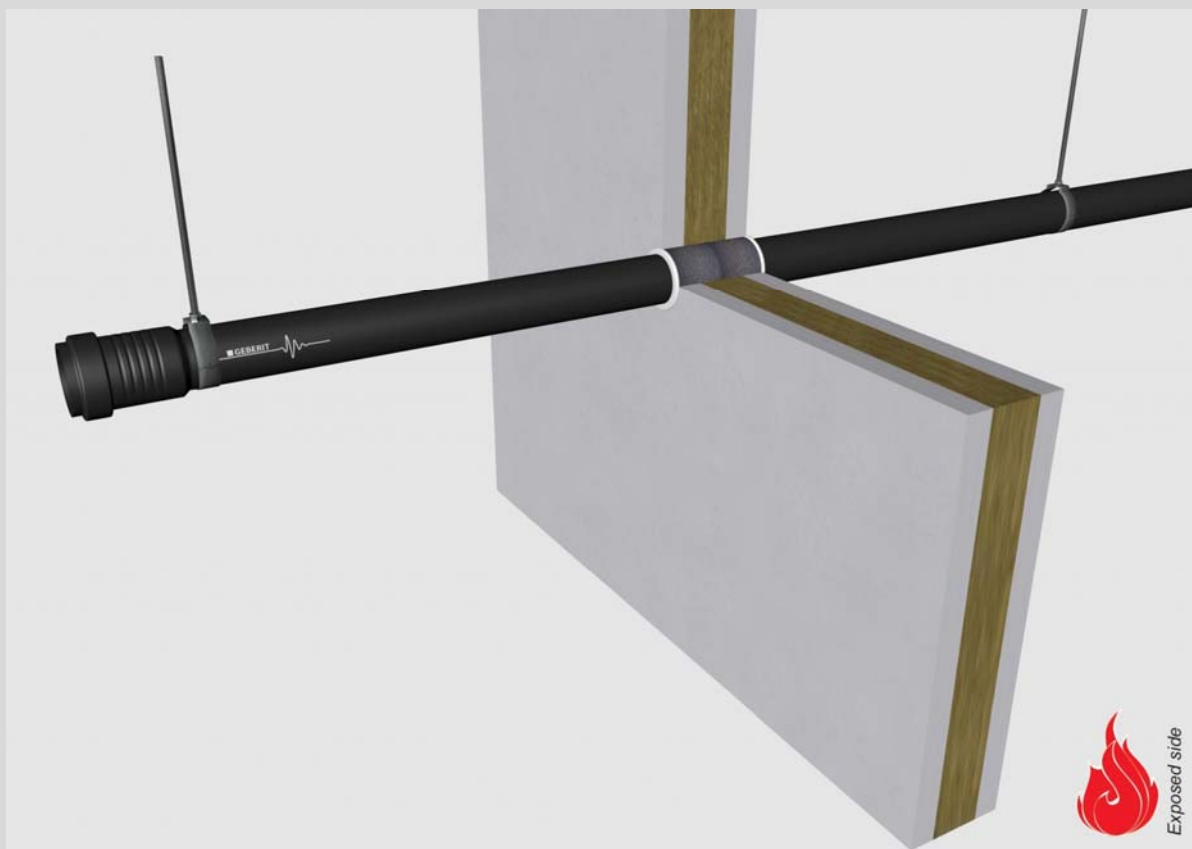
fire resistance

test method

EN 1366-3

service no.

23-22



PP-MX pipes

Fire Wrap

service type ¹⁾		pipe socket	non-standard config.	EI	constructive element ²⁾	Firesafe pipe wrap		application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	exposed side				length	no. of layers	1 or 2 sides	required	in construction	configuration	
						π x Ø x						
Ø50	2,7	-		EI 120	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	60 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
		-		EI 240	rigid walls ≥ 150 mm	π x Ø x	2	2 sides	*	63 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 120	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	64 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 240	rigid walls ≥ 150 mm	π x Ø x	2	2 sides	*	63 mm	U/C + C/C	
Ø110	4,2	-		EI 120	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	121 mm	U/C + C/C	
		-		EI 120	rigid walls ≥ 150 mm	π x Ø x	2	2 sides	*	121 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 60	flexible walls ≥ 100 mm	π x Ø x	3	2 sides	*	130 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 60	rigid walls ≥ 150 mm	π x Ø x	3	2 sides	*	130 mm	U/C + C/C	
Ø125	4,7	-		EI 120	flexible walls ≥ 100 mm	π x Ø x	3	2 sides	*	137 mm	U/C + C/C	
		-		EI 120	rigid walls ≥ 150 mm	π x Ø x	3	2 sides	*	137 mm	U/C + C/C	
max.												
Ø160	5,7	-		EI 90	flexible walls ≥ 100 mm	π x Ø x	3	2 sides	*	172 mm	U/C + C/C	
		-		EI 90	rigid walls ≥ 150 mm	π x Ø x	3	2 sides	*	172 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 120	flexible walls ≥ 100 mm	π x Ø x	3	2 sides	*	178 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 120	rigid walls ≥ 150 mm	π x Ø x	3	2 sides	*	178 mm	U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm!

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥100mm is also applicable for **rigid walls** ≥100mm
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

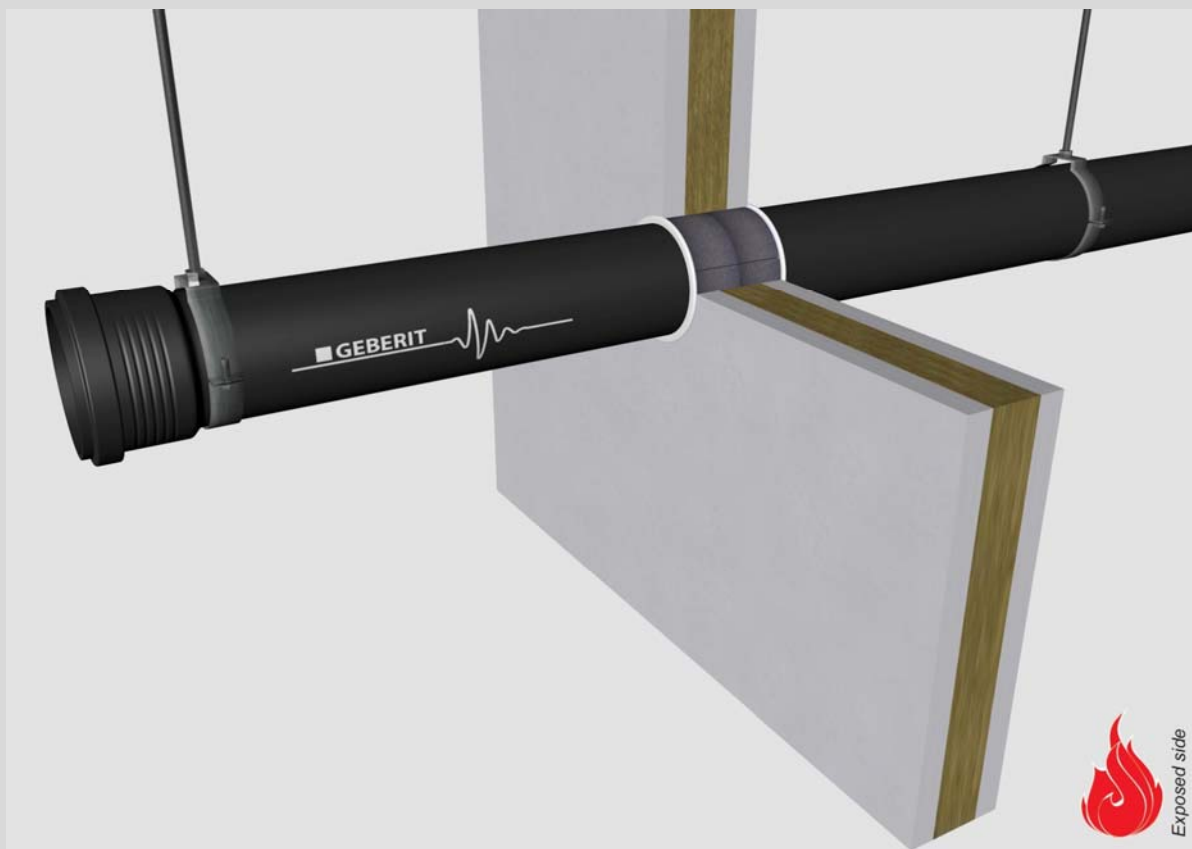
fire resistance

test method

EN 1366-3

service no.

23-37



PP-MX pipes

Fire Wrap

service type ¹⁾		pipe socket	non-standard config.	 EI	constructive element ²⁾	Firesafe pipe wrap	application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	exposed side				length π x Ø x no. of layers	1 or 2 sides	required	in construction	configuration	
Ø50	2,7	-		EI 120	flexible walls ≥ 100 mm	π x Ø x 2	2 sides	*	60 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
		-		EI 240	rigid walls ≥ 150 mm	π x Ø x 2	2 sides	*	63 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 120	flexible walls ≥ 100 mm	π x Ø x 2	2 sides	*	64 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 240	rigid walls ≥ 150 mm	π x Ø x 2	2 sides	*	63 mm	U/C + C/C	
Ø110	4,2	-		EI 120	flexible walls ≥ 100 mm	π x Ø x 2	2 sides	*	121 mm	U/C + C/C	
		-		EI 120	rigid walls ≥ 150 mm	π x Ø x 2	2 sides	*	121 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 60	flexible walls ≥ 100 mm	π x Ø x 3	2 sides	*	130 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 60	rigid walls ≥ 150 mm	π x Ø x 3	2 sides	*	130 mm	U/C + C/C	
Ø125	4,7	-		EI 120	flexible walls ≥ 100 mm	π x Ø x 3	2 sides	*	137 mm	U/C + C/C	
		-		EI 120	rigid walls ≥ 150 mm	π x Ø x 3	2 sides	*	137 mm	U/C + C/C	
max.											
Ø160	5,7	-		EI 90	flexible walls ≥ 100 mm	π x Ø x 3	2 sides	*	172 mm	U/C + C/C	
		-		EI 90	rigid walls ≥ 150 mm	π x Ø x 3	2 sides	*	172 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 120	flexible walls ≥ 100 mm	π x Ø x 3	2 sides	*	178 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 120	rigid walls ≥ 150 mm	π x Ø x 3	2 sides	*	178 mm	U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm!

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥100mm is also applicable for **rigid walls** ≥100mm
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

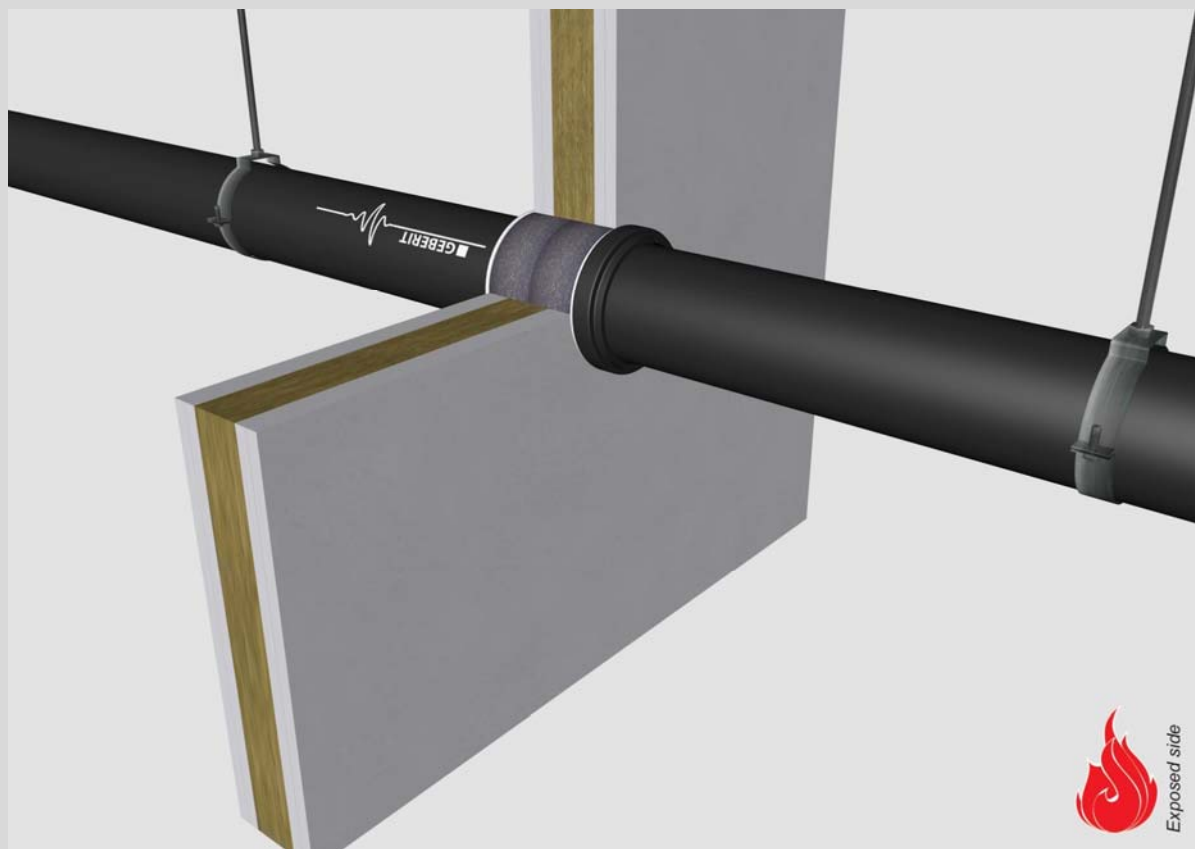
fire resistance

test method

EN 1366-3

service no.

23-32



PP-MX pipes

Fire Wrap

service type ¹⁾		pipe socket	non-standard config.	EI	constructive element ²⁾	Firesafe pipe wrap		application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	exposed side				length	no. of layers	1 or 2 sides	required	in construction	configuration	
						π x Ø x						
Ø50	2,7	-		EI 120	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	60 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
		-		EI 240	rigid walls ≥ 150 mm	π x Ø x	2	2 sides	*	63 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 120	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	64 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 240	rigid walls ≥ 150 mm	π x Ø x	2	2 sides	*	63 mm	U/C + C/C	
Ø110	4,2	-		EI 120	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	121 mm	U/C + C/C	
		-		EI 120	rigid walls ≥ 150 mm	π x Ø x	2	2 sides	*	121 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 60	flexible walls ≥ 100 mm	π x Ø x	3	2 sides	*	130 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 60	rigid walls ≥ 150 mm	π x Ø x	3	2 sides	*	130 mm	U/C + C/C	
Ø125	4,7	-		EI 120	flexible walls ≥ 100 mm	π x Ø x	3	2 sides	*	137 mm	U/C + C/C	
		-		EI 120	rigid walls ≥ 150 mm	π x Ø x	3	2 sides	*	137 mm	U/C + C/C	
max.												
Ø160	5,7	-		EI 90	flexible walls ≥ 100 mm	π x Ø x	3	2 sides	*	172 mm	U/C + C/C	
		-		EI 90	rigid walls ≥ 150 mm	π x Ø x	3	2 sides	*	172 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 120	flexible walls ≥ 100 mm	π x Ø x	3	2 sides	*	178 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 120	rigid walls ≥ 150 mm	π x Ø x	3	2 sides	*	178 mm	U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm!

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥100mm is also applicable for **rigid walls** ≥100mm
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

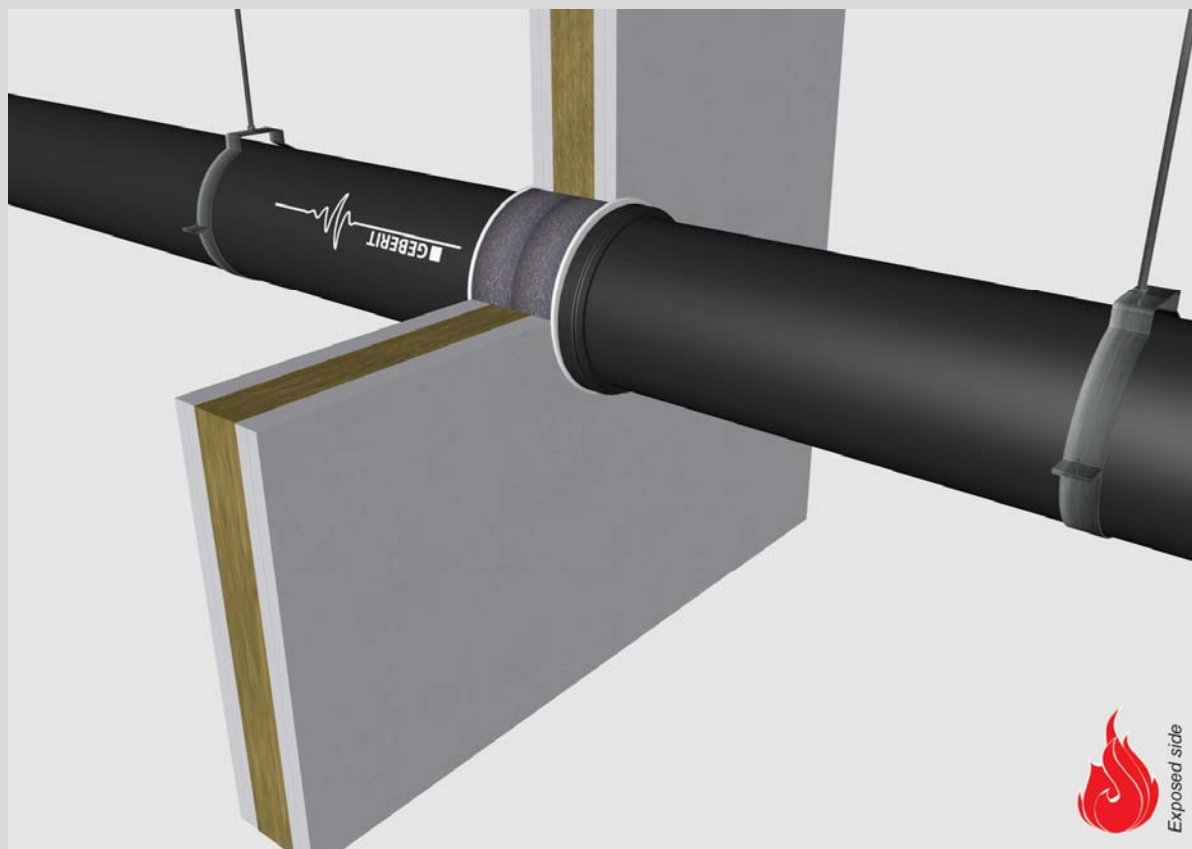
fire resistance

test method

EN 1366-3

service no.

23-6



PP-MX pipes

Fire Wrap

service type ¹⁾		pipe socket	non-standard config.	EI	constructive element ²⁾	Firesafe pipe wrap		application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	exposed side				length	no. of layers	1 or 2 sides	required	in construction	configuration	
Ø50	2,7	-		EI 120	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	60 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
		-		EI 240	rigid walls ≥ 150 mm	π x Ø x	2	2 sides	*	63 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 120	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	64 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 240	rigid walls ≥ 150 mm	π x Ø x	2	2 sides	*	63 mm	U/C + C/C	
Ø110	4,2	-		EI 120	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	121 mm	U/C + C/C	
		-		EI 120	rigid walls ≥ 150 mm	π x Ø x	2	2 sides	*	121 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 60	flexible walls ≥ 100 mm	π x Ø x	3	2 sides	*	130 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 60	rigid walls ≥ 150 mm	π x Ø x	3	2 sides	*	130 mm	U/C + C/C	
Ø125	4,7	-		EI 120	flexible walls ≥ 100 mm	π x Ø x	3	2 sides	*	137 mm	U/C + C/C	
		-		EI 120	rigid walls ≥ 150 mm	π x Ø x	3	2 sides	*	137 mm	U/C + C/C	
max.												
Ø160	5,7	-		EI 90	flexible walls ≥ 100 mm	π x Ø x	3	2 sides	*	172 mm	U/C + C/C	
		-		EI 90	rigid walls ≥ 150 mm	π x Ø x	3	2 sides	*	172 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 120	flexible walls ≥ 100 mm	π x Ø x	3	2 sides	*	178 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 120	rigid walls ≥ 150 mm	π x Ø x	3	2 sides	*	178 mm	U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm!

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥100mm is also applicable for **rigid walls** ≥100mm
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

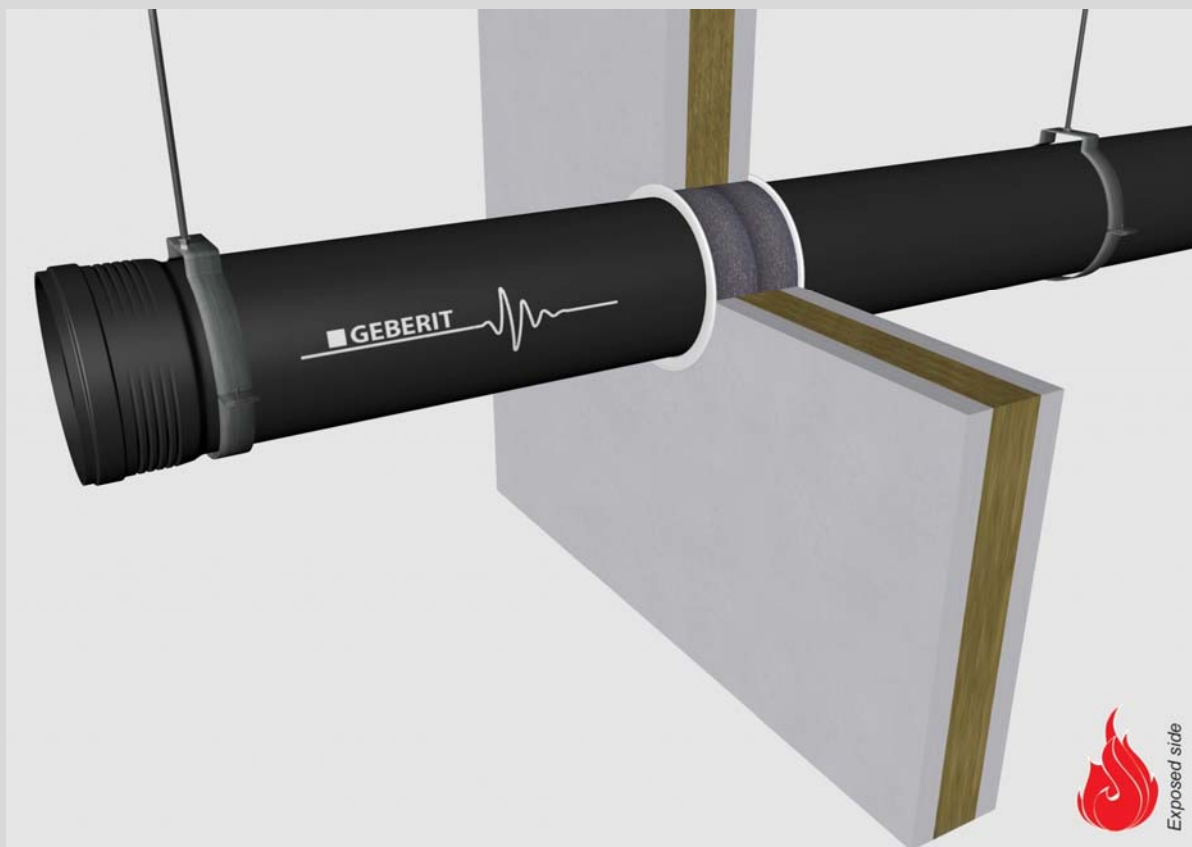
fire resistance

test method

EN 1366-3

service no.

23-25



PP-MX pipes

Fire Wrap

service type ¹⁾		pipe socket	non-standard config.	 EI	constructive element ²⁾	Firesafe pipe wrap		application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	exposed side				length	no. of layers	1 or 2 sides	required	in construction	configuration	
						π x Ø x						
Ø50	2,7	-		EI 120	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	60 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
		-		EI 240	rigid walls ≥ 150 mm	π x Ø x	2	2 sides	*	63 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 120	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	64 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 240	rigid walls ≥ 150 mm	π x Ø x	2	2 sides	*	63 mm	U/C + C/C	
Ø110	4,2	-		EI 120	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	121 mm	U/C + C/C	
		-		EI 120	rigid walls ≥ 150 mm	π x Ø x	2	2 sides	*	121 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 60	flexible walls ≥ 100 mm	π x Ø x	3	2 sides	*	130 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 60	rigid walls ≥ 150 mm	π x Ø x	3	2 sides	*	130 mm	U/C + C/C	
Ø125	4,7	-		EI 120	flexible walls ≥ 100 mm	π x Ø x	3	2 sides	*	137 mm	U/C + C/C	
		-		EI 120	rigid walls ≥ 150 mm	π x Ø x	3	2 sides	*	137 mm	U/C + C/C	
max.												
Ø160	5,7	-		EI 90	flexible walls ≥ 100 mm	π x Ø x	3	2 sides	*	172 mm	U/C + C/C	
		-		EI 90	rigid walls ≥ 150 mm	π x Ø x	3	2 sides	*	172 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 120	flexible walls ≥ 100 mm	π x Ø x	3	2 sides	*	178 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 120	rigid walls ≥ 150 mm	π x Ø x	3	2 sides	*	178 mm	U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm!

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥100mm is also applicable for **rigid walls** ≥100mm
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

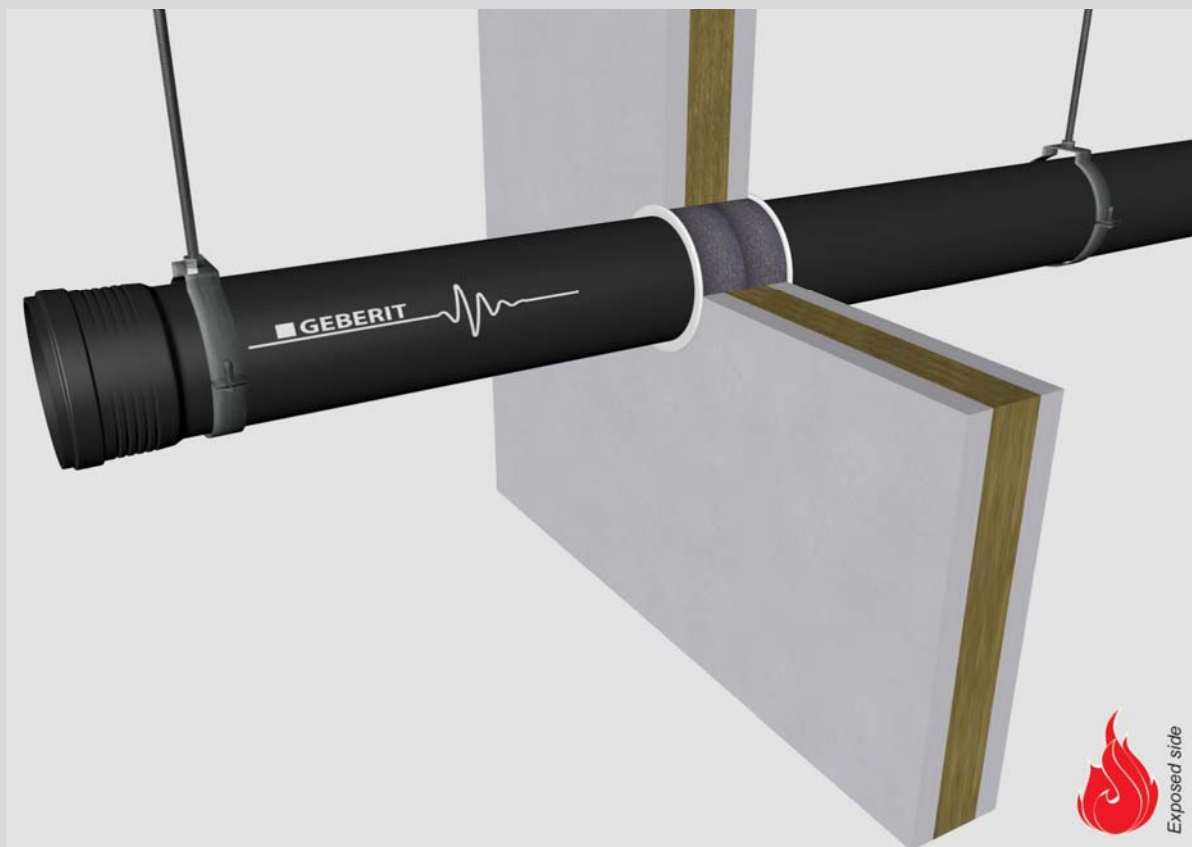
fire resistance

test method

EN 1366-3

service no.

23-34



PP-MX pipes

Fire Wrap

service type ¹⁾		pipe socket	non-standard config.	EI	constructive element ²⁾	Firesafe pipe wrap		application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	exposed side				length	no. of layers	1 or 2 sides	required	in construction	configuration	
						π x Ø x						
Ø50	2,7	-		EI 120	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	60 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
		-		EI 240	rigid walls ≥ 150 mm	π x Ø x	2	2 sides	*	63 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 120	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	64 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 240	rigid walls ≥ 150 mm	π x Ø x	2	2 sides	*	63 mm	U/C + C/C	
Ø110	4,2	-		EI 120	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	121 mm	U/C + C/C	
		-		EI 120	rigid walls ≥ 150 mm	π x Ø x	2	2 sides	*	121 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 60	flexible walls ≥ 100 mm	π x Ø x	3	2 sides	*	130 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 60	rigid walls ≥ 150 mm	π x Ø x	3	2 sides	*	130 mm	U/C + C/C	
Ø125	4,7	-		EI 120	flexible walls ≥ 100 mm	π x Ø x	3	2 sides	*	137 mm	U/C + C/C	
		-		EI 120	rigid walls ≥ 150 mm	π x Ø x	3	2 sides	*	137 mm	U/C + C/C	
max.												
Ø160	5,7	-		EI 90	flexible walls ≥ 100 mm	π x Ø x	3	2 sides	*	172 mm	U/C + C/C	
		-		EI 90	rigid walls ≥ 150 mm	π x Ø x	3	2 sides	*	172 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 120	flexible walls ≥ 100 mm	π x Ø x	3	2 sides	*	178 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 120	rigid walls ≥ 150 mm	π x Ø x	3	2 sides	*	178 mm	U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm!

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥100mm is also applicable for **rigid walls** ≥100mm
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

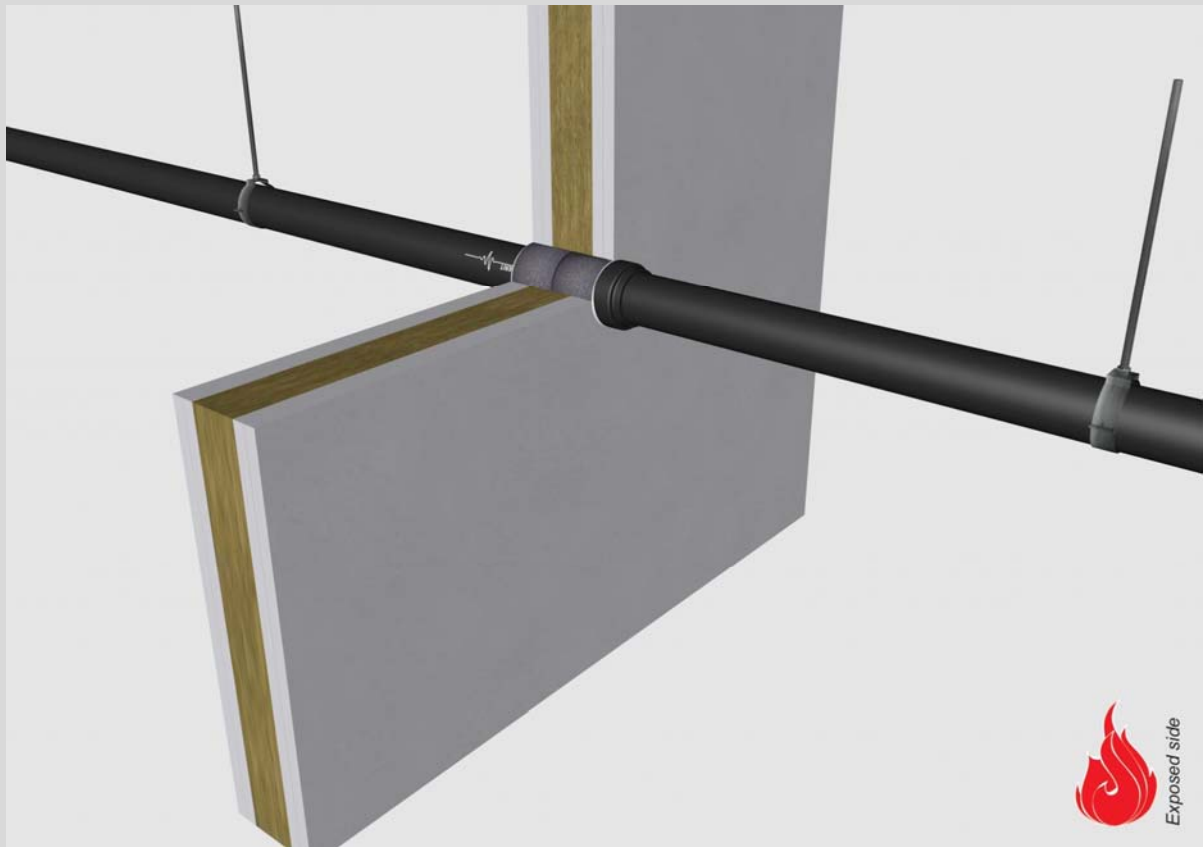
fire resistance

test method

EN 1366-3

service no.

23-28



PP-MX pipes

Fire Wrap

service type ¹⁾		pipe socket	non-standard config.	EI	constructive element ²⁾	Firesafe pipe wrap		application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	exposed side				length	no. of layers	1 or 2 sides	required	in construction	configuration	
Ø50	2,7	-		EI 120	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	60 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
		-		EI 240	rigid walls ≥ 150 mm	π x Ø x	2	2 sides	*	63 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 120	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	64 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 240	rigid walls ≥ 150 mm	π x Ø x	2	2 sides	*	63 mm	U/C + C/C	
Ø110	4,2	-		EI 120	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	121 mm	U/C + C/C	
		-		EI 120	rigid walls ≥ 150 mm	π x Ø x	2	2 sides	*	121 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 60	flexible walls ≥ 100 mm	π x Ø x	3	2 sides	*	130 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 60	rigid walls ≥ 150 mm	π x Ø x	3	2 sides	*	130 mm	U/C + C/C	
Ø125	4,7	-		EI 120	flexible walls ≥ 100 mm	π x Ø x	3	2 sides	*	137 mm	U/C + C/C	
		-		EI 120	rigid walls ≥ 150 mm	π x Ø x	3	2 sides	*	137 mm	U/C + C/C	
max.												
Ø160	5,7	-		EI 90	flexible walls ≥ 100 mm	π x Ø x	3	2 sides	*	172 mm	U/C + C/C	
		-		EI 90	rigid walls ≥ 150 mm	π x Ø x	3	2 sides	*	172 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 120	flexible walls ≥ 100 mm	π x Ø x	3	2 sides	*	178 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 120	rigid walls ≥ 150 mm	π x Ø x	3	2 sides	*	178 mm	U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm!

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥100mm is also applicable for **rigid walls** ≥100mm
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

fire resistance

test method

EN 1366-3

service no.

23-22r



PP-MX pipes

Fire Wrap

service type ¹⁾		pipe socket	non-standard config.	EI	constructive element ²⁾	Firesafe pipe wrap		application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	exposed side				length	no. of layers	1 or 2 sides	required	in construction	configuration	
						π x Ø x						
Ø50	2,7	-		EI 120	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	60 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
		-		EI 240	rigid walls ≥ 150 mm	π x Ø x	2	2 sides	*	63 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 120	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	64 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 240	rigid walls ≥ 150 mm	π x Ø x	2	2 sides	*	63 mm	U/C + C/C	
Ø110	4,2	-		EI 120	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	121 mm	U/C + C/C	
		-		EI 120	rigid walls ≥ 150 mm	π x Ø x	2	2 sides	*	121 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 60	flexible walls ≥ 100 mm	π x Ø x	3	2 sides	*	130 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 60	rigid walls ≥ 150 mm	π x Ø x	3	2 sides	*	130 mm	U/C + C/C	
Ø125	4,7	-		EI 120	flexible walls ≥ 100 mm	π x Ø x	3	2 sides	*	137 mm	U/C + C/C	
		-		EI 120	rigid walls ≥ 150 mm	π x Ø x	3	2 sides	*	137 mm	U/C + C/C	
max.												
Ø160	5,7	-		EI 90	flexible walls ≥ 100 mm	π x Ø x	3	2 sides	*	172 mm	U/C + C/C	
		-		EI 90	rigid walls ≥ 150 mm	π x Ø x	3	2 sides	*	172 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 120	flexible walls ≥ 100 mm	π x Ø x	3	2 sides	*	178 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 120	rigid walls ≥ 150 mm	π x Ø x	3	2 sides	*	178 mm	U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm!

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥100mm is also applicable for **rigid walls** ≥100mm
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

fire resistance

test method

EN 1366-3

service no.

23-28r



PP-MX pipes

Fire Wrap

service type ¹⁾		pipe socket	non-standard config.	 EI	constructive element ²⁾	Firesafe pipe wrap		application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	exposed side				length	no. of layers	1 or 2 sides	required	in construction	configuration	
Ø50	2,7	-		EI 120	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	60 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
		-		EI 240	rigid walls ≥ 150 mm	π x Ø x	2	2 sides	*	63 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 120	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	64 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 240	rigid walls ≥ 150 mm	π x Ø x	2	2 sides	*	63 mm	U/C + C/C	
Ø110	4,2	-		EI 120	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	121 mm	U/C + C/C	
		-		EI 120	rigid walls ≥ 150 mm	π x Ø x	2	2 sides	*	121 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 60	flexible walls ≥ 100 mm	π x Ø x	3	2 sides	*	130 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 60	rigid walls ≥ 150 mm	π x Ø x	3	2 sides	*	130 mm	U/C + C/C	
Ø125	4,7	-		EI 120	flexible walls ≥ 100 mm	π x Ø x	3	2 sides	*	137 mm	U/C + C/C	
		-		EI 120	rigid walls ≥ 150 mm	π x Ø x	3	2 sides	*	137 mm	U/C + C/C	
max.												
Ø160	5,7	-		EI 90	flexible walls ≥ 100 mm	π x Ø x	3	2 sides	*	172 mm	U/C + C/C	
		-		EI 90	rigid walls ≥ 150 mm	π x Ø x	3	2 sides	*	172 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 120	flexible walls ≥ 100 mm	π x Ø x	3	2 sides	*	178 mm	U/C + C/C	
		socket on 1 side	socket flush with wall	EI 120	rigid walls ≥ 150 mm	π x Ø x	3	2 sides	*	178 mm	U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm!

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

fire resistance

test method

EN 1366-3

service no.

24-28



PP-MX pipes

Fire Wrap

service type ¹⁾		pipe socket	non-standard config.	 EI	constructive element ²⁾	Firesafe pipe wrap	application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	exposed side				length π x Ø x no. of layers	1 or 2 sides	required	in construction	configuration	
Ø50	2,7	-		EI 240	rigid floors ≥ 150 mm	π x Ø x 2	1 side	*	63 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
		socket on 1 side	socket flush with floor	EI 240	rigid floors ≥ 150 mm	π x Ø x 2	1 side	*	63 mm	U/C + C/C	
Ø110	4,2	-		EI 180	rigid floors ≥ 150 mm	π x Ø x 2	1 side	*	120 mm	U/C + C/C	
		socket on 1 side	socket flush with floor	EI 60	rigid floors ≥ 150 mm	π x Ø x 3	1 side	*	132 mm	U/C + C/C	
Ø125	4,7	-		EI 120	rigid floors ≥ 150 mm	π x Ø x 3	1 side	*	150 mm	U/C + C/C	
		socket on 1 side	socket flush with floor	EI 240	rigid floors ≥ 150 mm	π x Ø x 3	1 side	*	150 mm	U/C + C/C	
max.											
Ø160	5,7	-		EI 240	rigid floors ≥ 150 mm	π x Ø x 3	1 side	*	180 mm	U/C + C/C	
		socket on 1 side	socket flush with floor	EI 240	rigid floors ≥ 150 mm	π x Ø x 3	1 side	*	185 mm	U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 400mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

fire resistance

test method

EN 1366-3

service no.

24-30



PP-MX pipes

Fire Wrap

service type ¹⁾		pipe socket	non-standard config.	 EI	constructive element ²⁾	Firesafe pipe wrap		application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	exposed side				length	no. of layers	1 or 2 sides	required	in construction	configuration	
Ø50	2,7	-		EI 240	rigid floors ≥ 150 mm	π x Ø x	2	1 side	*	63 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
		socket on 1 side	socket flush with floor	EI 240	rigid floors ≥ 150 mm	π x Ø x	2	1 side	*	63 mm	U/C + C/C	
Ø110	4,2	-		EI 180	rigid floors ≥ 150 mm	π x Ø x	2	1 side	*	120 mm	U/C + C/C	
		socket on 1 side	socket flush with floor	EI 60	rigid floors ≥ 150 mm	π x Ø x	3	1 side	*	132 mm	U/C + C/C	
Ø125	4,7	-		EI 120	rigid floors ≥ 150 mm	π x Ø x	3	1 side	*	150 mm	U/C + C/C	
		socket on 1 side	socket flush with floor	EI 240	rigid floors ≥ 150 mm	π x Ø x	3	1 side	*	150 mm	U/C + C/C	
max.												
Ø160	5,7	-		EI 240	rigid floors ≥ 150 mm	π x Ø x	3	1 side	*	180 mm	U/C + C/C	
		socket on 1 side	socket flush with floor	EI 240	rigid floors ≥ 150 mm	π x Ø x	3	1 side	*	185 mm	U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 400mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

fire resistance

test method

EN 1366-3

service no.

24-50



PP-MX pipes

Fire Wrap

service type ¹⁾		pipe socket	non-standard config.	 EI	constructive element ²⁾	Firesafe pipe wrap	application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	exposed side				length π x Ø x no. of layers	1 or 2 sides	required	in construction	configuration	
Ø50	2,7	-		EI 240	rigid floors ≥ 150 mm	π x Ø x 2	1 side	*	63 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
		socket on 1 side	socket flush with floor	EI 240	rigid floors ≥ 150 mm	π x Ø x 2	1 side	*	63 mm	U/C + C/C	
Ø110	4,2	-		EI 180	rigid floors ≥ 150 mm	π x Ø x 2	1 side	*	120 mm	U/C + C/C	
		socket on 1 side	socket flush with floor	EI 60	rigid floors ≥ 150 mm	π x Ø x 3	1 side	*	132 mm	U/C + C/C	
Ø125	4,7	-		EI 120	rigid floors ≥ 150 mm	π x Ø x 3	1 side	*	150 mm	U/C + C/C	
		socket on 1 side	socket flush with floor	EI 240	rigid floors ≥ 150 mm	π x Ø x 3	1 side	*	150 mm	U/C + C/C	
max.											
Ø160	5,7	-		EI 240	rigid floors ≥ 150 mm	π x Ø x 3	1 side	*	180 mm	U/C + C/C	
		socket on 1 side	socket flush with floor	EI 240	rigid floors ≥ 150 mm	π x Ø x 3	1 side	*	185 mm	U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 400mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

fire resistance

test method

EN 1366-3

service no.

24-34



PP-MX pipes

Fire Wrap

service type ¹⁾		pipe socket	non-standard config.	 EI	constructive element ²⁾	Firesafe pipe wrap		application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	exposed side				length	no. of layers	1 or 2 sides	required	in construction	configuration	
Ø50	2,7	-		EI 240	rigid floors ≥ 150 mm	π x Ø x	2	1 side	*	63 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
		socket on 1 side	socket flush with floor	EI 240	rigid floors ≥ 150 mm	π x Ø x	2	1 side	*	63 mm	U/C + C/C	
Ø110	4,2	-		EI 180	rigid floors ≥ 150 mm	π x Ø x	2	1 side	*	120 mm	U/C + C/C	
		socket on 1 side	socket flush with floor	EI 60	rigid floors ≥ 150 mm	π x Ø x	3	1 side	*	132 mm	U/C + C/C	
Ø125	4,7	-		EI 120	rigid floors ≥ 150 mm	π x Ø x	3	1 side	*	150 mm	U/C + C/C	
		socket on 1 side	socket flush with floor	EI 240	rigid floors ≥ 150 mm	π x Ø x	3	1 side	*	150 mm	U/C + C/C	
max.												
Ø160	5,7	-		EI 240	rigid floors ≥ 150 mm	π x Ø x	3	1 side	*	180 mm	U/C + C/C	
		socket on 1 side	socket flush with floor	EI 240	rigid floors ≥ 150 mm	π x Ø x	3	1 side	*	185 mm	U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 400mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

fire resistance

test method

EN 1366-3

service no.

24-33



PP-MX pipes

Fire Wrap

service type ¹⁾		pipe socket	non-standard config.	 EI	constructive element ²⁾	Firesafe pipe wrap		application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	exposed side				length	no. of layers	1 or 2 sides	required	in construction	configuration	
Ø50	2,7	-		EI 240	rigid floors ≥ 150 mm	π x Ø x	2	1 side	*	63 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
		socket on 1 side	socket flush with floor	EI 240	rigid floors ≥ 150 mm	π x Ø x	2	1 side	*	63 mm	U/C + C/C	
Ø110	4,2	-		EI 180	rigid floors ≥ 150 mm	π x Ø x	2	1 side	*	120 mm	U/C + C/C	
		socket on 1 side	socket flush with floor	EI 60	rigid floors ≥ 150 mm	π x Ø x	3	1 side	*	132 mm	U/C + C/C	
Ø125	4,7	-		EI 120	rigid floors ≥ 150 mm	π x Ø x	3	1 side	*	150 mm	U/C + C/C	
		socket on 1 side	socket flush with floor	EI 240	rigid floors ≥ 150 mm	π x Ø x	3	1 side	*	150 mm	U/C + C/C	
max.												
Ø160	5,7	-		EI 240	rigid floors ≥ 150 mm	π x Ø x	3	1 side	*	180 mm	U/C + C/C	
		socket on 1 side	socket flush with floor	EI 240	rigid floors ≥ 150 mm	π x Ø x	3	1 side	*	185 mm	U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 400mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

fire resistance

test method

EN 1366-3

service no.

24-53



PP-MX pipes

Fire Wrap

service type ¹⁾		pipe socket	non-standard config.	 EI	constructive element ²⁾	Firesafe pipe wrap		application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	exposed side				length	no. of layers	1 or 2 sides	required	in construction	configuration	
Ø50	2,7	-		EI 240	rigid floors ≥ 150 mm	π x Ø x	2	1 side	*	63 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
		socket on 1 side	socket flush with floor	EI 240	rigid floors ≥ 150 mm	π x Ø x	2	1 side	*	63 mm	U/C + C/C	
Ø110	4,2	-		EI 180	rigid floors ≥ 150 mm	π x Ø x	2	1 side	*	120 mm	U/C + C/C	
		socket on 1 side	socket flush with floor	EI 60	rigid floors ≥ 150 mm	π x Ø x	3	1 side	*	132 mm	U/C + C/C	
Ø125	4,7	-		EI 120	rigid floors ≥ 150 mm	π x Ø x	3	1 side	*	150 mm	U/C + C/C	
		socket on 1 side	socket flush with floor	EI 240	rigid floors ≥ 150 mm	π x Ø x	3	1 side	*	150 mm	U/C + C/C	
max.												
Ø160	5,7	-		EI 240	rigid floors ≥ 150 mm	π x Ø x	3	1 side	*	180 mm	U/C + C/C	
		socket on 1 side	socket flush with floor	EI 240	rigid floors ≥ 150 mm	π x Ø x	3	1 side	*	185 mm	U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 400mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

fire resistance

test method

EN 1366-3

service no.

24-51



PP-MX pipes

Fire Wrap

service type ¹⁾		pipe socket	non-standard config.	 EI	constructive element ²⁾	Firesafe pipe wrap		application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	exposed side				length	no. of layers	1 or 2 sides	required	in construction	configuration	
Ø50	2,7	-		EI 240	rigid floors ≥ 150 mm	π x Ø x	2	1 side	*	63 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
		socket on 1 side	socket flush with floor	EI 240	rigid floors ≥ 150 mm	π x Ø x	2	1 side	*	63 mm	U/C + C/C	
Ø110	4,2	-		EI 180	rigid floors ≥ 150 mm	π x Ø x	2	1 side	*	120 mm	U/C + C/C	
		socket on 1 side	socket flush with floor	EI 60	rigid floors ≥ 150 mm	π x Ø x	3	1 side	*	132 mm	U/C + C/C	
Ø125	4,7	-		EI 120	rigid floors ≥ 150 mm	π x Ø x	3	1 side	*	150 mm	U/C + C/C	
		socket on 1 side	socket flush with floor	EI 240	rigid floors ≥ 150 mm	π x Ø x	3	1 side	*	150 mm	U/C + C/C	
max.												
Ø160	5,7	-		EI 240	rigid floors ≥ 150 mm	π x Ø x	3	1 side	*	180 mm	U/C + C/C	
		socket on 1 side	socket flush with floor	EI 240	rigid floors ≥ 150 mm	π x Ø x	3	1 side	*	185 mm	U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 400mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

fire resistance

test method

EN 1366-3

service no.

24-54



PP-MX pipes

Fire Wrap

service type ¹⁾		pipe socket	non-standard config.	 EI	constructive element ²⁾	Firesafe pipe wrap		application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	exposed side				length	no. of layers	1 or 2 sides	required	in construction	configuration	
Ø50	2,7	-		EI 240	rigid floors ≥ 150 mm	π x Ø x	2	1 side	*	63 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
		socket on 1 side	socket flush with floor	EI 240	rigid floors ≥ 150 mm	π x Ø x	2	1 side	*	63 mm	U/C + C/C	
Ø110	4,2	-		EI 180	rigid floors ≥ 150 mm	π x Ø x	2	1 side	*	120 mm	U/C + C/C	
		socket on 1 side	socket flush with floor	EI 60	rigid floors ≥ 150 mm	π x Ø x	3	1 side	*	132 mm	U/C + C/C	
Ø125	4,7	-		EI 120	rigid floors ≥ 150 mm	π x Ø x	3	1 side	*	150 mm	U/C + C/C	
		socket on 1 side	socket flush with floor	EI 240	rigid floors ≥ 150 mm	π x Ø x	3	1 side	*	150 mm	U/C + C/C	
max.												
Ø160	5,7	-		EI 240	rigid floors ≥ 150 mm	π x Ø x	3	1 side	*	180 mm	U/C + C/C	
		socket on 1 side	socket flush with floor	EI 240	rigid floors ≥ 150 mm	π x Ø x	3	1 side	*	185 mm	U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 400mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

field of application		fire resistance - EI classification acc. EN 13501-2 / EN 1366-3		Firesafe	
plastic pipe penetrations		certification - EAD 350454-00-1104			
aluPE-X (composite) classification ≤ Ø75 mm		suitable Firesafe products within classification:			
Fire performances are valid for range of dØ pipe diameter + s1 pipe thickness within the same pipe material:					
aluPE-X (composite) acc. EN norms					
dØ 16 up to 75 mm					
s1 2.0 up to 7.5 mm					
pipe brands eg Uponor, Rehau, Geberit, Henco					
pipe insulation brands eg Cimpipe, Rockwool, Armatex, U Protect Pipe Section Alu2					
dØ	s1	pipe insulation		walls	floors
up to Ø25	2.0 up to 2.5	non-insulated		EI 120 in wall 1+2+3	EI 120 in wall 1+2+3
Ø16 up to Ø75 + synth. rubber insulation	2.0 up to 7.5	+ pipe insulation		EI 60 in wall 1+2+3 EI 90 in wall 1-n100 EI 60 in wall 1-n75 also in FT Board	individual results max. EI 90 in floor 5 EI 90 in floor 7
	+ synth. rubber, min. 60 kg/m³ up to 13mm			EI 120 in wall 2+3 in GPG	EI 120 in wall 3 EI 90 in wall 6 EI 90 in floor 7 10 x 25 mm EI 60 in wall 2+3 in GPG
Ø16 up to Ø75 + glass or rock wool (alu) insulation	2.0 up to 7.5	+ pipe insulation		EI 120 in wall 1+2 EI 240 in wall 3	EI 240 in floor 5
	+ glass or rock wool (alu), min. 75 kg/m³ 20 + 30mm			EI 120 in wall 1+2 EI 240 in wall 3	EI 240 in floor 5
	40mm			EI 120 in wall 1+2 EI 240 in wall 3	EI 240 in floor 5
	50mm			EI 120 in wall 1+2 EI 240 in wall 3	EI 240 in floor 5
	60mm			EI 120 in wall 1+2 EI 240 in wall 3	EI 240 in floor 5
80mm			EI 120 in wall 1+2 EI 240 in wall 3	EI 240 in floor 5	
joint details: min. W x D, default: walls: 10 x 25 mm, apply on 2 sides floors: 15 x 25 mm, apply on 2 sides		joint details: min. W x D, default: walls: 10 x 25 mm, apply on 2 sides floors: 15 x 25 mm, apply on 2 sides		floors: apply on 1 side always apply smoke seal FT Acrylic on 2 sides	
default: walls: apply on 2 sides floors: apply on 1 side always apply smoke seal FT Acrylic on 2 sides					
supporting construction		Constructive element must be classified acc. EN 13501-2 for the required fire resistance period:			
1: flexible wall ≥100mm, insulated 1-n100: flexible wall ≥100mm, non-insulated 1-n75: flexible wall ≥75mm, non-insulated 2: rigid wall ≥100mm 3: rigid wall ≥150mm 4: flexible ceiling ≥150mm 5: rigid floor ≥150mm 6: CLT wall ≥100mm 7: CLT floor ≥140mm		Max. opening in constructive element: see principle detail. Use FT Board if opening is larger; see how-to-read.			
Penetration services must be supported; support distance walls max. 500mm support distance floors max. 400mm		Min. length pipe insulation LI / LS / CS / CI: see principle detail.			
INDEX		PE + PP + PVC			
plastic cable conduits		PP-R			
PP-MD		PP-MX			
aluPE-X		PE-Xa			
copper		steel			
steel conduits		cast iron			
trays + ladders + wire mesh		cables + bundles			
fire dampers		air transfer grilles			
duct cladding		linear joints			
socket boxes		blank seals			
EN norms for plastic pipes		how-to-read			
acoustical		environmental			

▶ INDEX

PE + PP + PVC

plastic cable conduits

PP-R

PP-MD

PP-MX

aluPE-X

PE-Xa

copper

steel

steel conduits

cast iron

trays + ladders + wire mesh

cables + bundles

fire dampers

air transfer grilles

duct cladding

linear joints

socket boxes

blank seals

EN norms for plastic pipes

how-to-read

acoustical

environmental

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides (default)
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

fire resistance

test method

EN 1366-3

service no.

28-29



aluPE-X pipes

service type ¹⁾		pipe insulation			EI	constructive element ²⁾	Firesafe pipe collar	application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	min. 60 kg/m ³ eg Armaflex										
up to												
Ø16	2,25	synth. rubber 13mm	700 LS + LI + CS + CI	EI 90	CLT floors ≥ 140 mm		Ø50	1 side	*	44 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
Ø25	2,50	synth. rubber 13mm	700 LS + LI + CS + CI	EI 90	CLT floors ≥ 140 mm		Ø63	1 side	*	53 mm	U/C + C/C	
max.												
Ø63	4,50	synth. rubber 13mm	700 LS + LI + CS + CI	EI 90	CLT floors ≥ 140 mm		Ø90	1 side	*	91 mm	U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm!

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides (default)
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

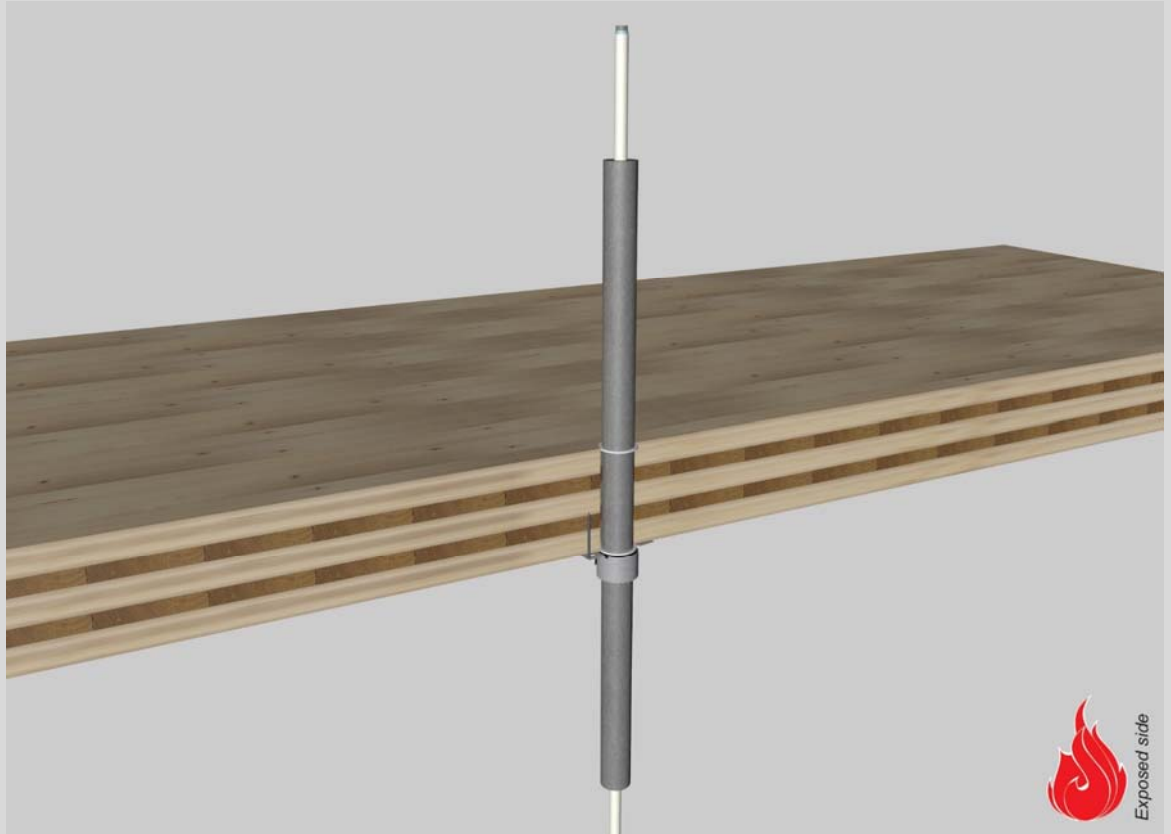
fire resistance

test method

EN 1366-3

service no.

28-28



aluPE-X pipes

service type ¹⁾		pipe insulation			EI	constructive element ²⁾	Firesafe pipe collar	application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	min. 60 kg/m³ eg Armaflex										
up to												
Ø16	2,25	synth. rubber 13mm	700 LS + LI + CS + CI	EI 90	CLT floors ≥ 140 mm		Ø50	1 side	*	44 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
Ø25	2,50	synth. rubber 13mm	700 LS + LI + CS + CI	EI 90	CLT floors ≥ 140 mm		Ø63	1 side	*	53 mm	U/C + C/C	
max.												
Ø63	4,50	synth. rubber 13mm	700 LS + LI + CS + CI	EI 90	CLT floors ≥ 140 mm		Ø90	1 side	*	91 mm	U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm!

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥100mm is also applicable for **rigid walls** ≥100mm
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

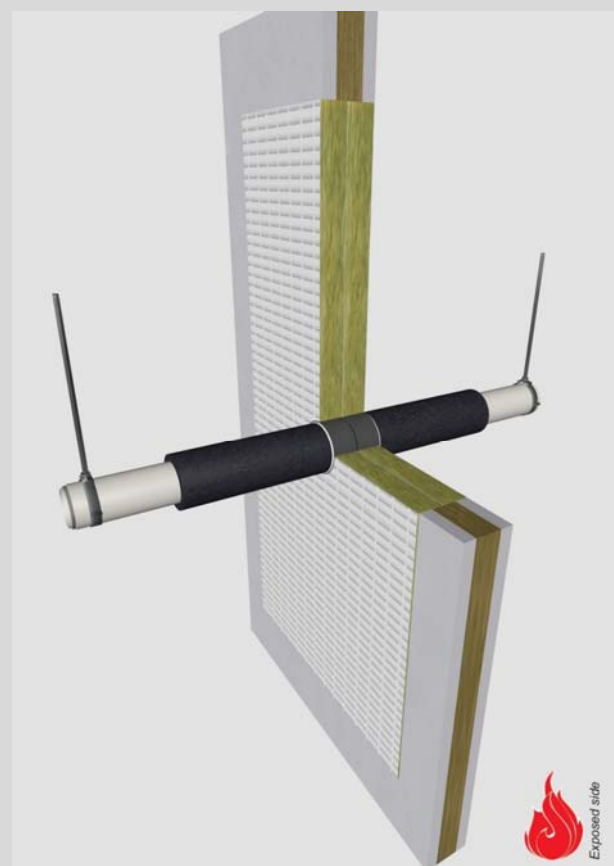
test method

service no.

fire resistance

EN 1366-3

0266



aluPE-X pipes

Fire Wrap

service type ¹⁾		pipe insulation		 EI	constructive element ²⁾	Firesafe pipe wrap		application	finish	max. opening	pipe end	max. angle		
dØ (mm)	s1 (mm)	min. 60 kg/m ³ eg Armaflex				length	no. of layers							
up to														
Ø16	2,0	synth. rubber 13mm	700 LS + LI + CS + CI	EI 60	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	50 mm	U/C + C/C	perpendicular + all angles between 90° and 45°		
		synth. rubber 13mm	700 LS + LI + CS + CI	EI 60	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	600x1200 mm	U/C + C/C			
		synth. rubber 13mm	700 LS + LI + CS + CI	EI 90	CLT floors ≥ 140 mm	π x Ø x	2	2 sides	*	52 mm	U/C + C/C			
Ø25	2,5	synth. rubber 13mm	700 LS + LI + CS + CI	EI 60	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	59 mm	U/C + C/C			
		synth. rubber 13mm	700 LS + LI + CS + CI	EI 60	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	600x1200 mm	U/C + C/C			
		synth. rubber 13mm	700 LS + LI + CS + CI	EI 90	CLT floors ≥ 140 mm	π x Ø x	2	2 sides	*	61 mm	U/C + C/C			
		synth. rubber 13mm	700 LS + LI + CS + CI	EI 90	rigid walls ≥ 100 mm in FR mortar	π x Ø x	1	2 sides	*	200x1000 mm	U/C + C/C			
Ø63	6,0	synth. rubber 13mm	700 LS + LI + CS + CI	EI 60	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	97 mm	U/C + C/C			
		synth. rubber 13mm	700 LS + LI + CS + CI	EI 60	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	600x1200 mm	U/C + C/C			
		synth. rubber 13mm	700 LS + LI + CS + CI	EI 90	CLT floors ≥ 140 mm	π x Ø x	2	2 sides	*	99 mm	U/C + C/C			
		synth. rubber 13mm	700 LS + LI + CS + CI	EI 90	rigid walls ≥ 100 mm in FR mortar	π x Ø x	1	2 sides	*	200x1000 mm	U/C + C/C			
max.														
Ø75	7,5	synth. rubber 13mm	700 LS + LI + CS + CI	EI 60	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	109 mm	U/C + C/C			
		synth. rubber 13mm	700 LS + LI + CS + CI	EI 60	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	600x1200 mm	U/C + C/C			
		synth. rubber 13mm	700 LS + LI + CS + CI	EI 90	rigid walls ≥ 100 mm in FR mortar	π x Ø x	1	2 sides	*	200x1000 mm	U/C + C/C			

in FT Board 2S 50 mm

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm!

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥ 100mm is also applicable for **rigid walls** ≥ 100mm
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

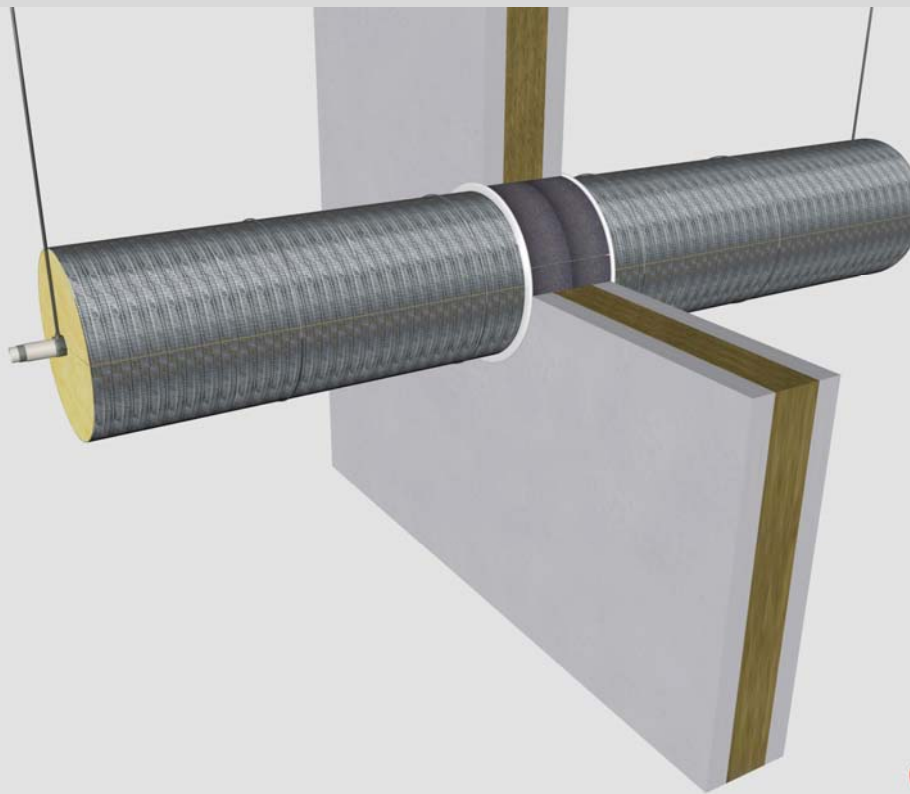
test method

service no.

fire resistance

EN 1366-3

23-2



Exposed side

aluPE-X pipes

Fire Wrap

service type ¹⁾		pipe insulation ²⁾		 EI	constructive element ³⁾		Firesafe pipe wrap		application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	min. 75 kg/m ³ eg Climpipe, Rockwool or U Protect Pipe Section Alu2					length TT x Ø x	no. of layers	1 or 2 sides	required	in construction	configuration	
Ø16	2,0	glass / rock wool 20mm	1200 CS + CI	EI 120	flexible walls ≥ 100 mm	TT x Ø x	1	2 sides	*	60 mm	U/C + C/C	perpendicular all angles between 90° and 45°	
			20mm 1200 CS + CI	EI 240	rigid walls ≥ 150 mm	TT x Ø x	2	2 sides	*	64 mm	U/C + C/C		
			30mm 1200 CS + CI	EI 120	flexible walls ≥ 100 mm	TT x Ø x	1	2 sides	*	80 mm	U/C + C/C		
			30mm 1200 CS + CI	EI 240	rigid walls ≥ 150 mm	TT x Ø x	2	2 sides	*	84 mm	U/C + C/C		
			40mm 1200 CS + CI	EI 120	flexible walls ≥ 100 mm	TT x Ø x	1	2 sides	*	100 mm	U/C + C/C		
			40mm 1200 CS + CI	EI 240	rigid walls ≥ 150 mm	TT x Ø x	2	2 sides	*	104 mm	U/C + C/C		
			50mm 1200 CS + CI	EI 120	flexible walls ≥ 100 mm	TT x Ø x	2	2 sides	*	124 mm	U/C + C/C		
			50mm 1200 CS + CI	EI 240	rigid walls ≥ 150 mm	TT x Ø x	2	2 sides	*	124 mm	U/C + C/C		
			60mm 100 LI + CS + CI	EI 120	flexible walls ≥ 100 mm	TT x Ø x	3	2 sides	*	148 mm	U/C + C/C		
			60mm 1200 CS + CI	EI 120	rigid walls ≥ 150 mm	TT x Ø x	3	2 sides	*	148 mm	U/C + C/C		
			80mm 100 LI + CS + CI	EI 120	flexible walls ≥ 100 mm	TT x Ø x	3	2 sides	*	188 mm	U/C + C/C		
			80mm 1200 CS + CI	EI 120	rigid walls ≥ 150 mm	TT x Ø x	3	2 sides	*	188 mm	U/C + C/C		
max.													
Ø75	7,5	glass / rock wool 20mm	1200 CS + CI	EI 120	flexible walls ≥ 100 mm	TT x Ø x	1	2 sides	*	119 mm	U/C + C/C		
			20mm 1200 CS + CI	EI 240	rigid walls ≥ 150 mm	TT x Ø x	2	2 sides	*	123 mm	U/C + C/C		
			30mm 1200 CS + CI	EI 120	flexible walls ≥ 100 mm	TT x Ø x	1	2 sides	*	139 mm	U/C + C/C		
			30mm 1200 CS + CI	EI 240	rigid walls ≥ 150 mm	TT x Ø x	2	2 sides	*	143 mm	U/C + C/C		
			40mm 1200 CS + CI	EI 120	flexible walls ≥ 100 mm	TT x Ø x	1	2 sides	*	159 mm	U/C + C/C		
			40mm 1200 CS + CI	EI 240	rigid walls ≥ 150 mm	TT x Ø x	2	2 sides	*	163 mm	U/C + C/C		
			50mm 1200 CS + CI	EI 120	flexible walls ≥ 100 mm	TT x Ø x	2	2 sides	*	183 mm	U/C + C/C		
			50mm 1200 CS + CI	EI 240	rigid walls ≥ 150 mm	TT x Ø x	2	2 sides	*	183 mm	U/C + C/C		
			60mm 1200 CS + CI	EI 120	flexible walls ≥ 100 mm	TT x Ø x	3	2 sides	*	207 mm	U/C + C/C		
			60mm 1200 CS + CI	EI 240	rigid walls ≥ 150 mm	TT x Ø x	3	2 sides	*	207 mm	U/C + C/C		
			80mm 1200 CS + CI	EI 120	flexible walls ≥ 100 mm	TT x Ø x	3	2 sides	*	247 mm	U/C + C/C		
			80mm 1200 CS + CI	EI 240	rigid walls ≥ 150 mm	TT x Ø x	3	2 sides	*	247 mm	U/C + C/C		

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Pipe insulation must be fastened individually (not Fire Wrapped!) with steel wire: at max. 50mm + 300mm from constructive element.

³⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥ 100mm is also applicable for rigid walls ≥ 100mm!

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥100mm is also applicable for **rigid walls** ≥100mm
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

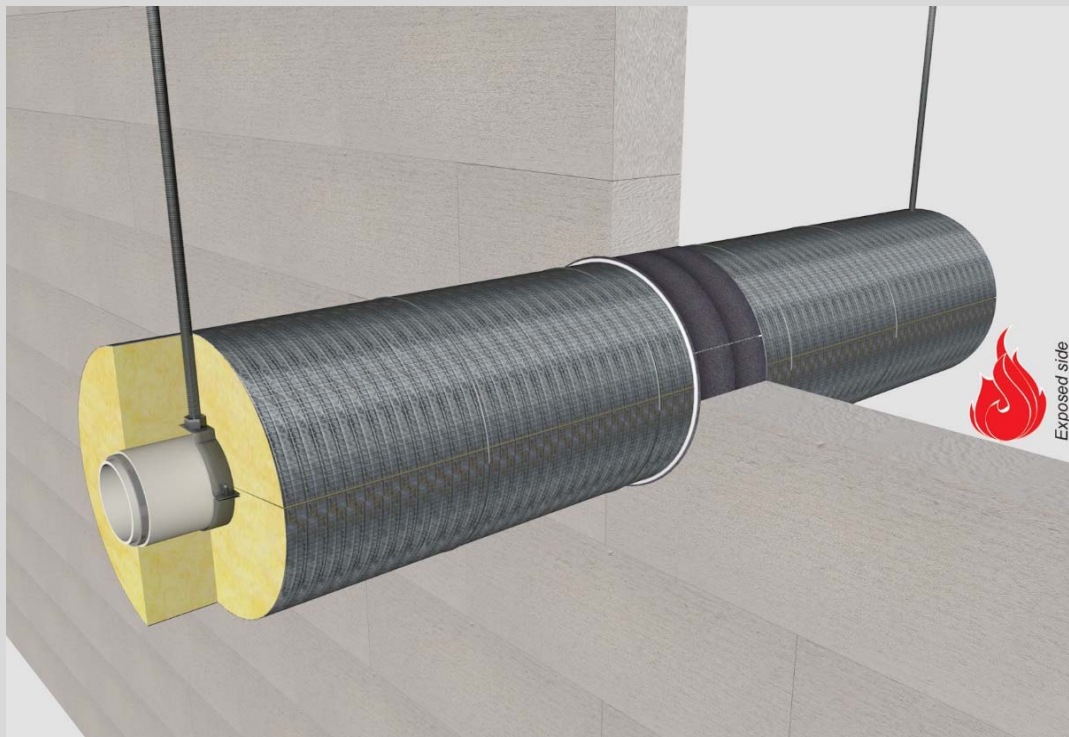
fire resistance

test method

EN 1366-3

service no.

21-3r



aluPE-X pipes

Fire Wrap

service type ¹⁾		pipe insulation ²⁾			EI	constructive element ³⁾	Firesafe pipe wrap		application	finish required	max. opening in construction	pipe end configuration	max. angle
dØ (mm)	s1 (mm)	min. 75 kg/m³ eg Climpipe, Rockwool or U Protect Pipe Section Alu2					length π x Ø x	no. of layers					
Ø16	2,0	glass / rock wool 20mm	1200 CS + CI	EI 120	flexible walls ≥ 100 mm	TT x Ø x	1	2 sides	*	60 mm	U/C + C/C	perpendicular + all angles between 90° and 45°	
			20mm 1200 CS + CI	EI 240	rigid walls ≥ 150 mm	TT x Ø x	2	2 sides	*	64 mm	U/C + C/C		
		30mm	1200 CS + CI	EI 120	flexible walls ≥ 100 mm	TT x Ø x	1	2 sides	*	80 mm	U/C + C/C		
		30mm	1200 CS + CI	EI 240	rigid walls ≥ 150 mm	TT x Ø x	2	2 sides	*	84 mm	U/C + C/C		
		40mm	1200 CS + CI	EI 120	flexible walls ≥ 100 mm	TT x Ø x	1	2 sides	*	100 mm	U/C + C/C		
		40mm	1200 CS + CI	EI 240	rigid walls ≥ 150 mm	TT x Ø x	2	2 sides	*	104 mm	U/C + C/C		
		50mm	1200 CS + CI	EI 120	flexible walls ≥ 100 mm	TT x Ø x	2	2 sides	*	124 mm	U/C + C/C		
		50mm	1200 CS + CI	EI 240	rigid walls ≥ 150 mm	TT x Ø x	2	2 sides	*	124 mm	U/C + C/C		
		60mm 00 LI + CS + CI	EI 120	flexible walls ≥ 100 mm	TT x Ø x	3	2 sides	*	148 mm	U/C + C/C			
		60mm	1200 CS + CI	EI 120	rigid walls ≥ 150 mm	TT x Ø x	3	2 sides	*	148 mm	U/C + C/C		
		80mm 00 LI + CS + CI	EI 120	flexible walls ≥ 100 mm	TT x Ø x	3	2 sides	*	188 mm	U/C + C/C			
		80mm	1200 CS + CI	EI 120	rigid walls ≥ 150 mm	TT x Ø x	3	2 sides	*	188 mm	U/C + C/C		
max.													
Ø75	7,5	glass / rock wool 20mm	1200 CS + CI	EI 120	flexible walls ≥ 100 mm	TT x Ø x	1	2 sides	*	119 mm	U/C + C/C		
			20mm 1200 CS + CI	EI 240	rigid walls ≥ 150 mm	TT x Ø x	2	2 sides	*	123 mm	U/C + C/C		
		30mm	1200 CS + CI	EI 120	flexible walls ≥ 100 mm	TT x Ø x	1	2 sides	*	139 mm	U/C + C/C		
		30mm	1200 CS + CI	EI 240	rigid walls ≥ 150 mm	TT x Ø x	2	2 sides	*	143 mm	U/C + C/C		
		40mm	1200 CS + CI	EI 120	flexible walls ≥ 100 mm	TT x Ø x	1	2 sides	*	159 mm	U/C + C/C		
		40mm	1200 CS + CI	EI 240	rigid walls ≥ 150 mm	TT x Ø x	2	2 sides	*	163 mm	U/C + C/C		
		50mm	1200 CS + CI	EI 120	flexible walls ≥ 100 mm	TT x Ø x	2	2 sides	*	183 mm	U/C + C/C		
		50mm	1200 CS + CI	EI 240	rigid walls ≥ 150 mm	TT x Ø x	2	2 sides	*	183 mm	U/C + C/C		
		60mm	1200 CS + CI	EI 120	flexible walls ≥ 100 mm	TT x Ø x	3	2 sides	*	207 mm	U/C + C/C		
		60mm	1200 CS + CI	EI 240	rigid walls ≥ 150 mm	TT x Ø x	3	2 sides	*	207 mm	U/C + C/C		
		80mm	1200 CS + CI	EI 120	flexible walls ≥ 100 mm	π x Ø x	3	2 sides	*	247 mm	U/C + C/C		
		80mm	1200 CS + CI	EI 240	rigid walls ≥ 150 mm	TT x Ø x	3	2 sides	*	247 mm	U/C + C/C		

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Pipe insulation must be fastened individually (not Fire Wrapped!) with steel wire; at max. 50mm + 300mm from constructive element.

³⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm!

Notes:

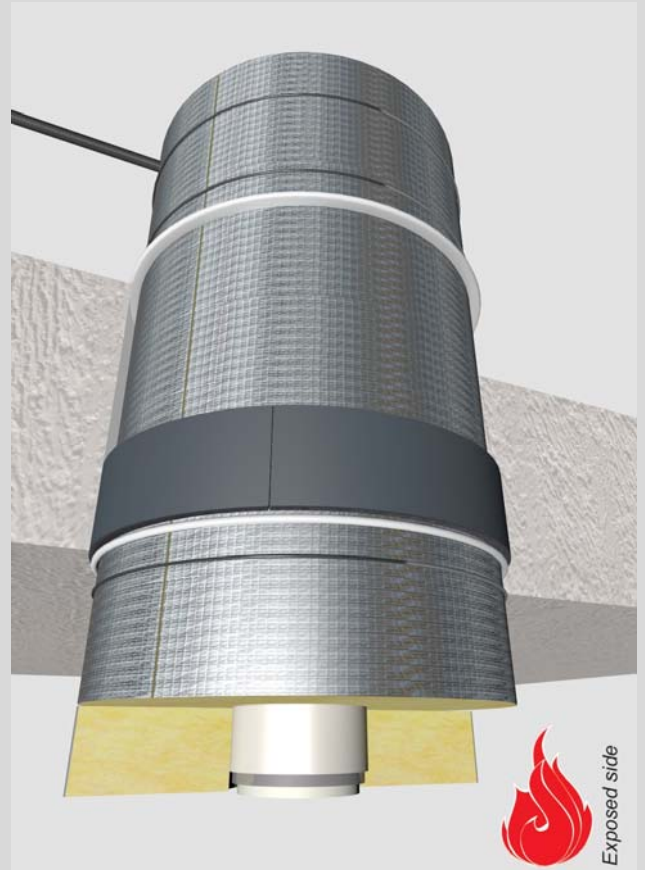
- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45°

principle principle detail

Firesafe

tested prop tested property
test method test method
service no. service no.

fire resistance
EN 1366-3
22-10



aluPE-X pipes

service type ¹⁾		pipe insulation ²⁾		EI	constructive element ³⁾	Fire Wrap		application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	min. 75 kg/m ³ eg Climpipe, Rockwool	or U Protect Pipe Section Alu2			length	no. of layers					
Ø16	2,0	glass / rock wool 20mm	1200 CS + CI	EI 240	rigid floors ≥ 150 mm	TT x Ø x	2	1 side	*	64 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
		30mm	1200 CS + CI	EI 240	rigid floors ≥ 150 mm	TT x Ø x	2	1 side	*	84 mm	U/C + C/C	
		40mm	1200 CS + CI	EI 240	rigid floors ≥ 150 mm	TT x Ø x	2	1 side	*	104 mm	U/C + C/C	
		50mm	1200 CS + CI	EI 240	rigid floors ≥ 150 mm	TT x Ø x	2	1 side	*	124 mm	U/C + C/C	
		60mm	1200 CS + CI	EI 120	rigid floors ≥ 150 mm	TT x Ø x	3	1 side	*	148 mm	U/C + C/C	
		80mm	1200 CS + CI	EI 120	rigid floors ≥ 150 mm	TT x Ø x	3	1 side	*	188 mm	U/C + C/C	
max.												
Ø75	7,5	glass / rock wool 20mm	1200 CS + CI	EI 240	rigid floors ≥ 150 mm	TT x Ø x	2	1 side	*	123 mm	U/C + C/C	
		30mm	1200 CS + CI	EI 240	rigid floors ≥ 150 mm	TT x Ø x	2	1 side	*	143 mm	U/C + C/C	
		40mm	1200 CS + CI	EI 240	rigid floors ≥ 150 mm	TT x Ø x	2	1 side	*	163 mm	U/C + C/C	
		50mm	1200 CS + CI	EI 240	rigid floors ≥ 150 mm	TT x Ø x	2	1 side	*	183 mm	U/C + C/C	
		60mm	1200 CS + CI	EI 240	rigid floors ≥ 150 mm	TT x Ø x	3	1 side	*	207 mm	U/C + C/C	
		80mm	1200 CS + CI	EI 240	rigid floors ≥ 150 mm	TT x Ø x	3	1 side	*	247 mm	U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Pipe insulation must be fastened individually (not Fire Wrapped!) with steel wire: at max. 50mm + 300mm from constructive element.

³⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥100mm is also applicable for **rigid walls** ≥100mm
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

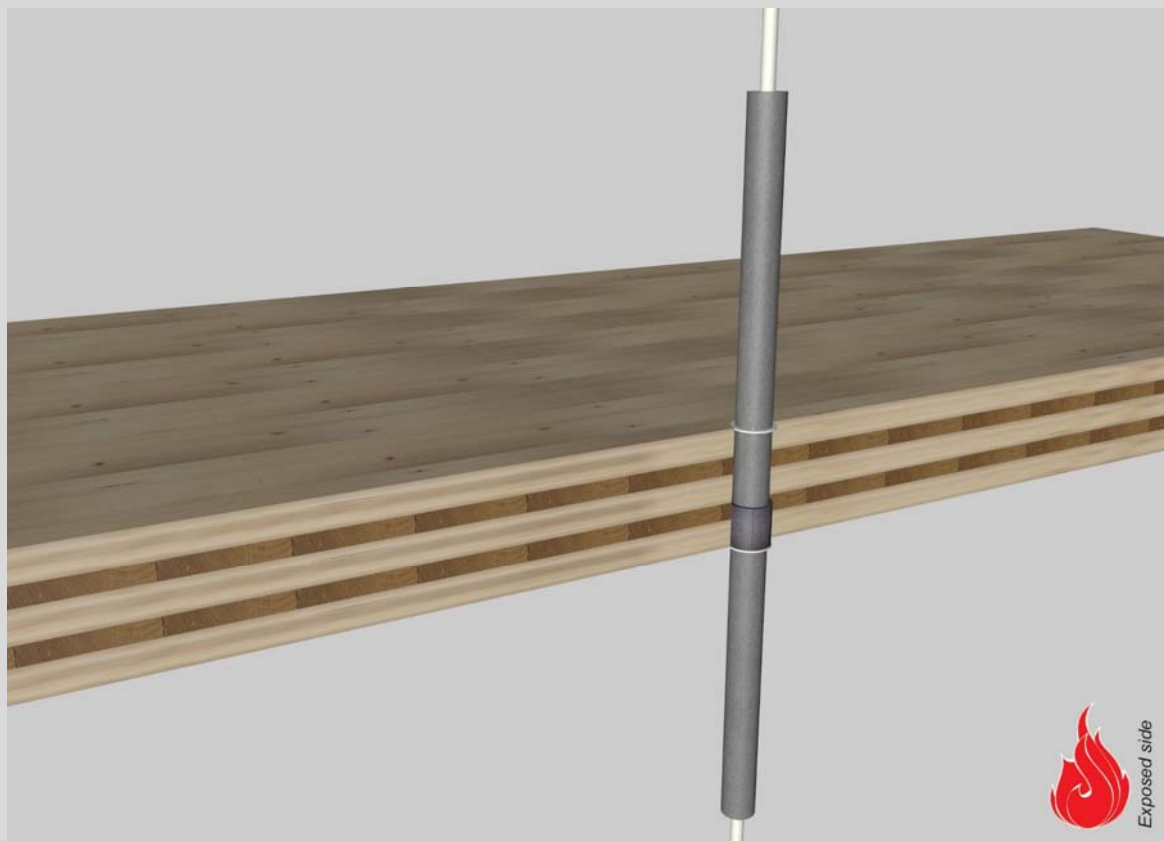
fire resistance

test method

EN 1366-3

service no.

28-2



aluPE-X pipes

service type ¹⁾
dØ (mm) s1 (mm)

pipe insulation
min. 60 kg/m³ eg Armaflex



EI

constructive element ²⁾

Fire Wrap

Firesafe pipe wrap

length
π x Ø x no. of layers

application
1 or 2 sides

finish
required

max. opening
in construction

pipe end
configuration

max. angle

up to

Ø	up to	synth. rubber 13mm	700 LS + LI + CS + CI	EI	flexible walls ≥ 100 mm	π x Ø x	no. of layers	application	finish	max. opening	pipe end configuration	max. angle
Ø16	2,00	synth. rubber 13mm	700 LS + LI + CS + CI	EI 60	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	50 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
	2,00	synth. rubber 13mm	700 LS + LI + CS + CI	EI 60	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	600x1200 mm	U/C + C/C	
	2,25	synth. rubber 13mm	700 LS + LI + CS + CI	EI 90	CLT floors ≥ 140 mm	π x Ø x	2	1 side	*	52 mm	U/C + C/C	
Ø25	2,50	synth. rubber 13mm	700 LS + LI + CS + CI	EI 60	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	59 mm	U/C + C/C	
		synth. rubber 13mm	700 LS + LI + CS + CI	EI 60	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	600x1200 mm	U/C + C/C	
		synth. rubber 13mm	700 LS + LI + CS + CI	EI 90	CLT floors ≥ 140 mm	π x Ø x	2	1 side	*	61 mm	U/C + C/C	
		synth. rubber 13mm	700 LS + LI + CS + CI	EI 90	rigid walls ≥ 100 mm in FR mortar	π x Ø x	1	2 sides	*	200x1000 mm	U/C + C/C	
Ø63	6,00	synth. rubber 13mm	700 LS + LI + CS + CI	EI 60	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	97 mm	U/C + C/C	
	6,00	synth. rubber 13mm	700 LS + LI + CS + CI	EI 60	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	600x1200 mm	U/C + C/C	
	4,50	synth. rubber 13mm	700 LS + LI + CS + CI	EI 90	CLT floors ≥ 140 mm	π x Ø x	2	1 side	*	99 mm	U/C + C/C	
	6,00	synth. rubber 13mm	700 LS + LI + CS + CI	EI 90	rigid walls ≥ 100 mm in FR mortar	π x Ø x	1	2 sides	*	200x1000 mm	U/C + C/C	
Ø75	7,50	synth. rubber 13mm	700 LS + LI + CS + CI	EI 60	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	109 mm	U/C + C/C	
		synth. rubber 13mm	700 LS + LI + CS + CI	EI 60	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	600x1200 mm	U/C + C/C	
		synth. rubber 13mm	700 LS + LI + CS + CI	EI 90	rigid walls ≥ 100 mm in FR mortar	π x Ø x	1	2 sides	*	200x1000 mm	U/C + C/C	

in FT Board 2S 50 mm

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm!

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- other pipe $d\varnothing + s1$ (thickness) are allowed within range and same pipe material
- EI for flexible walls $\geq 100\text{mm}$ is also applicable for rigid walls $\geq 100\text{mm}$
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

fire resistance

test method

EN 1366-3

service no.

28-4



aluPE-X pipes

service type ¹⁾
dØ (mm) s1 (mm)

pipe insulation
min. 60 kg/m³ eg Armaflex



EI

constructive element ²⁾

Fire Wrap

Firesafe pipe wrap
length
 $\pi \times \varnothing \times$ no. of layers

application
1 or 2 sides

finish
required

max. opening
in construction

pipe end
configuration

max. angle

up to

Ø	up to	synth. rubber 13mm	700 LS + LI + CS + CI	EI	flexible walls $\geq 100\text{ mm}$	$\pi \times \varnothing \times$	no. of layers	application	finish	max. opening	pipe end	max. angle
Ø16	2,00	synth. rubber 13mm	700 LS + LI + CS + CI	EI 60	flexible walls $\geq 100\text{ mm}$	$\pi \times \varnothing \times$	2	2 sides	*	50 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
	2,00	synth. rubber 13mm	700 LS + LI + CS + CI	EI 60	flexible walls $\geq 100\text{ mm}$	$\pi \times \varnothing \times$	2	2 sides	*	600x1200 mm	U/C + C/C	
	2,25	synth. rubber 13mm	700 LS + LI + CS + CI	EI 90	CLT floors $\geq 140\text{ mm}$	$\pi \times \varnothing \times$	2	1 side	*	52 mm	U/C + C/C	
Ø25	2,50	synth. rubber 13mm	700 LS + LI + CS + CI	EI 60	flexible walls $\geq 100\text{ mm}$	$\pi \times \varnothing \times$	2	2 sides	*	59 mm	U/C + C/C	
		synth. rubber 13mm	700 LS + LI + CS + CI	EI 60	flexible walls $\geq 100\text{ mm}$	$\pi \times \varnothing \times$	2	2 sides	*	600x1200 mm	U/C + C/C	
		synth. rubber 13mm	700 LS + LI + CS + CI	EI 90	CLT floors $\geq 140\text{ mm}$	$\pi \times \varnothing \times$	2	1 side	*	61 mm	U/C + C/C	
		synth. rubber 13mm	700 LS + LI + CS + CI	EI 90	rigid walls $\geq 100\text{ mm}$ in FR mortar	$\pi \times \varnothing \times$	1	2 sides	*	200x1000 mm	U/C + C/C	
Ø63	6,00	synth. rubber 13mm	700 LS + LI + CS + CI	EI 60	flexible walls $\geq 100\text{ mm}$	$\pi \times \varnothing \times$	2	2 sides	*	97 mm	U/C + C/C	
	6,00	synth. rubber 13mm	700 LS + LI + CS + CI	EI 60	flexible walls $\geq 100\text{ mm}$	$\pi \times \varnothing \times$	2	2 sides	*	600x1200 mm	U/C + C/C	
	4,50	synth. rubber 13mm	700 LS + LI + CS + CI	EI 90	CLT floors $\geq 140\text{ mm}$	$\pi \times \varnothing \times$	2	1 side	*	99 mm	U/C + C/C	
	6,00	synth. rubber 13mm	700 LS + LI + CS + CI	EI 90	rigid walls $\geq 100\text{ mm}$ in FR mortar	$\pi \times \varnothing \times$	1	2 sides	*	200x1000 mm	U/C + C/C	
Ø75	7,50	synth. rubber 13mm	700 LS + LI + CS + CI	EI 60	flexible walls $\geq 100\text{ mm}$	$\pi \times \varnothing \times$	2	2 sides	*	109 mm	U/C + C/C	
		synth. rubber 13mm	700 LS + LI + CS + CI	EI 60	flexible walls $\geq 100\text{ mm}$	$\pi \times \varnothing \times$	2	2 sides	*	600x1200 mm	U/C + C/C	
		synth. rubber 13mm	700 LS + LI + CS + CI	EI 90	rigid walls $\geq 100\text{ mm}$ in FR mortar	$\pi \times \varnothing \times$	1	2 sides	*	200x1000 mm	U/C + C/C	

max.

in FT Board 2S 50 mm

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance $\leq 500\text{mm}$.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls $\geq 100\text{mm}$ is also applicable for rigid walls $\geq 100\text{mm}$!

PE-Xa classification ≤ Ø54 mm

Fire performances are valid for **range** of dØ pipe diameter + s1 pipe thickness within the same pipe material:

PE-Xa acc. EN norms
dØ 15(28) up to 32(54) mm
s1 2.2 up to 4.4 mm
pipe brands eg Uponor, Rehau, Geberit
pipe insulation brands eg Uponor, Armaflex

dØs1pipe insulation

Ø15 (28)2,5non-insulated

+ pipe insulation
+ polyolefin rubber, min. 28 kg/m²
10mm

Ø16 (25)2,2non-insulated

+ pipe insulation
+ polyolefin rubber, min. 28 kg/m³
10mm

Ø32 (54)4,4non-insulated

+ pipe insulation
+ polyolefin rubber, min. 28 kg/m²
20mm

suitable Firesafe products within classification:

FT Graphite
DoP CPR-16/0094

wallsfloors

EI 90 in wall 1+2
EI 240 in wall 3

EI 240 in floor 5

EI 120 in wall 1+2
EI 240 in wall 3

EI 240 in floor 5

FT Acrylic or FT Paste
DoP CPR-16/0094

wallsfloors

EI 90 in wall 1+2
EI 240 in wall 3

EI 240 in floor 5

EI 120 in wall 1+2
EI 240 in wall 3

EI 240 in floor 5

FIRE COLLAR
DoP CPR-15/0339

wallsfloors

EI 60 in wall 1+2
EI 240 in wall 3
collar Ø40

EI 240 in floor 5
collar Ø40

EI 120 in wall 1+2
EI 120 in wall 3
collar Ø50

EI 120 in floor 5
collar Ø50

Fire Wrap
DoP CPR-15/0339

wallsfloors

EI 120 in wall 1+2
EI 240 in wall 3
1 layer

EI 240 in floor 5
1 layer

EI 120 in wall 1+2
EI 240 in wall 3
2 layer

EI 240 in floor 5
2 layer

supporting construction

Constructive element must be classified acc. EN 13501-2 for the required fire resistance period:

1: flexible wall ≥100mm, insulated
1-n100: flexible wall ≥100mm, **non-insulated**
1-n75: flexible wall ≥75mm, **non-insulated**
2: rigid wall ≥100mm
3: rigid wall ≥150mm
4: flexible ceiling ≥150mm
5: rigid floor ≥150mm
6: CLT wall ≥100mm
7: CLT floor ≥140mm

Max. opening in constructive element: see principle detail. Use FT Board if opening is larger; see how-to-read.

Penetration services must be **supported**; support distance walls max. 500mm
support distance floors max. 400mm

Min. length pipe insulation LI / LS / CS / CI:
see principle detail.

► INDEX

PE + PP + PVC

plastic cable conduits

PP-R

PP-MD

PP-MX

aluPE-X

PE-Xa

copper

steel

steel conduits

cast iron

trays + ladders + wire mesh

cables + bundles

fire dampers

air transfer grilles

duct cladding

linear joints

socket boxes

blank seals

EN norms for plastic pipes

how-to-read

acoustical

environmental

Firesafe FoA d22-1 - page 10

'eccentric to zero' position in opening is allowed

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥ 100mm is also applicable for **rigid walls** ≥ 100mm
- angle: perpendicular + all angles between 90° and 45°
- 'eccentric to zero' position in opening is allowed

principle detail**Firesafe**

tested property

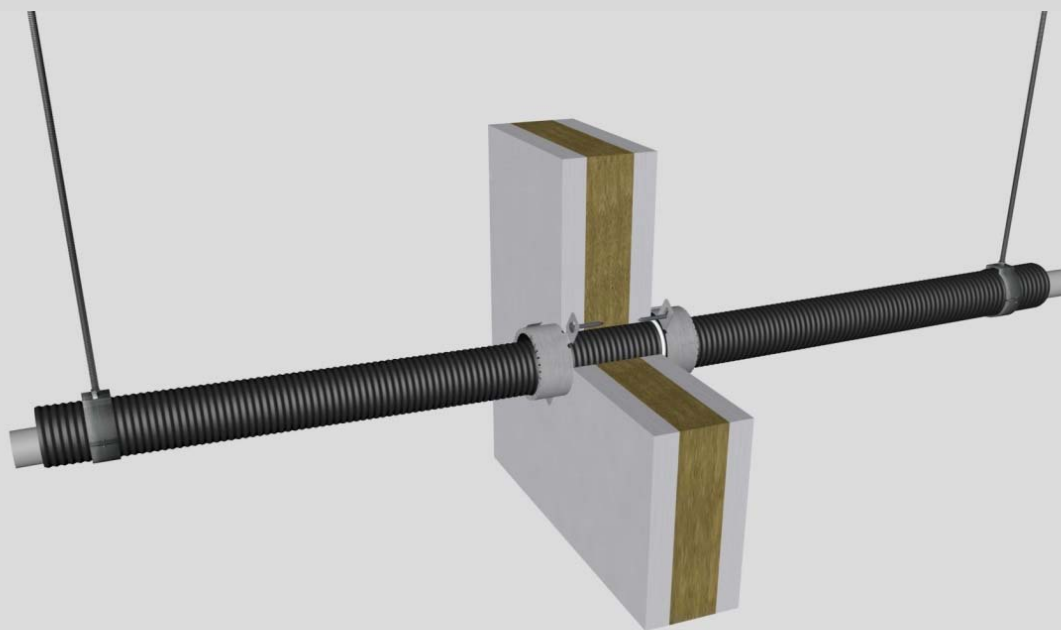
fire resistance

test method

EN 1366-3

service no.

19-58

**PE-Xa pipes****FIRE COLLAR**

service type		pipe insulation		EI	constructive element ²⁾	Firesafe pipe collar	application	finish	max. opening	pipe end	max. angle	
dØ (mm)	s1 (mm)	min. 28 kg/m ³ eg Uponor				Ø in mm	1 or 2 sides	required	in construction	configuration		
Ø15/28	2,5	-		EI 60	flexible walls ≥ 100 mm	Ø40	2 sides	*	28 mm	U/C + C/C	perpendicular + all angles between 90° and 45°	
		-		EI 240	rigid walls ≥ 150 mm	Ø40	2 sides	*	28 mm	U/C + C/C		
		polyolefin 10mm	1200 CS + CI	EI 120	flexible walls ≥ 100 mm	Ø50	2 sides	*	48 mm	U/C + C/C		
		polyolefin 10mm	1200 CS + CI	EI 120	rigid walls ≥ 150 mm	Ø50	2 sides	*	48 mm	U/C + C/C		
Ø16/25	2,2	-		EI 120	flexible walls ≥ 100 mm	Ø40	2 sides	*	25 mm	U/C + C/C		
		-		EI 240	rigid walls ≥ 150 mm	Ø40	2 sides	*	25 mm	U/C + C/C		
		polyolefin 10mm	1200 CS + CI	EI 120	flexible walls ≥ 100 mm	Ø50	2 sides	*	45 mm	U/C + C/C		
		polyolefin 10mm	1200 CS + CI	EI 120	rigid walls ≥ 150 mm	Ø50	2 sides	*	45 mm	U/C + C/C		
max.												
Ø32/54	4,4	-		EI 120	flexible walls ≥ 100 mm	Ø63	2 sides	*	54 mm	U/C + C/C		
		-		EI 240	rigid walls ≥ 150 mm	Ø63	2 sides	*	54 mm	U/C + C/C		
		polyolefin 20mm	1200 CS + CI	EI 60	flexible walls ≥ 100 mm	Ø110	2 sides	*	94 mm	U/C + C/C		
		polyolefin 20mm	1200 CS + CI	EI 240	rigid walls ≥ 150 mm	Ø110	2 sides	*	94 mm	U/C + C/C		

* smoke seal FT ACrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥ 100mm is also applicable for rigid walls ≥ 100mm!

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥100mm is also applicable for **rigid walls** ≥100mm
- angle: perpendicular + all angles between 90° and 45°
- 'eccentric to zero' position in opening is allowed

principle detail**Firesafe**

tested property

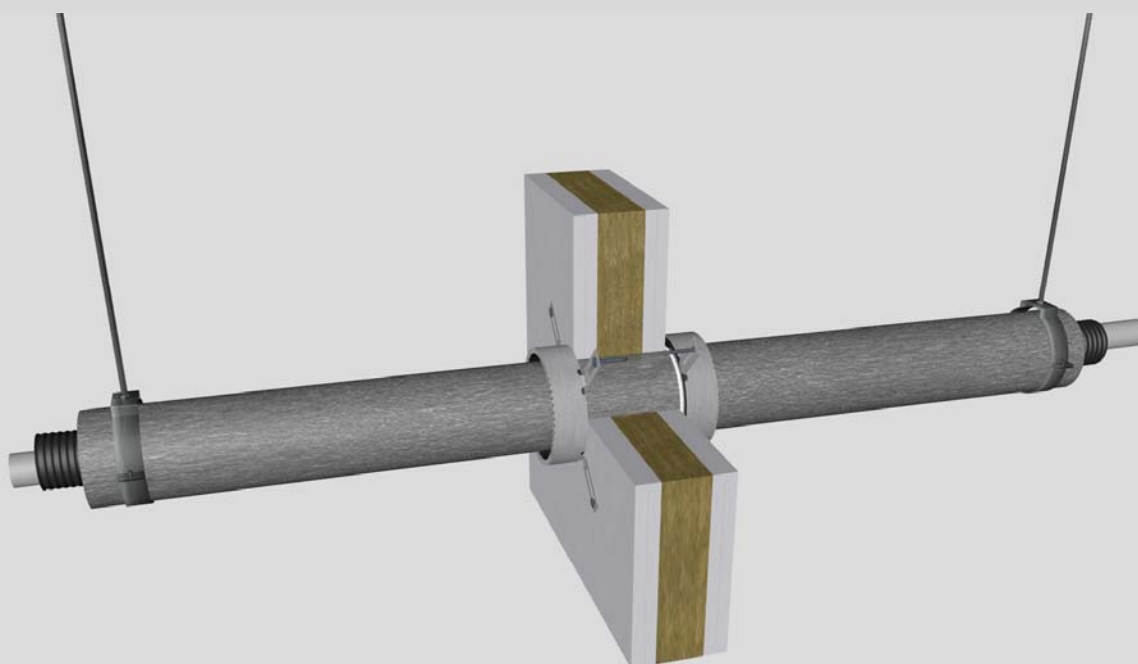
fire resistance

test method

EN 1366-3

service no.

19-59

**PE-Xa pipes****FIRE COLLAR**

service type		pipe insulation		EI	constructive element ²⁾	Firesafe pipe collar	application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	min. 28 kg/m ³ eg Uponor				Ø in mm	1 or 2 sides	required	in construction	configuration	
Ø15/28	2,5	-		EI 60	flexible walls ≥ 100 mm	Ø40	2 sides	*	28 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
		-		EI 240	rigid walls ≥ 150 mm	Ø40	2 sides	*	28 mm	U/C + C/C	
		polyolefin 10mm	1200 CS + CI	EI 120	flexible walls ≥ 100 mm	Ø50	2 sides	*	48 mm	U/C + C/C	
		polyolefin 10mm	1200 CS + CI	EI 120	rigid walls ≥ 150 mm	Ø50	2 sides	*	48 mm	U/C + C/C	
Ø16/25	2,2	-		EI 120	flexible walls ≥ 100 mm	Ø40	2 sides	*	25 mm	U/C + C/C	
		-		EI 240	rigid walls ≥ 150 mm	Ø40	2 sides	*	25 mm	U/C + C/C	
		polyolefin 10mm	1200 CS + CI	EI 120	flexible walls ≥ 100 mm	Ø50	2 sides	*	45 mm	U/C + C/C	
		polyolefin 10mm	1200 CS + CI	EI 120	rigid walls ≥ 150 mm	Ø50	2 sides	*	45 mm	U/C + C/C	
max.											
Ø32/54	4,4	-		EI 120	flexible walls ≥ 100 mm	Ø63	2 sides	*	54 mm	U/C + C/C	
		-		EI 240	rigid walls ≥ 150 mm	Ø63	2 sides	*	54 mm	U/C + C/C	
		polyolefin 20mm	1200 CS + CI	EI 60	flexible walls ≥ 100 mm	Ø110	2 sides	*	94 mm	U/C + C/C	
		polyolefin 20mm	1200 CS + CI	EI 240	rigid walls ≥ 150 mm	Ø110	2 sides	*	94 mm	U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm!

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥100mm is also applicable for **rigid walls** ≥100mm
- angle: perpendicular + all angles between 90° and 45°
- 'eccentric to zero' position in opening is allowed

principle detail

Firesafe

tested property

fire resistance

test method

EN 1366-3

service no.

19-58r



PE-Xa pipes

FIRE COLLAR

service type		pipe insulation		EI	constructive element ²⁾	Firesafe pipe collar	application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	min. 28 kg/m ³ eg Uponor				Ø in mm	1 or 2 sides	required	in construction	configuration	
Ø15/28	2,5	-		EI 60	flexible walls ≥ 100 mm	Ø40	2 sides	*	28 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
		-		EI 240	rigid walls ≥ 150 mm	Ø40	2 sides	*	28 mm	U/C + C/C	
		polyolefin 10mm	1200 CS + CI	EI 120	flexible walls ≥ 100 mm	Ø50	2 sides	*	48 mm	U/C + C/C	
		polyolefin 10mm	1200 CS + CI	EI 120	rigid walls ≥ 150 mm	Ø50	2 sides	*	48 mm	U/C + C/C	
Ø16/25	2,2	-		EI 120	flexible walls ≥ 100 mm	Ø40	2 sides	*	25 mm	U/C + C/C	
		-		EI 240	rigid walls ≥ 150 mm	Ø40	2 sides	*	25 mm	U/C + C/C	
		polyolefin 10mm	1200 CS + CI	EI 120	flexible walls ≥ 100 mm	Ø50	2 sides	*	45 mm	U/C + C/C	
		polyolefin 10mm	1200 CS + CI	EI 120	rigid walls ≥ 150 mm	Ø50	2 sides	*	45 mm	U/C + C/C	
max.											
Ø32/54	4,4	-		EI 120	flexible walls ≥ 100 mm	Ø63	2 sides	*	54 mm	U/C + C/C	
		-		EI 240	rigid walls ≥ 150 mm	Ø63	2 sides	*	54 mm	U/C + C/C	
		polyolefin 20mm	1200 CS + CI	EI 60	flexible walls ≥ 100 mm	Ø110	2 sides	*	94 mm	U/C + C/C	
		polyolefin 20mm	1200 CS + CI	EI 240	rigid walls ≥ 150 mm	Ø110	2 sides	*	94 mm	U/C + C/C	

* smoke seal FT ACrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm!

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥100mm is also applicable for **rigid walls** ≥100mm
- angle: perpendicular + all angles between 90° and 45°
- 'eccentric to zero' position in opening is allowed

principle detail

Firesafe

tested property

fire resistance

test method

EN 1366-3

service no.

19-59r



PE-Xa pipes

FIRE COLLAR

service type		pipe insulation		EI	constructive element ²⁾	Firesafe pipe collar	application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	min. 28 kg/m ³ eg Uponor				Ø in mm	1 or 2 sides	required	in construction	configuration	
Ø15/28	2,5	-		EI 60	flexible walls ≥ 100 mm	Ø40	2 sides	*	28 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
		-		EI 240	rigid walls ≥ 150 mm	Ø40	2 sides	*	28 mm	U/C + C/C	
		polyolefin 10mm	1200 CS + CI	EI 120	flexible walls ≥ 100 mm	Ø50	2 sides	*	48 mm	U/C + C/C	
		polyolefin 10mm	1200 CS + CI	EI 120	rigid walls ≥ 150 mm	Ø50	2 sides	*	48 mm	U/C + C/C	
Ø16/25	2,2	-		EI 120	flexible walls ≥ 100 mm	Ø40	2 sides	*	25 mm	U/C + C/C	
		-		EI 240	rigid walls ≥ 150 mm	Ø40	2 sides	*	25 mm	U/C + C/C	
		polyolefin 10mm	1200 CS + CI	EI 120	flexible walls ≥ 100 mm	Ø50	2 sides	*	45 mm	U/C + C/C	
		polyolefin 10mm	1200 CS + CI	EI 120	rigid walls ≥ 150 mm	Ø50	2 sides	*	45 mm	U/C + C/C	
max.											
Ø32/54	4,4	-		EI 120	flexible walls ≥ 100 mm	Ø63	2 sides	*	54 mm	U/C + C/C	
		-		EI 240	rigid walls ≥ 150 mm	Ø63	2 sides	*	54 mm	U/C + C/C	
		polyolefin 20mm	1200 CS + CI	EI 60	flexible walls ≥ 100 mm	Ø110	2 sides	*	94 mm	U/C + C/C	
		polyolefin 20mm	1200 CS + CI	EI 240	rigid walls ≥ 150 mm	Ø110	2 sides	*	94 mm	U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm!

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45°
- 'eccentric to zero' position in opening is allowed

principle detail

Firesafe

tested property

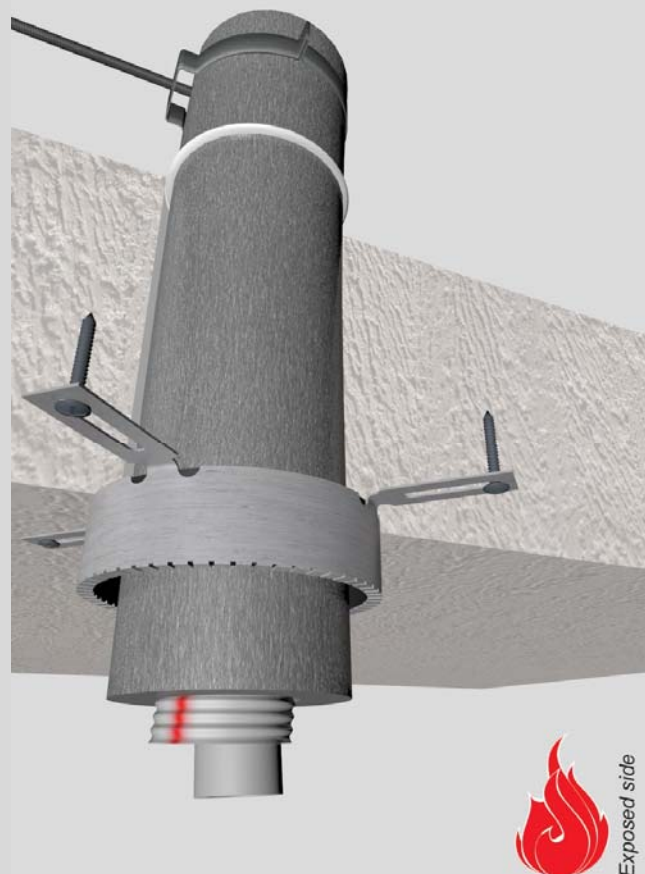
fire resistance

test method

EN 1366-3

service no.

22-46



PE-Xa pipes

FIRE COLLAR

service type ¹⁾		pipe insulation		 EI	constructive element ²⁾	Firesafe pipe collar	application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	min. 28 kg/m ³ eg Uponor				Ø in mm	1 or 2 sides	required	in construction	configuration	
Ø15/28	2,5	-		EI 240	rigid floors ≥ 150 mm	Ø40	1 side	*	32 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
		polyolefin 10mm	1200 CS + CI	EI 120	rigid floors ≥ 150 mm	Ø50	1 side	*	50 mm	U/C + C/C	
Ø16/25	2,2	-		EI 240	rigid floors ≥ 150 mm	Ø40	1 side	*	26 mm	U/C + C/C	
		polyolefin 10mm	1200 CS + CI	EI 120	rigid floors ≥ 150 mm	Ø50	1 side	*	50 mm	U/C + C/C	
max.											
Ø32/54	4,4	-		EI 240	rigid floors ≥ 150 mm	Ø63	1 side	*	63 mm	U/C + C/C	
		polyolefin 20mm	1200 CS + CI	EI 240	rigid floors ≥ 150 mm	Ø110	1 side	*	102 mm	U/C + C/C	

* smoke seal FT ACrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 400mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45°
- 'eccentric to zero' position in opening is allowed

principle detail

Firesafe

tested property

fire resistance

test method

EN 1366-3

service no.

22-45



PE-Xa pipes

FIRE COLLAR

service type ¹⁾		pipe insulation		 EI	constructive element ²⁾	Firesafe pipe collar	application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	min. 28 kg/m ³ eg Uponor				Ø in mm	1 or 2 sides	required	in construction	configuration	
Ø15/28	2,5	-		EI 240	rigid floors ≥ 150 mm	Ø40	1 side	*	32 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
		polyolefin 10mm	1200 CS + CI	EI 120	rigid floors ≥ 150 mm	Ø50	1 side	*	50 mm	U/C + C/C	
Ø16/25	2,2	-		EI 240	rigid floors ≥ 150 mm	Ø40	1 side	*	26 mm	U/C + C/C	
		polyolefin 10mm	1200 CS + CI	EI 120	rigid floors ≥ 150 mm	Ø50	1 side	*	50 mm	U/C + C/C	
max.											
Ø32/54	4,4	-		EI 240	rigid floors ≥ 150 mm	Ø63	1 side	*	63 mm	U/C + C/C	
		polyolefin 20mm	1200 CS + CI	EI 240	rigid floors ≥ 150 mm	Ø110	1 side	*	102 mm	U/C + C/C	

* smoke seal FT ACrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 400mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥100mm is also applicable for **rigid walls** ≥100mm
- angle: perpendicular + all angles between 90° and 45°
- 'eccentric to zero' position in opening is allowed

principle detail

Firesafe

tested property

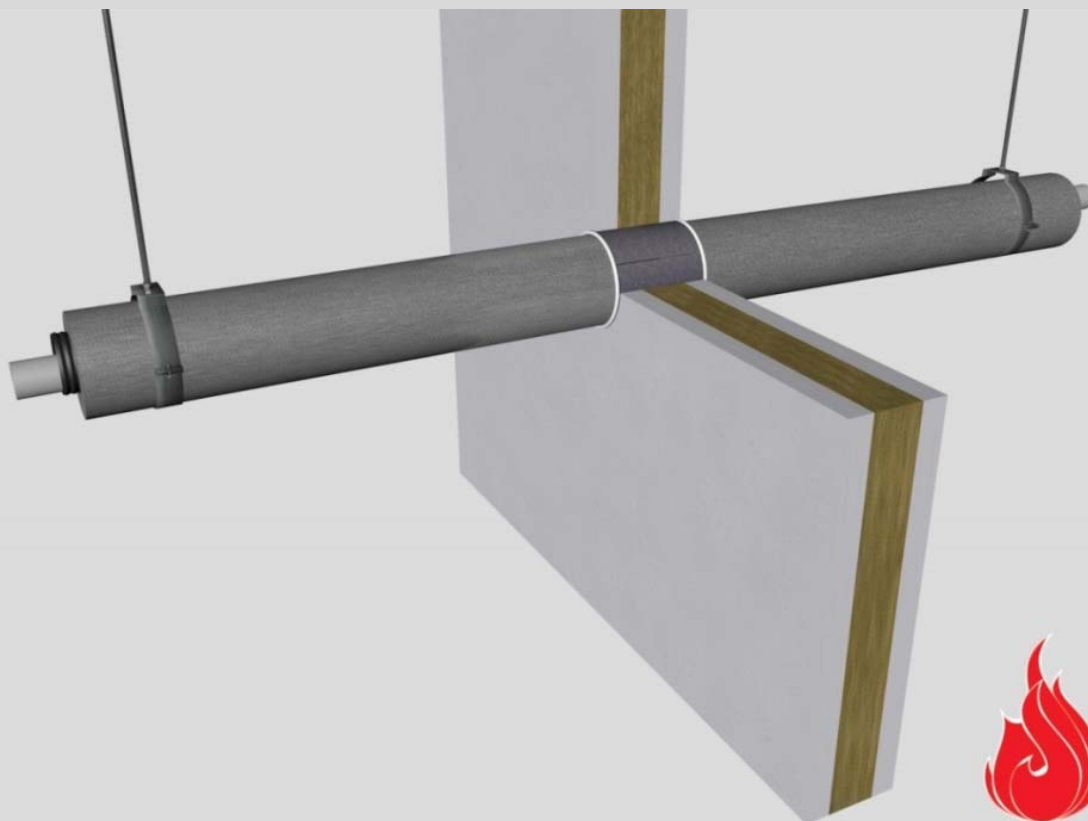
fire resistance

test method

EN 1366-3

service no.

21-9



PE-Xa pipes

Fire Wrap

service type ¹⁾	pipe insulation	EI	constructive element ²⁾	Firesafe pipe wrap	application	finish	max. opening	pipe end	max. angle
dØ (mm) s1 (mm)	min. 28 kg/m ³ eg Uponor			length π x Ø x no. of layers	1 or 2 sides	required	in construction	configuration	
up to									
Ø15/28 2,5	-	EI 120	flexible walls ≥ 100 mm	π x Ø x 1	2 sides	*	32 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
	-	EI 240	rigid walls ≥ 150 mm	π x Ø x 1	2 sides	*	32 mm	U/C + C/C	
	polyolefin 10mm	1200 CS + CI EI 120	flexible walls ≥ 100 mm	π x Ø x 2	2 sides	*	56 mm	U/C + C/C	
	polyolefin 10mm	1200 CS + CI EI 240	rigid walls ≥ 150 mm	π x Ø x 2	2 sides	*	63 mm	U/C + C/C	
Ø16/25 2,2	-	EI 120	flexible walls ≥ 100 mm	π x Ø x 1	2 sides	*	29 mm	U/C + C/C	
	-	EI 240	rigid walls ≥ 150 mm	π x Ø x 1	2 sides	*	32 mm	U/C + C/C	
	polyolefin 10mm	1200 CS + CI EI 120	flexible walls ≥ 100 mm	π x Ø x 1	2 sides	*	49 mm	U/C + C/C	
	polyolefin 10mm	1200 CS + CI EI 240	rigid walls ≥ 150 mm	π x Ø x 2	2 sides	*	63 mm	U/C + C/C	
max.									
Ø32/54 4,4	-	EI 120	flexible walls ≥ 100 mm	π x Ø x 1	2 sides	*	58 mm	U/C + C/C	
	-	EI 240	rigid walls ≥ 150 mm	π x Ø x 1	2 sides	*	63 mm	U/C + C/C	
	polyolefin 20mm	1200 CS + CI EI 90	flexible walls ≥ 100 mm	π x Ø x 2	2 sides	*	102 mm	U/C + C/C	
	polyolefin 10mm	1200 CS + CI EI 240	rigid walls ≥ 150 mm	π x Ø x 2	2 sides	*	102 mm	U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm!

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥100mm is also applicable for **rigid walls** ≥100mm
- angle: perpendicular + all angles between 90° and 45°
- 'eccentric to zero' position in opening is allowed

principle detail

Firesafe

tested property

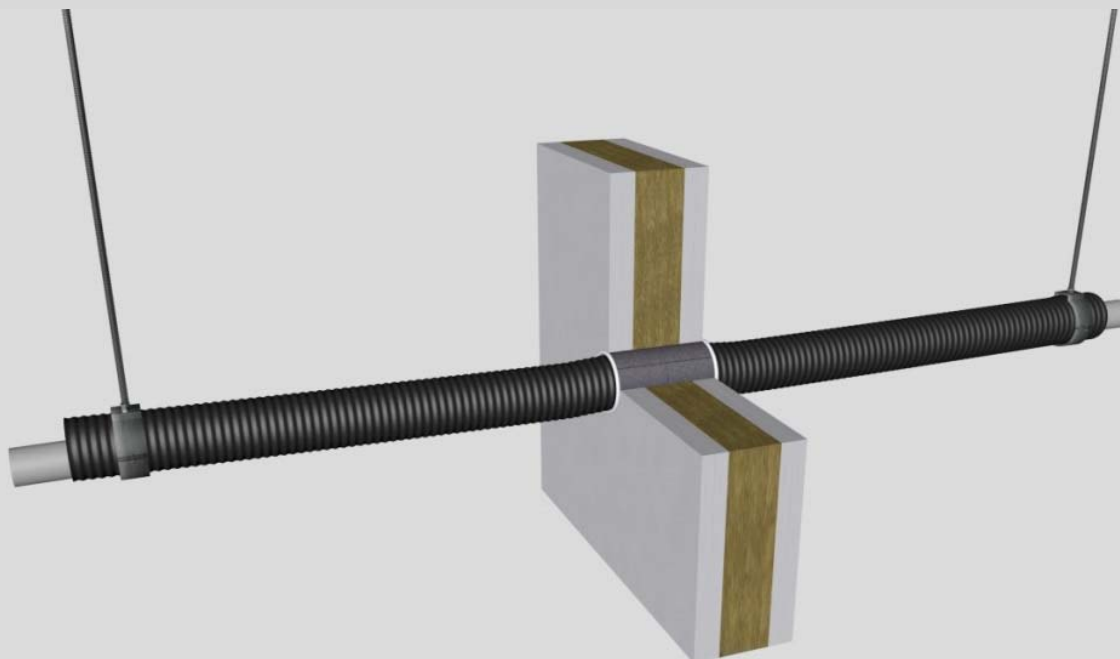
fire resistance

test method

EN 1366-3

service no.

19-17



PE-Xa pipes

Fire Wrap

service type ¹⁾		pipe insulation		 EI	constructive element ²⁾		firesafe pipe wrap		application	finish	max. opening	pipe end	max. angle	
dØ (mm)	s1 (mm)	min. 28 kg/m³ eg Uponor					length π x Ø x	no. of layers	1 or 2 sides	required	in construction	configuration		
up to														
Ø15/28	2,5	-		EI 120	flexible walls ≥ 100 mm	π x Ø x	1		2 sides	*	32 mm	U/C + C/C	perpendicular + all angles between 90° and 45°	
		-		EI 240	rigid walls ≥ 150 mm	π x Ø x	1		2 sides	*	32 mm	U/C + C/C		
		polyolefin 10mm	1200 CS + CI	EI 120	flexible walls ≥ 100 mm	π x Ø x	2		2 sides	*	56 mm	U/C + C/C		
		polyolefin 10mm	1200 CS + CI	EI 240	rigid walls ≥ 150 mm	π x Ø x	2		2 sides	*	63 mm	U/C + C/C		
Ø16/25	2,2	-		EI 120	flexible walls ≥ 100 mm	π x Ø x	1		2 sides	*	29 mm	U/C + C/C		
		-		EI 240	rigid walls ≥ 150 mm	π x Ø x	1		2 sides	*	32 mm	U/C + C/C		
		polyolefin 10mm	1200 CS + CI	EI 120	flexible walls ≥ 100 mm	π x Ø x	1		2 sides	*	49 mm	U/C + C/C		
		polyolefin 10mm	1200 CS + CI	EI 240	rigid walls ≥ 150 mm	π x Ø x	2		2 sides	*	63 mm	U/C + C/C		
max.														
Ø32/54	4,4	-		EI 120	flexible walls ≥ 100 mm	π x Ø x	1		2 sides	*	58 mm	U/C + C/C		
		-		EI 240	rigid walls ≥ 150 mm	π x Ø x	1		2 sides	*	63 mm	U/C + C/C		
		polyolefin 20mm	1200 CS + CI	EI 90	flexible walls ≥ 100 mm	π x Ø x	2		2 sides	*	102 mm	U/C + C/C		
		polyolefin 10mm	1200 CS + CI	EI 240	rigid walls ≥ 150 mm	π x Ø x	2		2 sides	*	102 mm	U/C + C/C		

perpendicular + all angles between 90° and 45°

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm!

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥100mm is also applicable for **rigid walls** ≥100mm
- angle: perpendicular + all angles between 90° and 45°
- 'eccentric to zero' position in opening is allowed

principle detail

Firesafe

tested property

fire resistance

test method

EN 1366-3

service no.

19-17r



PE-Xa pipes

Fire Wrap

service type ¹⁾		pipe insulation		 EI	constructive element ²⁾	Firesafe pipe wrap		application	finish	max. opening	pipe end configuration	max. angle	
dØ (mm)	s1 (mm)		min. 28 kg/m ³ eg Uponor			length	no. of layers						
up to													
Ø15/28	2,5	-		EI 120	flexible walls ≥ 100 mm	π x Ø x	1	2 sides	*	32 mm	U/C + C/C	perpendicular + all angles between 90° and 45°	
		-		EI 240	rigid walls ≥ 150 mm	π x Ø x	1	2 sides	*	32 mm	U/C + C/C		
		polyolefin 10mm	1200 CS + CI	EI 120	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	56 mm	U/C + C/C		
		polyolefin 10mm	1200 CS + CI	EI 240	rigid walls ≥ 150 mm	π x Ø x	2	2 sides	*	63 mm	U/C + C/C		
Ø16/25	2,2	-		EI 120	flexible walls ≥ 100 mm	π x Ø x	1	2 sides	*	29 mm	U/C + C/C		
		-		EI 240	rigid walls ≥ 150 mm	π x Ø x	1	2 sides	*	32 mm	U/C + C/C		
		polyolefin 10mm	1200 CS + CI	EI 120	flexible walls ≥ 100 mm	π x Ø x	1	2 sides	*	49 mm	U/C + C/C		
		polyolefin 10mm	1200 CS + CI	EI 240	rigid walls ≥ 150 mm	π x Ø x	2	2 sides	*	63 mm	U/C + C/C		
max.													
Ø32/54	4,4	-		EI 120	flexible walls ≥ 100 mm	π x Ø x	1	2 sides	*	58 mm	U/C + C/C		
		-		EI 240	rigid walls ≥ 150 mm	π x Ø x	1	2 sides	*	63 mm	U/C + C/C		
		polyolefin 20mm	1200 CS + CI	EI 90	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	102 mm	U/C + C/C		
		polyolefin 10mm	1200 CS + CI	EI 240	rigid walls ≥ 150 mm	π x Ø x	2	2 sides	*	102 mm	U/C + C/C		

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for **rigid walls** ≥100mm!

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥100mm is also applicable for **rigid walls** ≥100mm
- angle: perpendicular + all angles between 90° and 45°
- 'eccentric to zero' position in opening is allowed

principle detail

Firesafe

tested property

fire resistance

test method

EN 1366-3

service no.

21-9r



PE-Xa pipes

Fire Wrap

service type ¹⁾		pipe insulation		 EI	constructive element ²⁾		Firesafe pipe wrap		application		finish	max. opening	pipe end	max. angle	
dØ (mm)	s1 (mm)	min. 28 kg/m ³ eg Uponor					length π x Ø x	no. of layers	1 or 2 sides	required	in construction	configuration			
up to															
Ø15/28	2,5	-		EI 120	flexible walls ≥ 100 mm	π x Ø x	1		2 sides	*	32 mm	U/C + C/C	perpendicular + all angles between 90° and 45°		
		-		EI 240	rigid walls ≥ 150 mm	π x Ø x	1		2 sides	*	32 mm	U/C + C/C			
	polyolefin 10mm	1200 CS + CI	EI 120	flexible walls ≥ 100 mm	π x Ø x	2		2 sides	*	56 mm	U/C + C/C				
	polyolefin 10mm	1200 CS + CI	EI 240	rigid walls ≥ 150 mm	π x Ø x	2		2 sides	*	63 mm	U/C + C/C				
Ø16/25	2,2	-		EI 120	flexible walls ≥ 100 mm	π x Ø x	1		2 sides	*	29 mm	U/C + C/C			
		-		EI 240	rigid walls ≥ 150 mm	π x Ø x	1		2 sides	*	32 mm	U/C + C/C			
	polyolefin 10mm	1200 CS + CI	EI 120	flexible walls ≥ 100 mm	π x Ø x	1		2 sides	*	49 mm	U/C + C/C				
	polyolefin 10mm	1200 CS + CI	EI 240	rigid walls ≥ 150 mm	π x Ø x	2		2 sides	*	63 mm	U/C + C/C				
max.															
Ø32/54	4,4	-		EI 120	flexible walls ≥ 100 mm	π x Ø x	1		2 sides	*	58 mm	U/C + C/C			
		-		EI 240	rigid walls ≥ 150 mm	π x Ø x	1		2 sides	*	63 mm	U/C + C/C			
	polyolefin 20mm	1200 CS + CI	EI 90	flexible walls ≥ 100 mm	π x Ø x	2		2 sides	*	102 mm	U/C + C/C				
	polyolefin 10mm	1200 CS + CI	EI 240	rigid walls ≥ 150 mm	π x Ø x	2		2 sides	*	102 mm	U/C + C/C				

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm!

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45°
- 'eccentric to zero' position in opening is allowed

principle detail

Firesafe

tested property

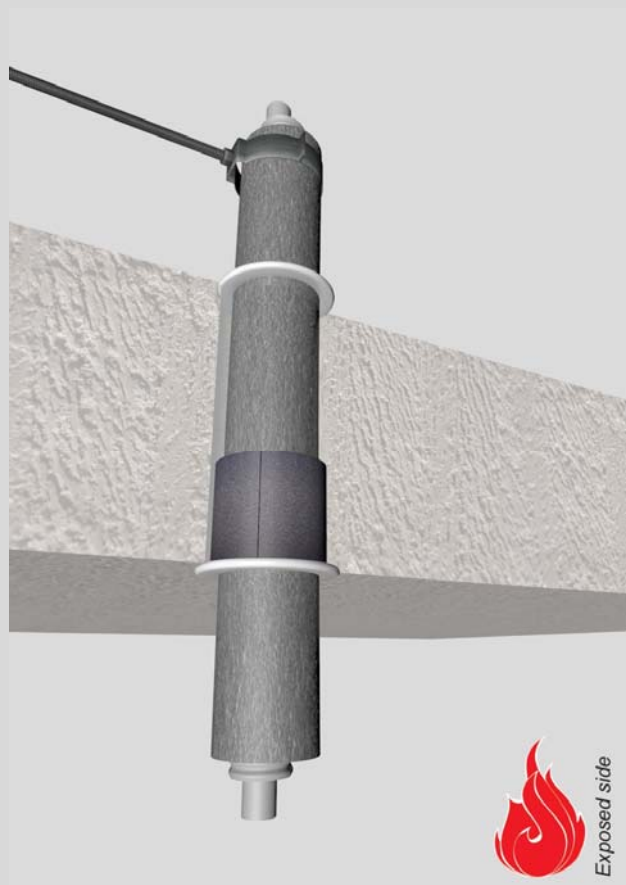
fire resistance

test method

EN 1366-3

service no.

24-38



PE-Xa pipes

Fire Wrap

service type ¹⁾		pipe insulation		 EI	constructive element ²⁾	Firesafe pipe wrap		application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)		min. 28 kg/m ³ eg Uponor			length	no. of layers				configuration	
Ø15/28	2,5	-		EI 240	rigid floors ≥ 150 mm	π x Ø x	1	1 side	*	32 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
		polyolefin 10mm	1200 CS + CI	EI 240	rigid floors ≥ 150 mm	π x Ø x	2	1 side	*	63 mm	U/C + C/C	
Ø16/25	2,2	-		EI 240	rigid floors ≥ 150 mm	π x Ø x	1	1 side	*	32 mm	U/C + C/C	
		polyolefin 10mm	1200 CS + CI	EI 240	rigid floors ≥ 150 mm	π x Ø x	2	1 side	*	63 mm	U/C + C/C	
max.												
Ø32/54	4,4	-		EI 240	rigid floors ≥ 150 mm	π x Ø x	1	1 side	*	63 mm	U/C + C/C	
		polyolefin 20mm	1200 CS + CI	EI 240	rigid floors ≥ 150 mm	π x Ø x	2	1 side	*	102 mm	U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 400mm.

³⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45°
- 'eccentric to zero' position in opening is allowed

principle detail

Firesafe

tested property

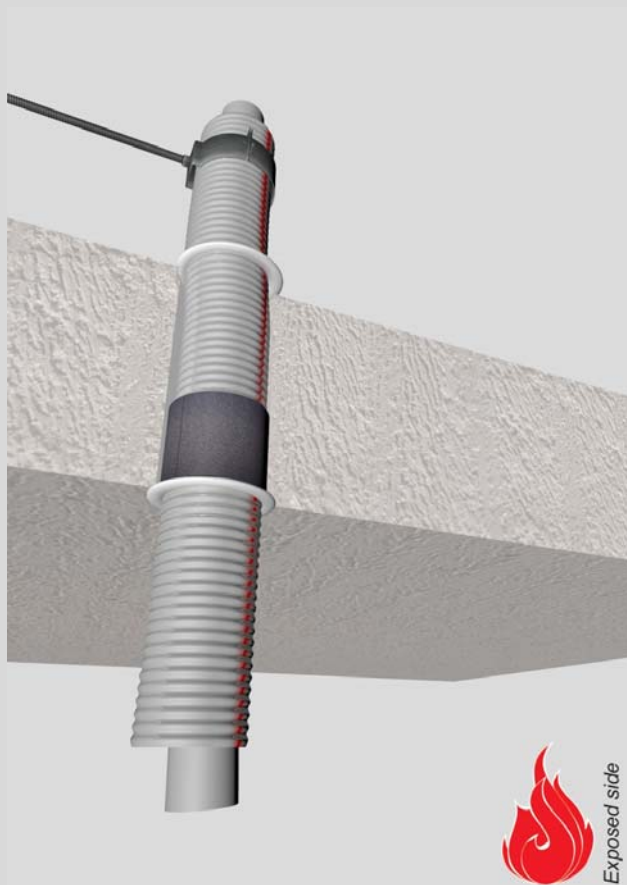
fire resistance

test method

EN 1366-3

service no.

24-37



PE-Xa pipes

Fire Wrap

service type ¹⁾		pipe insulation		 EI	constructive element ²⁾	Firesafe pipe wrap		application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	min. 28 kg/m ³ eg Uponor				length	no. of layers					
Ø15/28	2,5	-		EI 240	rigid floors ≥ 150 mm	π x Ø x	1	1 side	*	32 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
		polyolefin 10mm	1200 CS + CI	EI 240	rigid floors ≥ 150 mm	π x Ø x	2	1 side	*	63 mm	U/C + C/C	
Ø16/25	2,2	-		EI 240	rigid floors ≥ 150 mm	π x Ø x	1	1 side	*	32 mm	U/C + C/C	
		polyolefin 10mm	1200 CS + CI	EI 240	rigid floors ≥ 150 mm	π x Ø x	2	1 side	*	63 mm	U/C + C/C	
max.												
Ø32/54	4,4	-		EI 240	rigid floors ≥ 150 mm	π x Ø x	1	1 side	*	63 mm	U/C + C/C	
		polyolefin 20mm	1200 CS + CI	EI 240	rigid floors ≥ 150 mm	π x Ø x	2	1 side	*	102 mm	U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 400mm.

³⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45°
- 'eccentric to zero' position in opening is allowed

principle detail

Firesafe

tested property

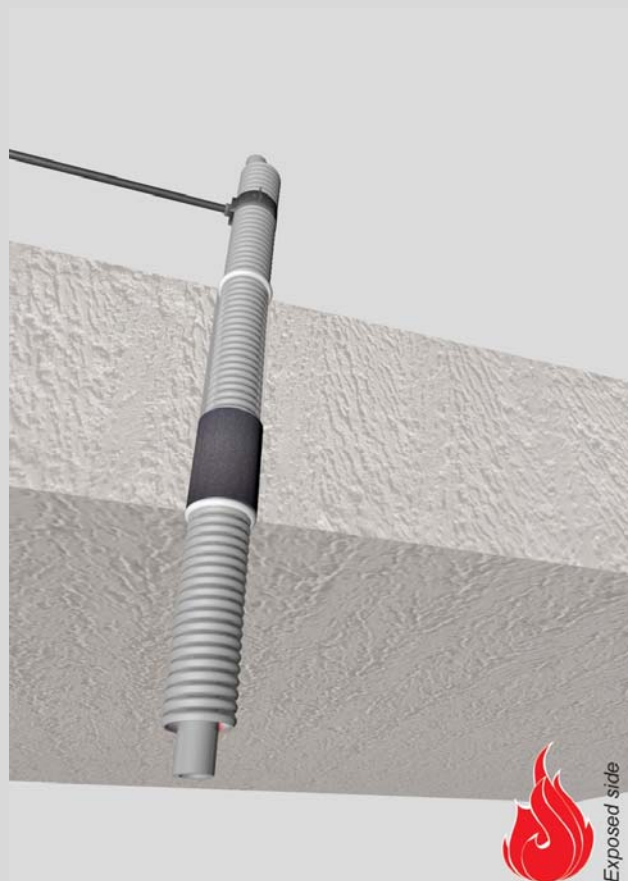
fire resistance

test method

EN 1366-3

service no.

24-35



PE-Xa pipes

Fire Wrap

service type ¹⁾		pipe insulation		 EI	constructive element ²⁾	Firesafe pipe wrap		application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	min. 28 kg/m³ eg Uponor				length	no. of layers					
Ø15/28	2,5	-		EI 240	rigid floors ≥ 150 mm	π x Ø x	1	1 side	*	32 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
		polyolefin 10mm	1200 CS + CI	EI 240	rigid floors ≥ 150 mm	π x Ø x	2	1 side	*	63 mm	U/C + C/C	
Ø16/25	2,2	-		EI 240	rigid floors ≥ 150 mm	π x Ø x	1	1 side	*	32 mm	U/C + C/C	
		polyolefin 10mm	1200 CS + CI	EI 240	rigid floors ≥ 150 mm	π x Ø x	2	1 side	*	63 mm	U/C + C/C	
max.												
Ø32/54	4,4	-		EI 240	rigid floors ≥ 150 mm	π x Ø x	1	1 side	*	63 mm	U/C + C/C	
		polyolefin 20mm	1200 CS + CI	EI 240	rigid floors ≥ 150 mm	π x Ø x	2	1 side	*	102 mm	U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 400mm.

³⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45°
- 'eccentric to zero' position in opening is allowed

principle detail

Firesafe

tested property

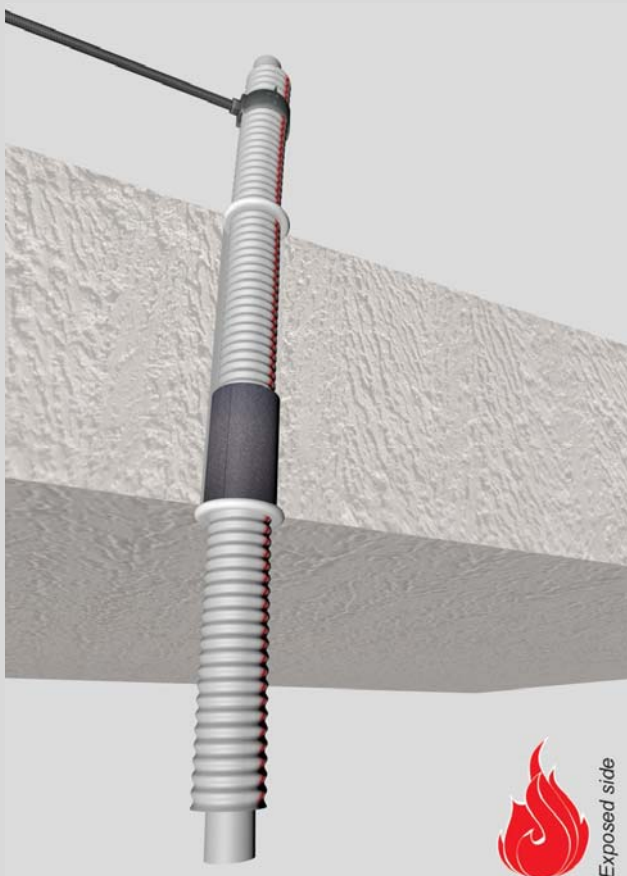
fire resistance

test method

EN 1366-3

service no.

24-36



PE-Xa pipes

Fire Wrap

service type ¹⁾		pipe insulation		 EI	constructive element ²⁾	Firesafe pipe wrap		application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	min. 28 kg/m³ eg Uponor				length	no. of layers					
Ø15/28	2,5	-		EI 240	rigid floors ≥ 150 mm	π x Ø x	1	1 side	*	32 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
		polyolefin 10mm	1200 CS + CI	EI 240	rigid floors ≥ 150 mm	π x Ø x	2	1 side	*	63 mm	U/C + C/C	
Ø16/25	2,2	-		EI 240	rigid floors ≥ 150 mm	π x Ø x	1	1 side	*	32 mm	U/C + C/C	
		polyolefin 10mm	1200 CS + CI	EI 240	rigid floors ≥ 150 mm	π x Ø x	2	1 side	*	63 mm	U/C + C/C	
max.												
Ø32/54	4,4	-		EI 240	rigid floors ≥ 150 mm	π x Ø x	1	1 side	*	63 mm	U/C + C/C	
		polyolefin 20mm	1200 CS + CI	EI 240	rigid floors ≥ 150 mm	π x Ø x	2	1 side	*	102 mm	U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 400mm.

³⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45°
- 'eccentric to zero' position in opening is allowed

principle detail

Firesafe

tested property

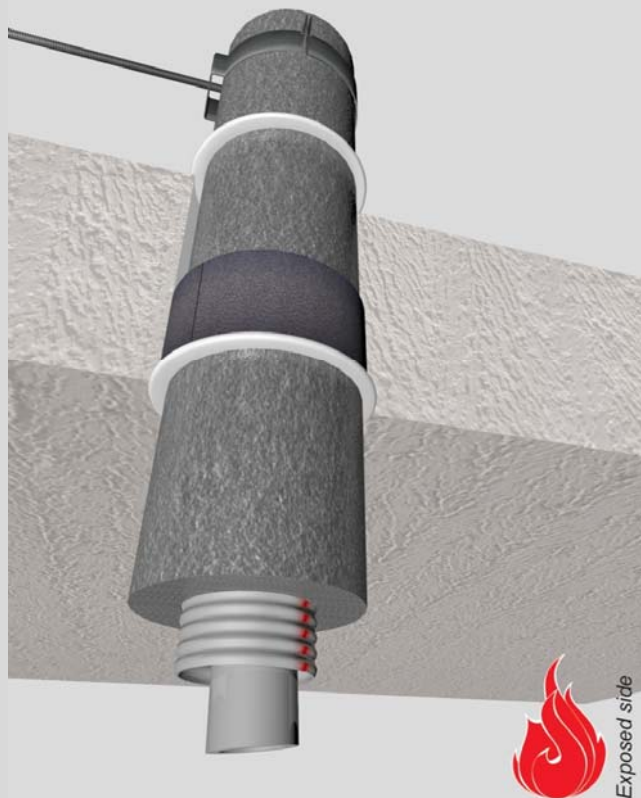
fire resistance

test method

EN 1366-3

service no.

24-40



PE-Xa pipes

Fire Wrap

service type ¹⁾		pipe insulation		 EI	constructive element ²⁾	Firesafe pipe wrap		application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	min. 28 kg/m³ eg Uponor				length	no. of layers					
Ø15/28	2,5	-		EI 240	rigid floors ≥ 150 mm	π x Ø x	1	1 side	*	32 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
		polyolefin 10mm	1200 CS + CI	EI 240	rigid floors ≥ 150 mm	π x Ø x	2	1 side	*	63 mm	U/C + C/C	
Ø16/25	2,2	-		EI 240	rigid floors ≥ 150 mm	π x Ø x	1	1 side	*	32 mm	U/C + C/C	
		polyolefin 10mm	1200 CS + CI	EI 240	rigid floors ≥ 150 mm	π x Ø x	2	1 side	*	63 mm	U/C + C/C	
max.												
Ø32/54	4,4	-		EI 240	rigid floors ≥ 150 mm	π x Ø x	1	1 side	*	63 mm	U/C + C/C	
		polyolefin 20mm	1200 CS + CI	EI 240	rigid floors ≥ 150 mm	π x Ø x	2	1 side	*	102 mm	U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 400mm.

³⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45°
- 'eccentric to zero' position in opening is allowed

principle detail

Firesafe

tested property

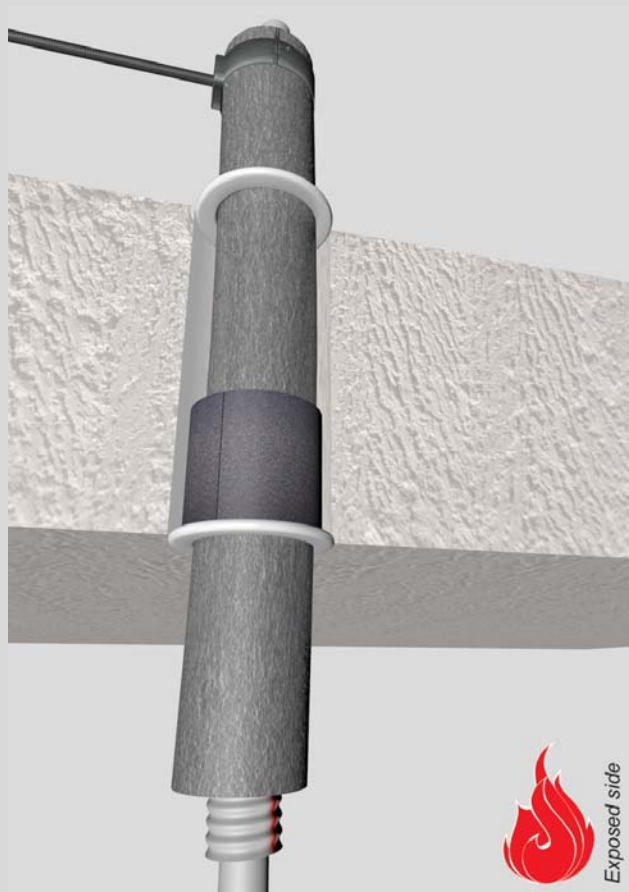
fire resistance

test method

EN 1366-3

service no.

24-39



PE-Xa pipes

Fire Wrap

service type ¹⁾		pipe insulation		 EI	constructive element ²⁾	Firesafe pipe wrap		application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	min. 28 kg/m³ eg Uponor				length	no. of layers					
Ø15/28	2,5	-		EI 240	rigid floors ≥ 150 mm	π x Ø x	1	1 side	*	32 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
		polyolefin 10mm	1200 CS + CI	EI 240	rigid floors ≥ 150 mm	π x Ø x	2	1 side	*	63 mm	U/C + C/C	
Ø16/25	2,2	-		EI 240	rigid floors ≥ 150 mm	π x Ø x	1	1 side	*	32 mm	U/C + C/C	
		polyolefin 10mm	1200 CS + CI	EI 240	rigid floors ≥ 150 mm	π x Ø x	2	1 side	*	63 mm	U/C + C/C	
max.												
Ø32/54	4,4	-		EI 240	rigid floors ≥ 150 mm	π x Ø x	1	1 side	*	63 mm	U/C + C/C	
		polyolefin 20mm	1200 CS + CI	EI 240	rigid floors ≥ 150 mm	π x Ø x	2	1 side	*	102 mm	U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 400mm.

³⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

field of application		fire resistance - EI classification acc. EN 13501-2 / EN 1366-3		Firesafe			
metal pipe penetrations		certification - EAD 350454-00-1104					
COPPER classification ≤ Ø76 mm		suitable Firesafe products within classification:					
Fire performances are valid for range of dØ pipe diameter + s1 pipe thickness within the same pipe material:		FT Graphite DoP CPR-16/0094		FT Acrylic or FT Paste DoP CPR-16/0094		Fire Wrap DoP CPR-15/0339	
copper dØ max. 76 mm s1 max. 14,0 mm pipe insulation brands eg Climpipe, Rockwool, Armaflex, U Protect Pipe Section Alu2							
dØ	s1	pipe insulation		walls	floors	walls	floors
up to Ø28	1,0 up to 1,2	non-insulated		individual results max. EI 180 in wall	individual results max. EI 180 in floor 5	individual results max. EI 120 in wall	individual results max. EI 120 in floor 5
	up to Ø42 + synth. rubber or rock wool (alu) insulation	1,0 up to 14,0	+ pipe insulation				
		+ synth. rubber, min. 60 kg/m³	EI 90 in wall 1+2+3 individual results max. EI 60 in wall 1-n75	individual results max. EI 90 in floor 7	individual results max. EI 120 in wall 3	individual results max. EI 120 in floor 5	individual results max. EI 90 in floor 7
		13mm					
		25mm	EI 90 in wall 1+2+3 individual result: EI 90 in wall 1-n100 individual results max. EI 60 in wall 1-n75				
		+ rock wool (alu), min. 90 kg/m³			individual results max. EI 90 in wall 1-n100 EI 60 in wall 1-n75 EI 120 in wall 3	individual results max. EI 120 in floor 5	
		25mm	EI 60 in wall 1+2+3				
	50mm	EI 90 in wall 1+2+3					
up to Ø76 + glass or rock wool (alu) insulation	1,0 up to 2,1	+ pipe insulation					
		+ glass or rock wool (alu), min. 75 kg/m³	EI 90 in wall 1+2+3	EI 90 in floor 5			EI 90 in wall 1+2 EI 120 in wall 3 2 layer
		20 up to 30mm					EI 120 in floor 5 2 layer
		40mm	EI 90 in wall 1+2+3	EI 90 in floor 5			EI 90 in wall 1+2 EI 120 in wall 3 1 layer
		50mm	EI 90 in wall 1+2+3	EI 90 in floor 5			EI 90 in wall 1+2 EI 120 in wall 3 2 layer
		60mm	EI 90 in wall 3	EI 90 in floor 5			EI 60 in wall 1+2 EI 120 in wall 3 3 layer
	80mm	EI 240 in wall 3	EI 240 in floor 5			EI 60 in wall 1+2 EI 120 in wall 3 3 layer	
		joint details: min. W x D, default: walls: 10 x 25 mm, apply on 2 sides floors: 15 x 25 mm, apply on 2 sides		joint details: min. W x D, default: walls: 10 x 25 mm, apply on 2 sides floors: 15 x 25 mm, apply on 2 sides		default: walls: apply on 2 sides floors: apply on 1 side always apply smoke seal FT Acrylic on 2 sides	
supporting construction		Constructive element must be classified acc. EN 13501-2 for the required fire resistance period: 1: flexible wall ≥100mm, insulated 1-n100: flexible wall ≥100mm, non-insulated 1-n75: flexible wall ≥75mm, non-insulated 2: rigid wall ≥100mm 3: rigid wall ≥150mm 4: flexible ceiling ≥150mm 5: rigid floor ≥150mm 6: CLT wall ≥100mm 7: CLT floor ≥140mm Max. opening in constructive element: see principle detail. Use FT Board if opening is larger; see how-to-read. Penetration services must be supported; support distance walls max. 500mm support distance floors max. 400mm Min. length pipe insulation LI / LS / CS / CI: see principle detail.					
► INDEX		PE + PP + PVC					
plastic cable conduits		PP-R					
PP-MD		PP-MX					
aluPE-X		PE-Xa					
copper		steel					
steel conduits		cast iron					
trays + ladders + wire mesh		cables + bundles					
fire dampers		air transfer grilles					
duct cladding		linear joints					
socket boxes		blank seals					
EN norms for plastic pipes		how-to-read					
acoustical		environmental					

Firesafe FoA d22-1 - page 11

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- other pipe $d\varnothing + s1$ (thickness) are allowed within range and same pipe material
- EI for flexible walls $\geq 100\text{mm}$ is also applicable for **rigid walls** $\geq 100\text{mm}$
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

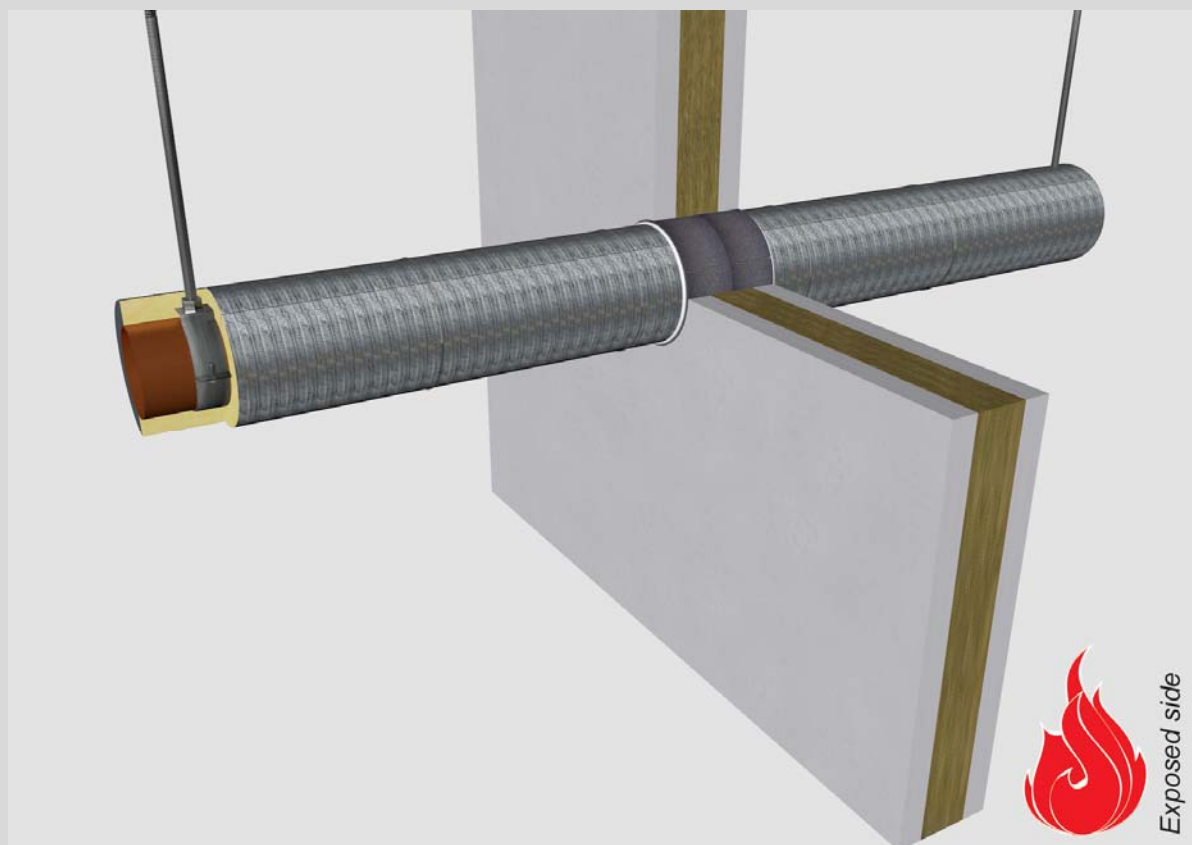
fire resistance

test method

EN 1366-3

service no.

21-13



copper pipes

Fire Wrap

service type ¹⁾

pipe insulation ²⁾

$d\varnothing$ (mm) $s1$ (mm) min. 75 kg/m³ eg Climpipe, Rockwool
or U Protect Pipe Section Alu2



EI

constructive element ³⁾

Firesafe pipe wrap

length

$\pi \times \varnothing \times$ no. of layers

application

1 or 2 sides

finish

required

max. opening

in construction

pipe end

configuration

max. angle

max.

Ø76	2,1	glass / rock wool 20mm	1200 CS + CI	EI 90	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	124 mm	C/U + U/C + CC	perpendicular + all angles between 90° and 45°
			20mm	1200 CS + CI	EI 240	rigid walls ≥ 150 mm	π x Ø x	2	2 sides	*	132 mm	
		30mm	1200 CS + CI	EI 90	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	144 mm	C/U + U/C + CC	
		30mm	1200 CS + CI	EI 120	rigid walls ≥ 150 mm	TT x Ø x	2	2 sides	*	144 mm	U/C + C/C	
		40mm	1200 CS + CI	EI 90	flexible walls ≥ 100 mm	π x Ø x	1	2 sides	*	160 mm	C/U + U/C + CC	
		40mm	1200 CS + CI	EI 120	rigid walls ≥ 150 mm	TT x Ø x	2	2 sides	*	164 mm	U/C + C/C	
		50mm	1200 CS + CI	EI 90	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	184 mm	C/U + U/C + CC	
		50mm	1200 CS + CI	EI 120	rigid walls ≥ 150 mm	TT x Ø x	2	2 sides	*	202 mm	U/C + C/C	
		60mm	1200 CS + CI	EI 90	flexible walls ≥ 100 mm	π x Ø x	3	2 sides	*	208 mm	C/U + U/C + CC	
		60mm	1200 CS + CI	EI 120	rigid walls ≥ 150 mm	TT x Ø x	3	2 sides	*	208 mm	U/C + C/C	
		80mm	1200 CS + CI	EI 90	flexible walls ≥ 100 mm	π x Ø x	3	2 sides	*	248 mm	C/U + U/C + CC	
		80mm	1200 CS + CI	EI 120	rigid walls ≥ 150 mm	TT x Ø x	3	2 sides	*	248 mm	U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance $\leq 500\text{mm}$.

²⁾ Pipe insulation must be fastened individually (not Fire Wrapped!) with steel wire: at max. 50mm + 300mm from constructive element.

³⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls $\geq 100\text{mm}$ is also applicable for **rigid walls** $\geq 100\text{mm}$!

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- other pipe $d\varnothing + s1$ (thickness) are allowed within range and same pipe material
- EI for flexible walls $\geq 100\text{mm}$ is also applicable for **rigid walls** $\geq 100\text{mm}$
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

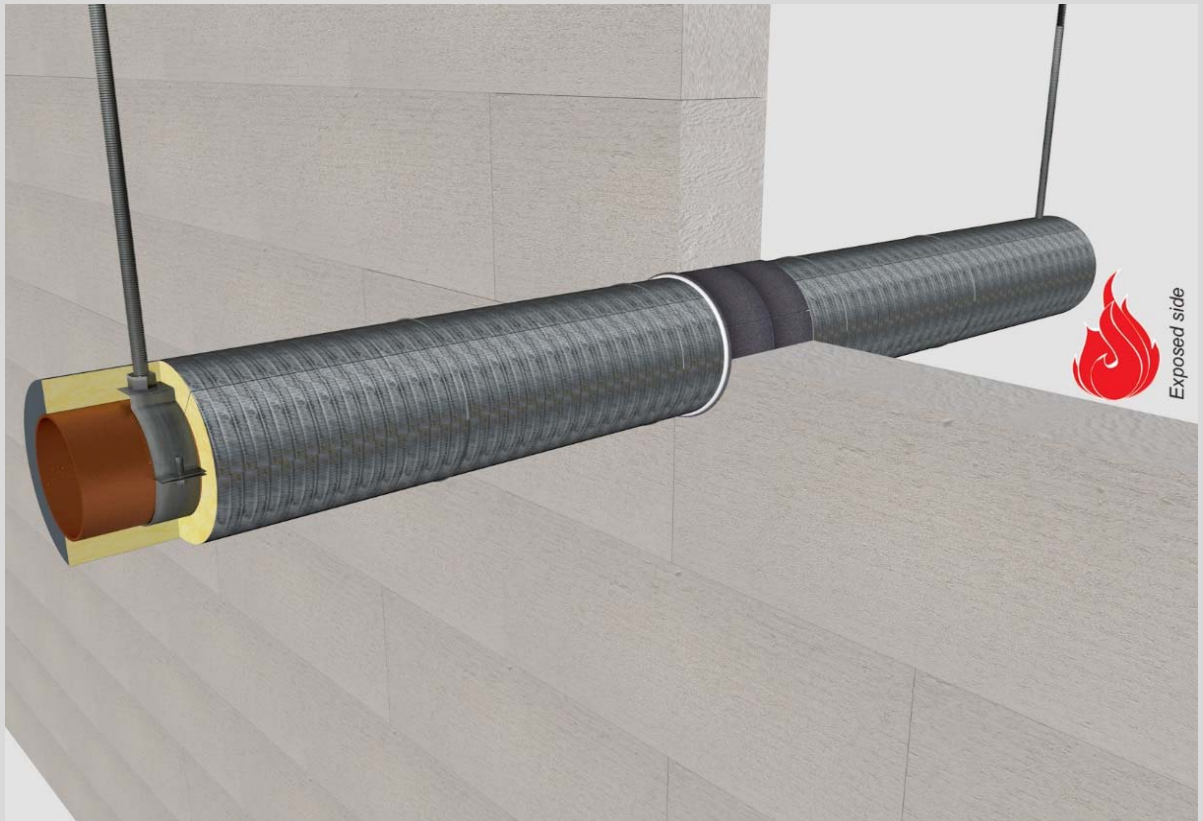
fire resistance

test method

EN 1366-3

service no.

21-13r



copper pipes

Fire Wrap

service type ¹⁾		pipe insulation ²⁾		 EI	constructive element ³⁾	Firesafe pipe wrap		application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	min. 75 kg/m ³ eg Climpipe, Rockwool or U Protect Pipe Section Alu2				length	no. of layers	1 or 2 sides	required	in construction	configuration	
max.												
Ø76	2,1	glass / rock wool 20mm	1200 CS + CI	EI 90	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	124 mm	C/U + U/C + CC	perpendicular + all angles between 90° and 45°
		20mm	1200 CS + CI	EI 240	rigid walls ≥ 150 mm	π x Ø x	2	2 sides	*	132 mm	U/C + CC	
		30mm	1200 CS + CI	EI 90	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	144 mm	C/U + U/C + CC	
		30mm	1200 CS + CI	EI 120	rigid walls ≥ 150 mm	TT x Ø x	2	2 sides	*	144 mm	U/C + C/C	
		40mm	1200 CS + CI	EI 90	flexible walls ≥ 100 mm	π x Ø x	1	2 sides	*	160 mm	C/U + U/C + CC	
		40mm	1200 CS + CI	EI 120	rigid walls ≥ 150 mm	TT x Ø x	2	2 sides	*	164 mm	U/C + C/C	
		50mm	1200 CS + CI	EI 90	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	184 mm	C/U + U/C + CC	
		50mm	1200 CS + CI	EI 120	rigid walls ≥ 150 mm	TT x Ø x	2	2 sides	*	202 mm	U/C + C/C	
		60mm	1200 CS + CI	EI 90	flexible walls ≥ 100 mm	π x Ø x	3	2 sides	*	208 mm	C/U + U/C + CC	
		60mm	1200 CS + CI	EI 120	rigid walls ≥ 150 mm	TT x Ø x	3	2 sides	*	208 mm	U/C + C/C	
		80mm	1200 CS + CI	EI 90	flexible walls ≥ 100 mm	π x Ø x	3	2 sides	*	248 mm	C/U + U/C + CC	
		80mm	1200 CS + CI	EI 120	rigid walls ≥ 150 mm	TT x Ø x	3	2 sides	*	248 mm	U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance $\leq 500\text{mm}$.

²⁾ Pipe insulation must be fastened individually (not Fire Wrapped!) with steel wire: at max. 50mm + 300mm from constructive element.

³⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls $\geq 100\text{mm}$ is also applicable for **rigid walls** $\geq 100\text{mm}$!

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥ 100mm is also applicable for **rigid walls** ≥ 100mm
- angle: perpendicular + all angles between 90° and 45°

principle detail**Firesafe**

tested property

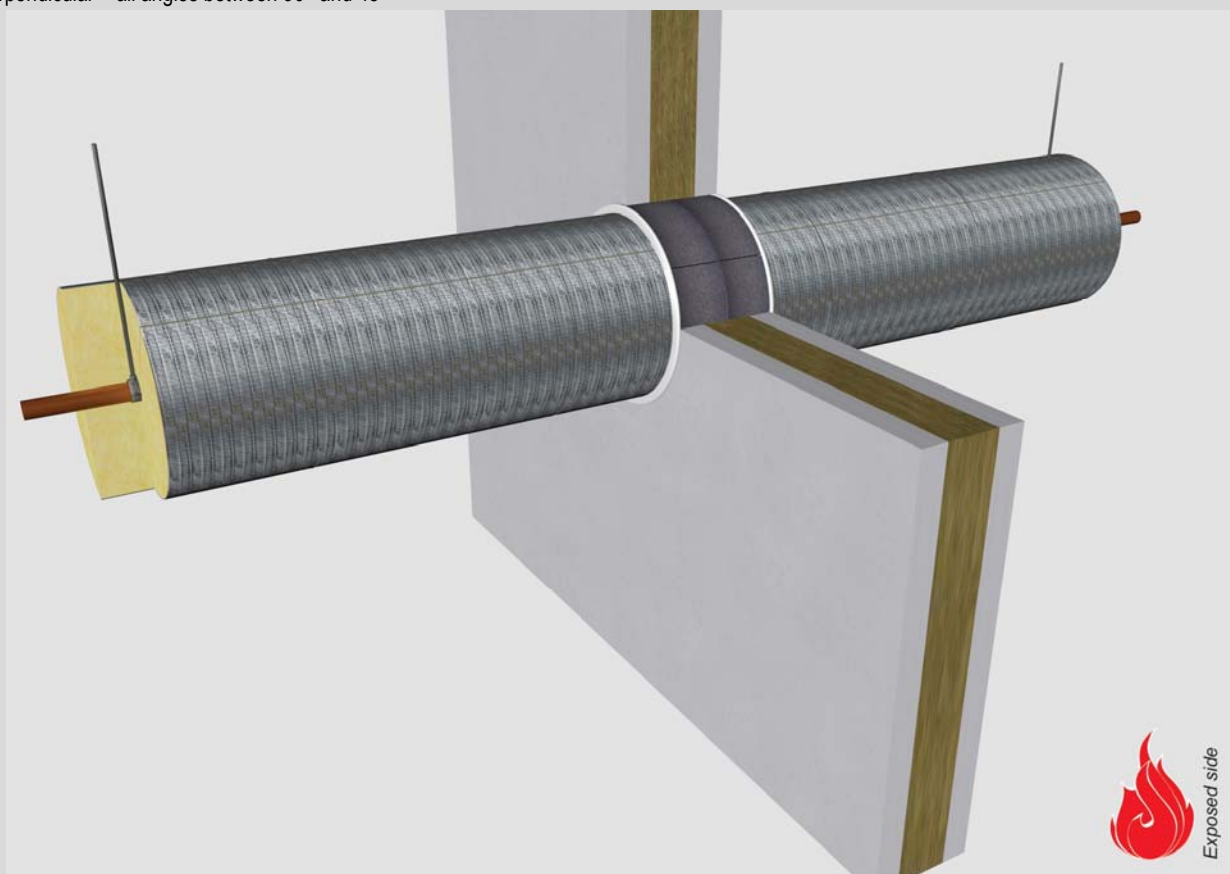
fire resistance

test method

EN 1366-3

service no.

23-5

**copper pipes****Fire Wrap**

service type ¹⁾		pipe insulation ²⁾		 EI	constructive element ³⁾	Firesafe pipe wrap		application	finish required	max. opening in construction	pipe end configuration	max. angle
dØ (mm)	s1 (mm)	min. 75 kg/m³ eg Climpipe, Rockwool or U Protect Pipe Section Alu2				length π x Ø x	no. of layers					
Ø8	1,0	FT Coating	200 LI	EI 90	flexible walls ≥ 100 mm	-	-	2 sides	-	8 mm	C/U + U/C + CC	perpendicular + all angles between 90° and 45°
Ø15	1,0	glass / rock wool 20mm	1200 CS + CI	EI 120	flexible walls ≥ 100 mm	π x Ø x	1	2 sides	*	59 mm	C/U + U/C + CC	
			20mm 1200 CS + CI	EI 240	rigid walls ≥ 150 mm	π x Ø x	2	2 sides	*	63 mm	U/C + CC	
			22mm 1200 CS + CI	EI 180	rigid walls ≥ 150 mm	π x Ø x	1	2 sides	*	63 mm	C/U + U/C + CC	
			30mm 1200 CS + CI	EI 120	flexible walls ≥ 100 mm	π x Ø x	1	2 sides	*	79 mm	C/U + U/C + CC	
			30mm 1200 CS + CI	EI 240	rigid walls ≥ 150 mm	π x Ø x	2	2 sides	*	83 mm	U/C + CC	
			40mm 1200 CS + CI	EI 120	flexible walls ≥ 100 mm	π x Ø x	1	2 sides	*	99 mm	C/U + U/C + CC	
			40mm 1200 CS + CI	EI 240	rigid walls ≥ 150 mm	π x Ø x	2	2 sides	*	103 mm	U/C + CC	
			50mm 1200 CS + CI	EI 120	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	123 mm	C/U + U/C + CC	
Ø22	1,1	glass / rock wool 22mm	1200 CS + CI	EI 180	rigid walls ≥ 150 mm	π x Ø x	1	2 sides	*	86 mm	C/U + U/C + CC	
			30mm 1200 CS + CI	EI 180	rigid walls ≥ 150 mm	π x Ø x	1	2 sides	*	86 mm	C/U + U/C + CC	
			1200 LI + CS + CI	EI 60	flexible walls ≥ 100 mm	TT x Ø x	3	2 sides	*	147 mm	U/C + C/C	
				EI 120	rigid walls ≥ 150 mm	TT x Ø x	3	2 sides	*	147 mm	U/C + C/C	
				EI 60	flexible walls ≥ 100 mm	TT x Ø x	3	2 sides	*	187 mm	U/C + C/C	
				EI 120	rigid walls ≥ 150 mm	TT x Ø x	3	2 sides	*	202 mm	U/C + C/C	
Ø35	1,5	glass / rock wool 22mm	1200 CS + CI	EI 180	rigid walls ≥ 150 mm	π x Ø x	1	2 sides	*	99 mm	C/U + U/C + CC	
			30mm 1200 CS + CI	EI 180	rigid walls ≥ 150 mm	π x Ø x	1	2 sides	*	99 mm	C/U + U/C + CC	

>> continued on page 2

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Pipe insulation must be fastened individually (not Fire Wrapped!) with steel wire: at max. 50mm + 300mm from constructive element.

³⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥ 100mm is also applicable for rigid walls ≥ 100mm!

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥ 100mm is also applicable for **rigid walls** ≥ 100mm
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

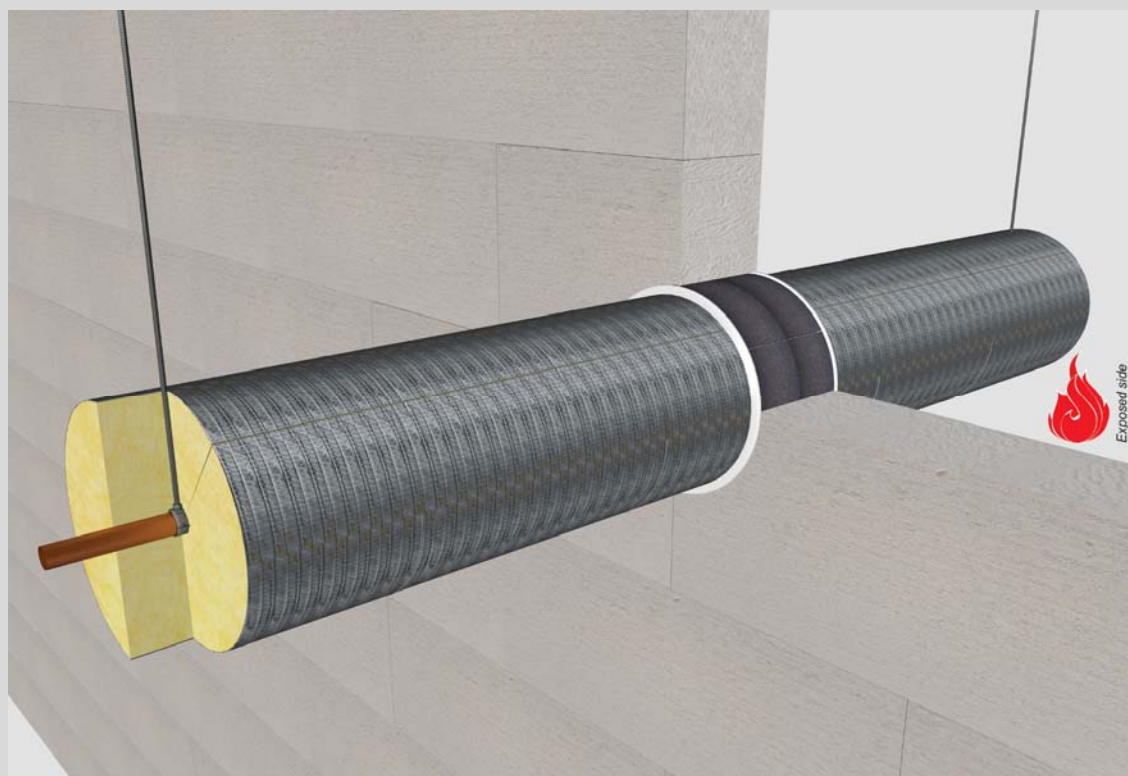
fire resistance

test method

EN 1366-3

service no.

23-5r



copper pipes

Fire Wrap

service type ¹⁾		pipe insulation ²⁾			EI	constructive element ³⁾	Firesafe pipe wrap		application	finish	max. opening	pipe end	max. angle				
dØ (mm)	s1 (mm)	min. 75 kg/m³ eg Climpipe, Rockwool or U Protect Pipe Section Alu2					length	no. of layers						1 or 2 sides	required	in construction	configuration
							π x Ø x										
Ø8	1,0	FT Coating	200 LI	EI 90	flexible walls ≥ 100 mm	-	-	2 sides	-	8 mm	C/U + U/C + CC	perpendicular + all angles between 90° and 45°					
Ø15	1,0	glass / rock wool 20mm	1200 CS + CI	EI 120	flexible walls ≥ 100 mm	π x Ø x	1	2 sides	*	59 mm	C/U + U/C + CC						
			20mm 1200 CS + CI	EI 240	rigid walls ≥ 150 mm	π x Ø x	2	2 sides	*	63 mm	U/C + CC						
			22mm 1200 CS + CI	EI 180	rigid walls ≥ 150 mm	π x Ø x	1	2 sides	*	63 mm	C/U + U/C + CC						
			30mm 1200 CS + CI	EI 120	flexible walls ≥ 100 mm	π x Ø x	1	2 sides	*	79 mm	C/U + U/C + CC						
			30mm 1200 CS + CI	EI 240	rigid walls ≥ 150 mm	π x Ø x	2	2 sides	*	83 mm	U/C + CC						
			40mm 1200 CS + CI	EI 120	flexible walls ≥ 100 mm	π x Ø x	1	2 sides	*	99 mm	C/U + U/C + CC						
			40mm 1200 CS + CI	EI 240	rigid walls ≥ 150 mm	π x Ø x	2	2 sides	*	103 mm	U/C + CC						
			50mm 1200 CS + CI	EI 120	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	123 mm	C/U + U/C + CC						
			50mm 1200 CS + CI	EI 240	rigid walls ≥ 150 mm	π x Ø x	2	2 sides	*	123 mm	U/C + CC						
			60mm 1200 LI + CS + CI	EI 60	flexible walls ≥ 100 mm	TT x Ø x	3	2 sides	*	147 mm	U/C + C/C						
			60mm 1200 CS + CI	EI 120	rigid walls ≥ 150 mm	TT x Ø x	3	2 sides	*	147 mm	U/C + C/C						
			80mm 1200 LI + CS + CI	EI 60	flexible walls ≥ 100 mm	TT x Ø x	3	2 sides	*	187 mm	U/C + C/C						
			80mm 1200 CS + CI	EI 120	rigid walls ≥ 150 mm	TT x Ø x	3	2 sides	*	202 mm	U/C + C/C						
Ø22	1,1	glass / rock wool 22mm	1200 CS + CI	EI 180	rigid walls ≥ 150 mm	π x Ø x	1	2 sides	*	86 mm	C/U + U/C + CC						
		30mm	1200 CS + CI	EI 180	rigid walls ≥ 150 mm	π x Ø x	1	2 sides	*	86 mm	C/U + U/C + CC						
Ø35	1,5	glass / rock wool 22mm	1200 CS + CI	EI 180	rigid walls ≥ 150 mm	π x Ø x	1	2 sides	*	99 mm	C/U + U/C + CC						
		30mm	1200 CS + CI	EI 180	rigid walls ≥ 150 mm	π x Ø x	1	2 sides	*	99 mm	C/U + U/C + CC						

>> continued on page 2

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Pipe insulation must be fastened individually (not Fire Wrapped!) with steel wire: at max. 50mm + 300mm from constructive element.

³⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥ 100mm is also applicable for rigid walls ≥ 100mm!

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45°

principle detail**Firesafe****tested property**

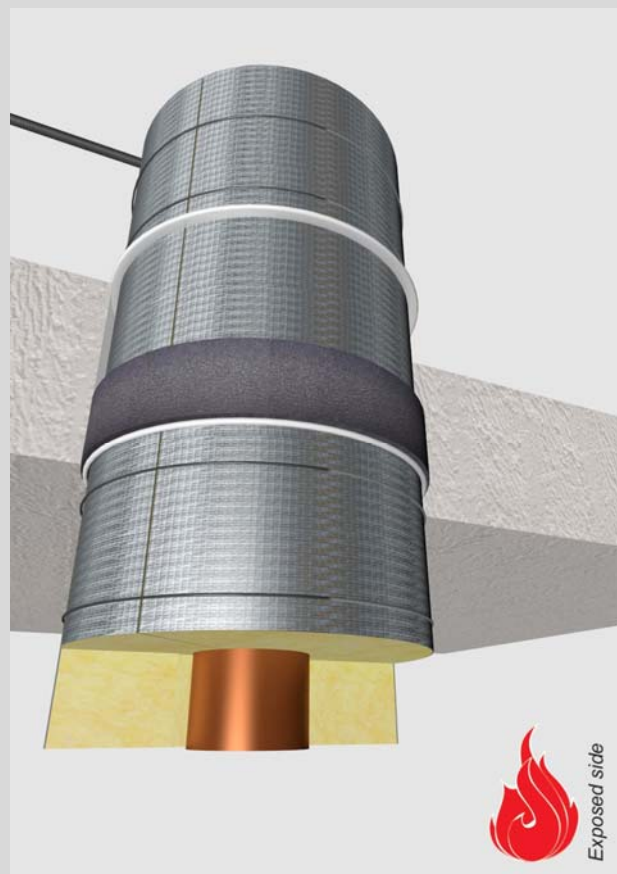
fire resistance

test method

EN 1366-3

service no.

22-7

**copper pipes****Fire Wrap**

service type ¹⁾		pipe insulation ²⁾		 EI	constructive element ³⁾	Firesafe pipe wrap		application	finish	max. opening	pipe end	max. angle	
dØ (mm)	s1 (mm)	min. 75 kg/m ³ eg Climpipe, Rockwool or U Protect Pipe Section Alu2				length π x Ø x	no. of layers						1 or 2 sides
Ø15	1,0	glass / rock wool 20mm	1200 CS + CI	EI 240	rigid floors ≥ 150 mm	TT x Ø x	2	1 side	*	63 mm	U/C + C/C	perpendicular + angles between and 45°	
			22mm	1200 CS + CI	EI 180	rigid floors ≥ 150 mm	π x Ø x	1	1 side	*	63 mm		C/U + U/C + C/C
			30mm	1200 CS + CI	EI 240	rigid floors ≥ 150 mm	TT x Ø x	2	1 side	*	83 mm		U/C + C/C
			30mm	1200 CS + CI	EI 180	rigid floors ≥ 150 mm	π x Ø x	1	1 side	*	63 mm		C/U + U/C + C/C
			40mm	1200 CS + CI	EI 240	rigid floors ≥ 150 mm	TT x Ø x	2	1 side	*	103 mm		U/C + C/C
			50mm	1200 CS + CI	EI 240	rigid floors ≥ 150 mm	TT x Ø x	2	1 side	*	123 mm		U/C + C/C
			60mm	1200 CS + CI	EI 120	rigid floors ≥ 150 mm	TT x Ø x	3	1 side	*	147 mm		U/C + C/C
			80mm	1200 CS + CI	EI 120	rigid floors ≥ 150 mm	TT x Ø x	3	1 side	*	202 mm		U/C + C/C
Ø22	1,1	glass / rock wool 22mm	1200 CS + CI	EI 180	rigid floors ≥ 150 mm	π x Ø x	1	1 side	*	86 mm	C/U + U/C + C/C		
			30mm	1200 CS + CI	EI 180	rigid floors ≥ 150 mm	π x Ø x	1	1 side	*	86 mm		C/U + U/C + C/C
Ø35	1,5	glass / rock wool 22mm	1200 CS + CI	EI 180	rigid floors ≥ 150 mm	π x Ø x	1	1 side	*	99 mm	C/U + U/C + C/C		
			30mm	1200 CS + CI	EI 180	rigid floors ≥ 150 mm	π x Ø x	1	1 side	*	99 mm		C/U + U/C + C/C
max.													
Ø76	2,1	glass / rock wool 20mm	1200 CS + CI	EI 240	rigid floors ≥ 150 mm	TT x Ø x	2	1 side	*	132 mm	U/C + C/C		
			30mm	1200 CS + CI	EI 120	rigid floors ≥ 150 mm	TT x Ø x	2	1 side	*	144 mm		U/C + C/C
			40mm	1200 CS + CI	EI 120	rigid floors ≥ 150 mm	TT x Ø x	2	1 side	*	164 mm		U/C + C/C
			50mm	1200 CS + CI	EI 120	rigid floors ≥ 150 mm	TT x Ø x	2	1 side	*	202 mm		U/C + C/C
			60mm	1200 CS + CI	EI 120	rigid floors ≥ 150 mm	TT x Ø x	3	1 side	*	208 mm		U/C + C/C
			80mm	1200 CS + CI	EI 120	rigid floors ≥ 150 mm	TT x Ø x	3	1 side	*	248 mm		U/C + C/C

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 400mm.

²⁾ Pipe insulation must be fastened individually (not Fire Wrapped!) with steel wire: at max. 50mm + 300mm from constructive element.

³⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

- Notes:**
- installation instructions in TDS
 - apply smoke seal Firesafe FT Acrylic on 2 sides
 - other pipe dØ + s1 (thickness) are allowed within range and same pipe material
 - angle: perpendicular + all angles between 90° and 45°

principle detail		Firesafe
tested property	fire resistance	
test method	EN 1366-3	
service no.	28-10	



copper pipes

Fire Wrap

Firesafe pipe wrap

length

π x Ø x

no. of layers

service type ¹⁾		pipe insulation	 EI	constructive element ²⁾	Fire Wrap		application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	min. 60 kg/m ³ eg Armaflex			length	no. of layers	1 or 2 sides	required	in construction	configuration	
Ø12	1,0	synth. rubber 13mm 700 LS + LI + CS + CI	EI 90	CLT floors ≥ 140 mm	π x Ø x	2	1 side	*	48 mm	C/U + U/C + C/C	perpendicular + all angles between 90° and 45°

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 400mm.
²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

STEEL classification ≤ Ø219 mm

Fire performances are valid for range of dØ pipe diameter + s1 pipe thickness within the same pipe material:

steel

dØ max. 219,1 mm

s1 max. 14,2 mm

pipe insulation brands eg Climpipe, Rockwool, Armaflex, U Protect Pipe Section Alu2

dØ

s1

pipe insulation

1,0 up to 4,5 mm

Ø12 up to Ø219 mm

non-insulated

1,0 up to 14,2 mm

Ø15 up to Ø219 mm

+ pipe insulation

+ synth. rubber, min. 60 kg/m³

10mm

13mm

25mm

1,0 up to 14,2 mm

Ø15 up to Ø219 mm

+ pipe insulation

+ glass or rock wool (alu), min. 75 kg/m³

20 up to 30mm

40mm

50mm

60mm

80mm

1,0 up to 14,2 mm

Ø15 up to Ø219 mm

+ pipe insulation

+ rock wool (alu), min. 90 kg/m³

25mm

50mm

3,25 up to 14,2 mm

Ø42 up to Ø219 mm

+ pipe insulation

+ PIR, min. 33 kg/m³

25mm

50mm

steel Ø12 up to Ø219

suitable Firesafe products within classification:

FT Graphite

DoP CPR-16/0094

walls

individual results max.

EI 120 in wall

floors

individual results max.

EI 120 in floor 5

EI 90 in wall 1+2+3

EI 90 in floor 5

EI 120 in wall 1+2+3

EI 60 in floor 5

EI 90 in floor 7

individual results max.

EI 90 in wall 1-n100

EI 60 in wall 1-n75

EI 60 in wall 1+2+3

EI 60 in wall 1-n100

individual results max.

EI 60 in wall 1-n75

EI 60 in wall 1+2+3

EI 90 in floor 5

EI 60 in wall 1+2+3

EI 90 in floor 5

EI 90 in wall 1+2+3

EI 90 in floor 5

EI 90 in wall 1+2+3

EI 90 in floor 5

EI 90 in wall 1+2+3

EI 180 in floor 5

EI 60 in wall 1+2+3

EI 90 in wall 1+2+3

EI 60 in wall 1+2+3

EI 180 in floor 5

EI 60 in wall 1+2+3

EI 90 in floor 5

joint details: min. W x D, default:
walls: 10 x 25 mm, apply on 2 sides
floors: 15 x 25 mm, apply on 2 sides

FT Acrylic or FT Paste

DoP CPR-16/0094

walls

individual results max.

EI 180 in wall

floors

individual results max.

EI 180 in floor 5

individual results max.

EI 120 in wall 3

individual results max.

EI 120 in floor 5

EI 120 in wall 3

EI 60 in wall 1-n100

individual results max.

EI 30 in wall 1-n75

individual results max.

EI 90 in wall 1-n100

joint details: min. W x D, default:
walls: 10 x 25 mm, apply on 2 sides
floors: 15 x 25 mm, apply on 2 sides

Fire Wrap

DoP CPR-15/0339

walls

individual results max.

EI 60 in wall 1+2+3

1 layer

floors

individual results max.

EI 90 in floor 5

2 layer

EI 60 in wall 1+2+3

EI 90 in floor 5

EI 90 in wall 1+2+3

EI 90 in floor 5

2 layer

EI 120 in wall 1+2+3

EI 120 in floor 5

2 layer

EI 60 in wall 1+2+3

EI 120 in floor 5

3 layer

EI 60 in wall 1+2+3

EI 120 in floor 5

3 layer

default:
walls: apply on 2 sides
floors: apply on 1 side
always apply smoke seal FT Acrylic on 2 sides

supporting construction

Constructive element must be classified acc. EN 13501-2 for the required fire resistance period:

1: flexible wall ≥100mm, insulated

1-n100: flexible wall ≥100mm, non-insulated

1-n75: flexible wall ≥75mm, non-insulated

2: rigid wall ≥100mm

3: rigid wall ≥150mm

4: flexible ceiling ≥150mm

5: rigid floor ≥150mm

6: CLT wall ≥100mm

7: CLT floor ≥140mm

Max. opening in constructive element: see principle detail. Use FT Board if opening is larger; see how-to-read.

Penetration services must be supported; support distance walls max. 500mm
support distance floors max. 400mm

Min. length pipe insulation LI / LS / CS / CI: see principle detail.

NOTE:
CONDUITS: see STEEL CONDUITS
SPIRAL pipes: see AIR CONTROL

EN norms for plastic pipes

how-to-read

acoustical

Fire safe dØ22-1 - page 12

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥100mm is also applicable for **rigid walls** ≥100mm
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

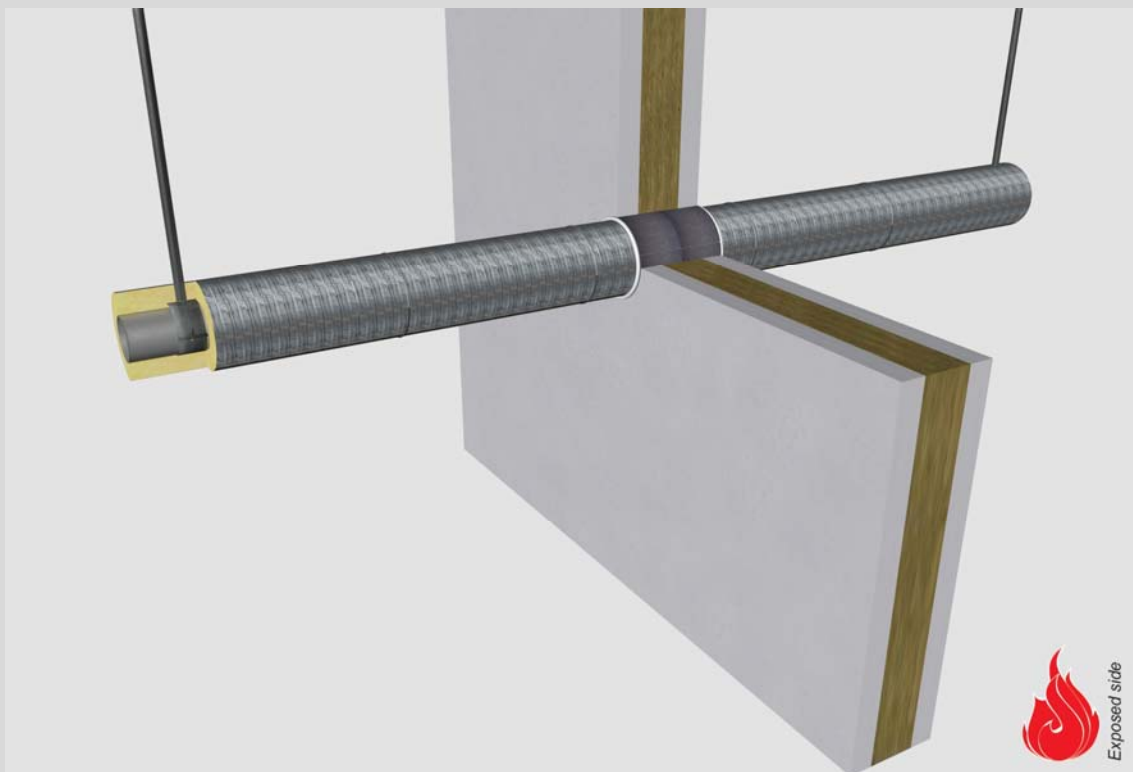
test method

service no.

fire resistance

EN 1366-3

21-19



steel pipes

Fire Wrap

service type ¹⁾		pipe insulation ²⁾		EI	constructive element ³⁾	Firesafe pipe wrap		application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	min. 75 kg/m ³ eg Climpipe, Rockwool or U Protect Pipe Section Alu2				length π x Ø x	no. of layers	1 or 2 sides	required	in construction	configuration	
Ø8	1,0	FT Coating	200 LI	EI 90	flexible walls ≥ 100 mm	-	-	2 sides	-	8 mm	C/U + U/C + CC	perpendicular + all angles between 90° and 45°
Ø15	1,0	glass / rock wool 20mm	1200 CS + CI	EI 120	flexible walls ≥ 100 mm	π x Ø x	1	2 sides	*	59 mm	C/U + U/C + CC	
		20mm	1200 CS + CI	EI 240	rigid walls ≥ 150 mm	TT x Ø x	2	2 sides	*	63 mm	U/C + C/C	
		22mm	1200 CS + CI	EI 180	rigid walls ≥ 150 mm	π x Ø x	1	2 sides	*	63 mm	C/U + U/C + CC	
		30mm	1200 CS + CI	EI 120	flexible walls ≥ 100 mm	π x Ø x	1	2 sides	*	79 mm	C/U + U/C + CC	
		30mm	1200 CS + CI	EI 240	rigid walls ≥ 150 mm	π x Ø x	2	2 sides	*	83 mm	U/C + C/C	
		40mm	1200 CS + CI	EI 120	flexible walls ≥ 100 mm	π x Ø x	1	2 sides	*	99 mm	C/U + U/C + CC	
		40mm	1200 CS + CI	EI 240	rigid walls ≥ 150 mm	TT x Ø x	2	2 sides	*	103 mm	U/C + C/C	
		50mm	1200 CS + CI	EI 120	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	123 mm	C/U + U/C + CC	
		50mm	1200 CS + CI	EI 240	rigid walls ≥ 150 mm	TT x Ø x	2	2 sides	*	123 mm	U/C + C/C	
		60mm 200 LI + CS + CI	EI 60	flexible walls ≥ 100 mm	TT x Ø x	3	2 sides	*	*	147 mm	U/C + C/C	
		60mm	1200 CS + CI	EI 120	rigid walls ≥ 150 mm	TT x Ø x	3	2 sides	*	147 mm	U/C + C/C	
		80mm 200 LI + CS + CI	EI 60	flexible walls ≥ 100 mm	TT x Ø x	3	2 sides	*	*	187 mm	U/C + C/C	
		80mm	1200 CS + CI	EI 120	rigid walls ≥ 150 mm	TT x Ø x	3	2 sides	*	202 mm	U/C + C/C	
Ø22	1,1	glass / rock wool 22mm	1200 CS + CI	EI 180	rigid walls ≥ 150 mm	π x Ø x	1	2 sides	*	86 mm	C/U + U/C + CC	
		30mm	1200 CS + CI	EI 180	rigid walls ≥ 150 mm	π x Ø x	1	2 sides	*	86 mm	C/U + U/C + CC	
Ø35	1,5	glass / rock wool 22mm	1200 CS + CI	EI 180	rigid walls ≥ 150 mm	π x Ø x	1	2 sides	*	99 mm	C/U + U/C + CC	
		30mm	1200 CS + CI	EI 180	rigid walls ≥ 150 mm	π x Ø x	1	2 sides	*	99 mm	C/U + U/C + CC	
Ø42,2	3,25	glass / rock wool 20mm	1200 CS + CI	EI 120	flexible walls ≥ 100 mm	π x Ø x	1	2 sides	*	86 mm	C/U + U/C + CC	
		20mm	1200 CS + CI	EI 240	rigid walls ≥ 150 mm	TT x Ø x	2	2 sides	*	102 mm	C/U + U/C + C/C	
		30mm	1200 CS + CI	EI 90	flexible walls ≥ 100 mm	π x Ø x	1	2 sides	*	106 mm	C/U + U/C + CC	
		30mm	1200 CS + CI	EI 240	rigid walls ≥ 150 mm	TT x Ø x	2	2 sides	*	110 mm	C/U + U/C + C/C	
		40mm	1200 CS + CI	EI 90	flexible walls ≥ 100 mm	π x Ø x	1	2 sides	*	126 mm	C/U + U/C + CC	
		40mm	1200 CS + CI	EI 240	rigid walls ≥ 150 mm	TT x Ø x	2	2 sides	*	130mm	C/U + U/C + C/C	

>> continued on page 2

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

* smoke seal FT Acrylic on 2 sides

²⁾ Pipe insulation must be fastened individually (not wrapped!) with steel wire; at max. 50mm + 300mm from constructive element.

³⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm!

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- EI for flexible walls ≥100mm is also applicable for **rigid walls** ≥100mm
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

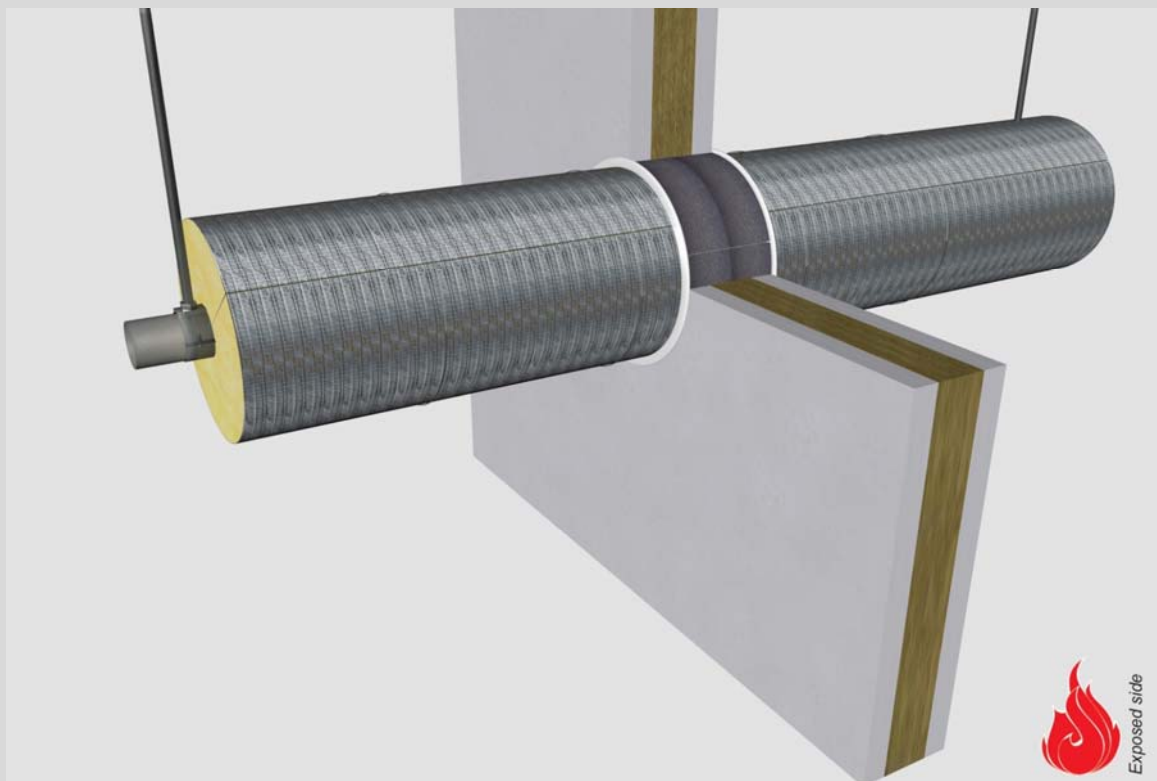
fire resistance

test method

EN 1366-3

service no.

23-1



steel pipes

Fire Wrap

service type ¹⁾		pipe insulation ²⁾		 EI		constructive element ³⁾		Firesafe pipe wrap		application		finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	min. 75 kg/m ³ eg Climpipe, Rockwool or U Protect Pipe Section Alu2						length π x Ø x	no. of layers	1 or 2 sides	required	in construction	configuration		
Ø42,2	3,25	glass / rock wool	50mm	1200 CS + CI	EI 120	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	150 mm	C/U + U/C + CC	perpendicular + all angles between 90° and 45°		
			50mm	1200 CS + CI	EI 240	rigid walls ≥ 150 mm	TT x Ø x	2	2 sides	*	150 mm	C/U + U/C + C/C			
		60mm	1200 CS + CI	EI 60	flexible walls ≥ 100 mm	π x Ø x	3	2 sides	*	174 mm	C/U + U/C + CC				
			60mm	1200 CS + CI	EI 180	rigid walls ≥ 150 mm	TT x Ø x	3	2 sides	*	174 mm	C/U + U/C + C/C			
		80mm	200 LI + CS + CI	EI 60	flexible walls ≥ 100 mm	π x Ø x	3	2 sides	*	214 mm	C/U + U/C + CC				
		80mm	1200 CS + CI	EI 180	rigid walls ≥ 150 mm	TT x Ø x	3	2 sides	*	220 mm	C/U + U/C + C/C				
Ø76	2,1	glass / rock wool	20mm	1200 CS + CI	EI 90	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	124 mm	C/U + U/C + CC			
			20mm	1200 CS + CI	EI 240	rigid walls ≥ 150 mm	TT x Ø x	2	2 sides	*	132 mm	U/C + C/C			
		30mm	1200 CS + CI	EI 90	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	144 mm	C/U + U/C + CC				
			30mm	1200 CS + CI	EI 120	rigid walls ≥ 150 mm	TT x Ø x	2	2 sides	*	144 mm	U/C + C/C			
		40mm	1200 CS + CI	EI 90	flexible walls ≥ 100 mm	π x Ø x	1	2 sides	*	160 mm	C/U + U/C + CC				
			40mm	1200 CS + CI	EI 120	rigid walls ≥ 150 mm	TT x Ø x	2	2 sides	*	164 mm	U/C + C/C			
		50mm	1200 CS + CI	EI 90	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	184 mm	C/U + U/C + CC				
			50mm	1200 CS + CI	EI 120	rigid walls ≥ 150 mm	TT x Ø x	2	2 sides	*	202 mm	U/C + C/C			
		60mm	1200 CS + CI	EI 90	flexible walls ≥ 100 mm	π x Ø x	3	2 sides	*	208 mm	C/U + U/C + CC				
			60mm	1200 CS + CI	EI 120	rigid walls ≥ 150 mm	TT x Ø x	3	2 sides	*	208 mm	U/C + C/C			
		80mm	1200 CS + CI	EI 90	flexible walls ≥ 100 mm	π x Ø x	3	2 sides	*	248 mm	C/U + U/C + CC				
			80mm	1200 CS + CI	EI 120	rigid walls ≥ 150 mm	TT x Ø x	3	2 sides	*	248 mm	U/C + C/C			
max.															
Ø219,1	4,5	glass / rock wool	20mm	1200 CS + CI	EI 60	flexible walls ≥ 100 mm	π x Ø x	1	2 sides	*	263 mm	C/U + U/C + CC			
			30mm	1200 CS + CI	EI 60	flexible walls ≥ 100 mm	π x Ø x	1	2 sides	*	283 mm	C/U + U/C + CC			
			40mm	1200 CS + CI	EI 120	flexible walls ≥ 100 mm	π x Ø x	1	2 sides	*	303 mm	C/U + U/C + CC			
			50mm	1200 CS + CI	EI 120	flexible walls ≥ 100 mm	π x Ø x	2	2 sides	*	327 mm	C/U + U/C + CC			
			60mm	1200 CS + CI	EI 90	flexible walls ≥ 100 mm	π x Ø x	3	2 sides	*	351 mm	C/U + U/C + CC			
			80mm	1200 CS + CI	EI 90	flexible walls ≥ 100 mm	π x Ø x	3	2 sides	*	391 mm	C/U + U/C + CC			

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm.

²⁾ Pipe insulation must be fastened individually (not wrapped!) with steel wire; at max. 50mm + 300mm from constructive element.

³⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm!

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

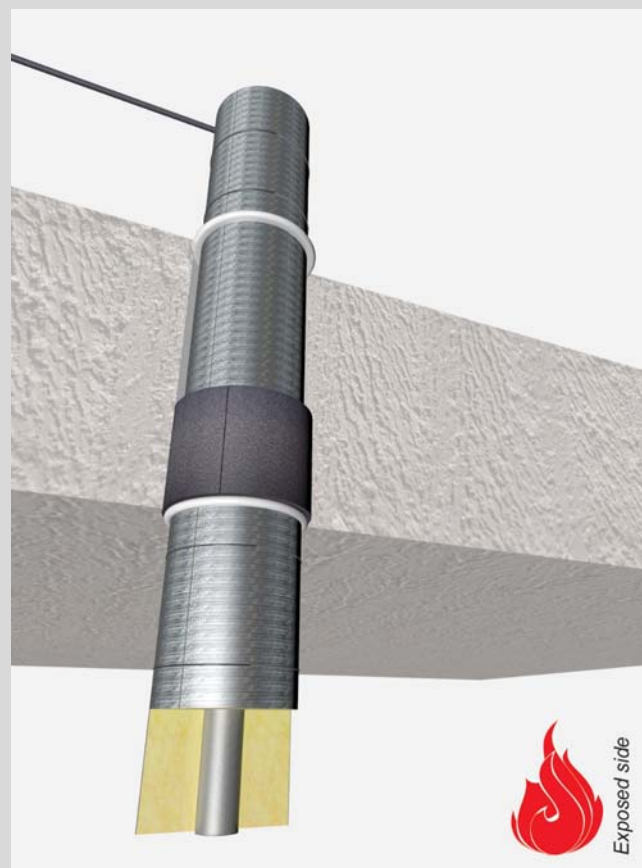
test method

service no.

fire resistance

EN 1366-3

22-23



steel pipes

Fire Wrap

service type ¹⁾		pipe insulation ²⁾		 EI	constructive element ³⁾	Firesafe pipe wrap		application	finish	max. opening	pipe end	max. angle	
dØ (mm)	s1 (mm)	min. 75 kg/m ³ eg Climpipe, Rockwool or U Protect Pipe Section Alu2				length TT x Ø x	no. of layers	1 or 2 sides	required	in construction	configuration		
Ø15	1,0	glass / rock wool 20mm	1200 CS + CI	EI 240	rigid floors ≥ 150 mm	TT x Ø x	2	1 side	*	63 mm	U/C + C/C	perpendicular + all angles between 90° and 45°	
			22mm	1200 CS + CI	EI 180	rigid floors ≥ 150 mm	TT x Ø x	1	1 side	*	63 mm		C/U + U/C + C/C
			30mm	1200 CS + CI	EI 240	rigid floors ≥ 150 mm	TT x Ø x	2	1 side	*	83 mm		U/C + C/C
			30mm	1200 CS + CI	EI 180	rigid floors ≥ 150 mm	TT x Ø x	1	1 side	*	63 mm		C/U + U/C + C/C
			40mm	1200 CS + CI	EI 240	rigid floors ≥ 150 mm	TT x Ø x	2	1 side	*	103 mm		U/C + C/C
			50mm	1200 CS + CI	EI 240	rigid floors ≥ 150 mm	TT x Ø x	2	1 side	*	123 mm		U/C + C/C
			60mm	1200 CS + CI	EI 120	rigid floors ≥ 150 mm	TT x Ø x	3	1 side	*	147 mm		U/C + C/C
			80mm	1200 CS + CI	EI 120	rigid floors ≥ 150 mm	TT x Ø x	3	1 side	*	202 mm		U/C + C/C
	Ø22	1,1	glass / rock wool 22mm	1200 CS + CI	EI 180	rigid floors ≥ 150 mm	TT x Ø x	1	1 side	*	86 mm		C/U + U/C + C/C
				30mm	1200 CS + CI	EI 180	rigid floors ≥ 150 mm	TT x Ø x	1	1 side	*		86 mm
	Ø35	1,5	glass / rock wool 22mm	1200 CS + CI	EI 180	rigid floors ≥ 150 mm	TT x Ø x	1	1 side	*	99 mm		C/U + U/C + C/C
				30mm	1200 CS + CI	EI 180	rigid floors ≥ 150 mm	TT x Ø x	1	1 side	*		99 mm
	Ø42,2	3,25	glass / rock wool 20mm	1200 CS + CI	EI 240	rigid floors ≥ 150 mm	TT x Ø x	2	1 side	*	102 mm		C/U + U/C + C/C
				30mm	1200 CS + CI	EI 240	rigid floors ≥ 150 mm	TT x Ø x	2	1 side	*		110 mm
40mm				1200 CS + CI	EI 240	rigid floors ≥ 150 mm	TT x Ø x	2	1 side	*	130mm	C/U + U/C + C/C	
50mm				1200 CS + CI	EI 240	rigid floors ≥ 150 mm	TT x Ø x	2	1 side	*	150 mm	C/U + U/C + C/C	
60mm				1200 CS + CI	EI 180	rigid floors ≥ 150 mm	TT x Ø x	3	1 side	*	174 mm	C/U + U/C + C/C	
80mm				1200 CS + CI	EI 180	rigid floors ≥ 150 mm	TT x Ø x	3	1 side	*	220 mm	C/U + U/C + C/C	

>> contined on page 2

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 400mm.

²⁾ Pipe insulation must be fastened individually (not wrapped!) with steel wire: at max. 50mm + 300mm from constructive element.

³⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

Notes:

- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property

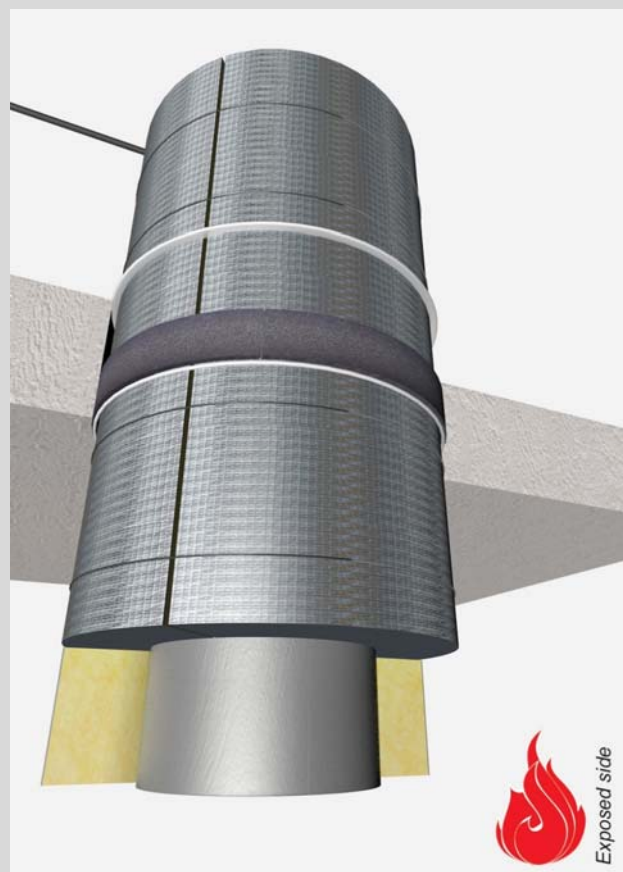
test method

service no.

fire resistance

EN 1366-3

22-2



steel pipes

Fire Wrap

service type ¹⁾		pipe insulation ²⁾		 EI	constructive element ³⁾	Firesafe pipe wrap		application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	min. 75 kg/m ³ eg Climpipe, Rockwool or U Protect Pipe Section Alu2				length TT x Ø x	no. of layers	1 or 2 sides	required	in construction	configuration	
Ø76	2,1	glass / rock wool 20mm	1200 CS + CI	EI 240	rigid floors ≥ 150 mm	TT x Ø x	2	1 side	*	132 mm	U/C + C/C	perpendicular + all angles between 90° and 45°
		30mm	1200 CS + CI	EI 120	rigid floors ≥ 150 mm	TT x Ø x	2	1 side	*	144 mm	U/C + C/C	
		40mm	1200 CS + CI	EI 120	rigid floors ≥ 150 mm	TT x Ø x	2	1 side	*	164 mm	U/C + C/C	
		50mm	1200 CS + CI	EI 120	rigid floors ≥ 150 mm	TT x Ø x	2	1 side	*	202 mm	U/C + C/C	
		60mm	1200 CS + CI	EI 120	rigid floors ≥ 150 mm	TT x Ø x	3	1 side	*	208 mm	U/C + C/C	
		80mm	1200 CS + CI	EI 120	rigid floors ≥ 150 mm	TT x Ø x	3	1 side	*	248 mm	U/C + C/C	
max.												
Ø219,1	4,5	glass / rock wool 20mm	1200 CS + CI	EI 90	rigid floors ≥ 150 mm	TT x Ø x	2	1 side	*	267 mm	C/U + U/C + C/C	perpendicular + all angles between 90° and 45°
		30mm	1200 CS + CI	EI 90	rigid floors ≥ 150 mm	TT x Ø x	2	1 side	*	287 mm	C/U + U/C + C/C	
		40mm	1200 CS + CI	EI 90	rigid floors ≥ 150 mm	TT x Ø x	2	1 side	*	307 mm	C/U + U/C + C/C	
		50mm	1200 CS + CI	EI 180	rigid floors ≥ 150 mm	TT x Ø x	2	1 side	*	327 mm	C/U + U/C + C/C	
		60mm	1200 CS + CI	EI 180	rigid floors ≥ 150 mm	TT x Ø x	3	1 side	*	351 mm	C/U + U/C + C/C	
		80mm	1200 CS + CI	EI 180	rigid floors ≥ 150 mm	TT x Ø x	3	1 side	*	391 mm	C/U + U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 400mm.

²⁾ Pipe insulation must be fastened individually (not wrapped!) with steel wire: at max. 50mm + 300mm from constructive element.

³⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

Notes:

- installation instructions in TDS
- apply joint seal in opening, flush with floor on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property
test method
service no.

fire resistance
EN 1366-3
28-6



steel pipes

steel pipes

				Fire Wrap							
service type ¹⁾		pipe insulation		 EI	constructive element ²⁾	Firesafe pipe wrap	application	finish	max. opening	pipe end	max. angle
dØ (mm)	s1 (mm)	min. 60 kg/m³ eg Armaflex				length	1 or 2 sides	required	in construction	configuration	
						TT x Ø x no. of layers					
Ø42,2	2,60	synth. rubber 13mm	700 LS + LI + CS + CI	EI 90	CLT floors ≥ 140 mm	TT x Ø x 2	1 side	*	78 mm	C/U + U/C + C/C	perpendicular + all angles between 90° and 45°
max.		synth. rubber 13mm	700 LS + LI + CS + CI	EI 90	CLT floors ≥ 140 mm	TT x Ø x 2	1 side	*	126 mm	C/U + U/C + C/C	
Ø89,9	3,00	synth. rubber 13mm	700 LS + LI + CS + CI	EI 90	CLT floors ≥ 140 mm	TT x Ø x 2	1 side	*	126 mm	C/U + U/C + C/C	

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 400mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

Notes:

- installation instructions in TDS
- apply joint seal in opening, flush with floor on 2 sides
- **other pipe dØ + s1** (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45°

principle detail

tested property
test method
service no.

Firesafe

fire resistance
EN 1366-3
28-8



steel pipes

steel pipes

				Fire Wrap								
service type ¹⁾		pipe insulation		 EI	constructive element ²⁾	Firesafe pipe wrap		application	backing required	max. opening in construction	pipe end configuration	max. angle
dØ (mm)	s1 (mm)	min. 60 kg/m ³ eg Armaflex				length π x Ø x	no. of layers					
Ø42,2	2,60	synth. rubber 13mm	700 LS + LI + CS + CI	EI 90	CLT floors ≥ 140 mm	TT x Ø x	2	1 side	*	78 mm	C/U + U/C + C/C	perpendicular + all angles between 90° and 45°
max.		synth. rubber 13mm	700 LS + LI + CS + CI	EI 90	CLT floors ≥ 140 mm	TT x Ø x	2	1 side	*	126 mm	C/U + U/C + C/C	
Ø89,9	3,00											

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 400mm.

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

field of application

metal pipe penetrations

fire resistance - EI classification acc. EN 13501-2 / EN 1366-3

certification - EAD 350454-00-1104

Firesafe

► INDEX

PE + PP + PVC

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cables + bundles

fire dampers

air transfer grilles

duct cladding

linear joints

socket boxes

blank seals

EN norms for plastic pipes

how-to-read

acoustical

environmental

CAST IRON ≤ Ø110 mm

Fire performances are valid for **range** of **dØ** pipe diameter + **s1** pipe thickness within the same pipe material:

cast iron

dØ max. 110 mm

s1 max. 3,5 mm

pipe insulation brands eg Rockwool, Armaflex

dØ

s1

pipe insulation

steel Ø12 up to Ø219

3,5 mm

Ø58 up to Ø110 mm

non-insulated

3,5 mm

Ø58 up to Ø110 mm

+ pipe insulation

+ synth. rubber, min. 60 kg/m³

13mm

3,5 mm

Ø58 up to Ø110 mm

+ rock wool (alu), min. 85 kg/m³

20 mm

30mm

suitable Firesafe products within classification:

FT Acrylic or FT Paste

DoP CPR-16/0094

walls

floors

EI 90 in wall 6

EI 90 in floor 7

EI 90 in wall 6

EI 90 in floor 7

joint details: min. W x D, default:
walls: 5 x 25 mm, apply on 2 sides
floors: 5 x 25 mm, apply on 2 sides

Fire Wrap

DoP CPR-15/0339

walls

floors

max.
EI 90 in wall 6
2 layer

max.
EI 90 in floor 7
2 layer

default:
walls: apply on 2 sides
floors: apply on 2 sides
always apply smoke seal FT Acrylic on 2 sides

supporting construction

Constructive element must be classified acc. EN 13501-2 for the required fire resistance period:

1: flexible wall ≥100mm, insulated
1-n100: flexible wall ≥100mm, **non-insulated**
1-n75: flexible wall ≥75mm, **non-insulated**
2: rigid wall ≥100mm
3: rigid wall ≥150mm
4: flexible ceiling ≥150mm
5: rigid floor ≥150mm
6: CLT wall ≥100mm
7: CLT floor ≥140mm

Max. opening in constructive element: see principle detail. Use FT Board if opening is larger; see how-to-read.

Penetration services must be **supported**;
support distance walls max. 500mm
support distance floors max. 400mm

Min. length pipe insulation LI / LS / CS / CI:
see [principle detail](#).

Firesafe FoA d22-1 - page 13

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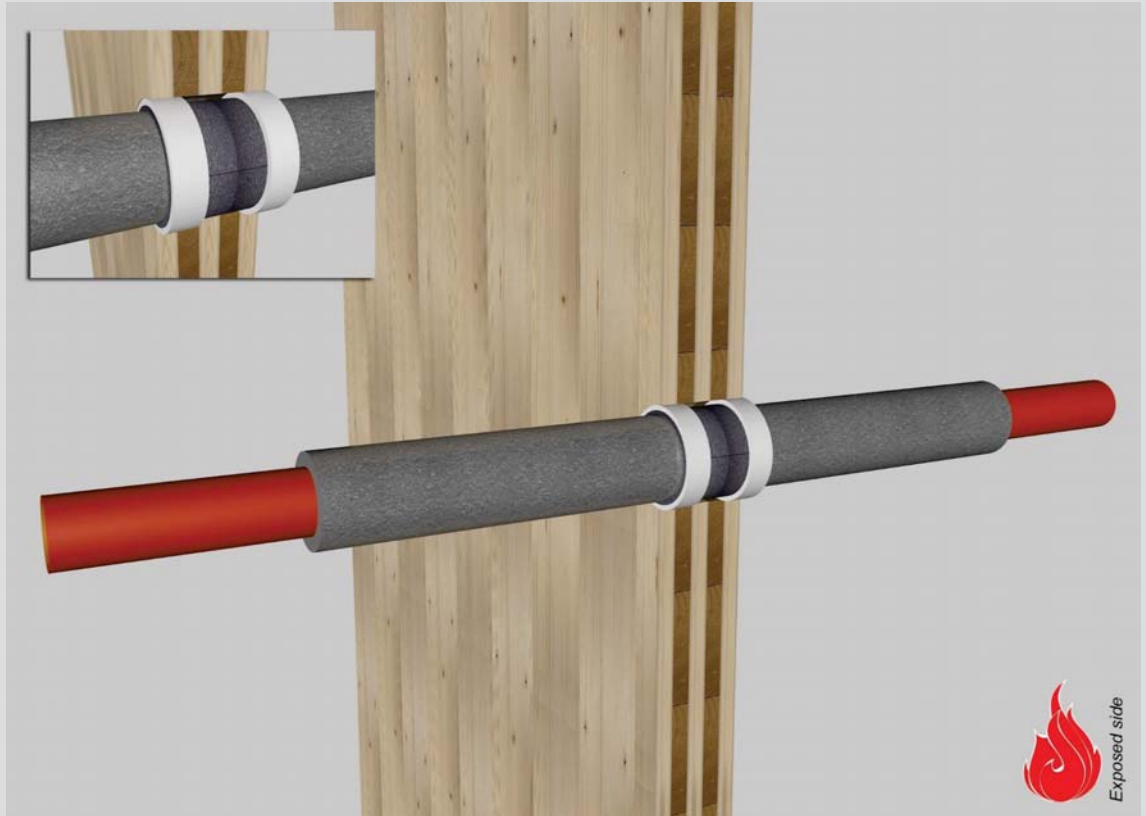
- Notes:
- installation instructions in TDS
 - apply smoke seal Firesafe FT Acrylic on 2 sides
 - other pipe dØ + s1 (thickness) are allowed within range and same pipe material
 - angle: perpendicular + all angles between 90° and 45°

principle detail

Firesafe

tested property
test method
service no.

fire resistance
EN 1366-3
27-9



cast iron pipes

service type ¹⁾		pipe insulation		EI	constructive element ²⁾	FT Wrap		application	finish required	max. opening in construction	pipe end configuration	max. angle
dØ (mm)	s1 (mm)		min. 60 kg/m³ eg Armaflex			Firesafe FT Wrap length π x Ø x	no. of layers					
Ø58	3,5	synth. rubber 13mm	700 LS + LI + CS + CI	EI 90	CLT walls ≥ 100 mm	π x Ø x	2	2 sides	*	102 mm	C/U + U/C + C/C	perpendicular + all angles between 90° and 45°
		synth. rubber 13mm	700 LS + LI + CS + CI	EI 90	CLT floors ≥ 140 mm	π x Ø x	2	1 side	**	94 mm	C/U + U/C + C/C	
Ø110	3,5	synth. rubber 13mm	700 LS + LI + CS + CI	EI 60	CLT walls ≥ 100 mm	π x Ø x	2	2 sides	*	154 mm	C/U + U/C + C/C	
		synth. rubber 13mm	700 LS + LI + CS + CI	EI 60	CLT floors ≥ 140 mm	π x Ø x	2	1 side	**	146 mm	C/U + U/C + C/C	

* joint seal FT Acrylic 5 x 25mm on 2 sides
* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm (wall) or ≤ 400mm (floor).

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

Notes:

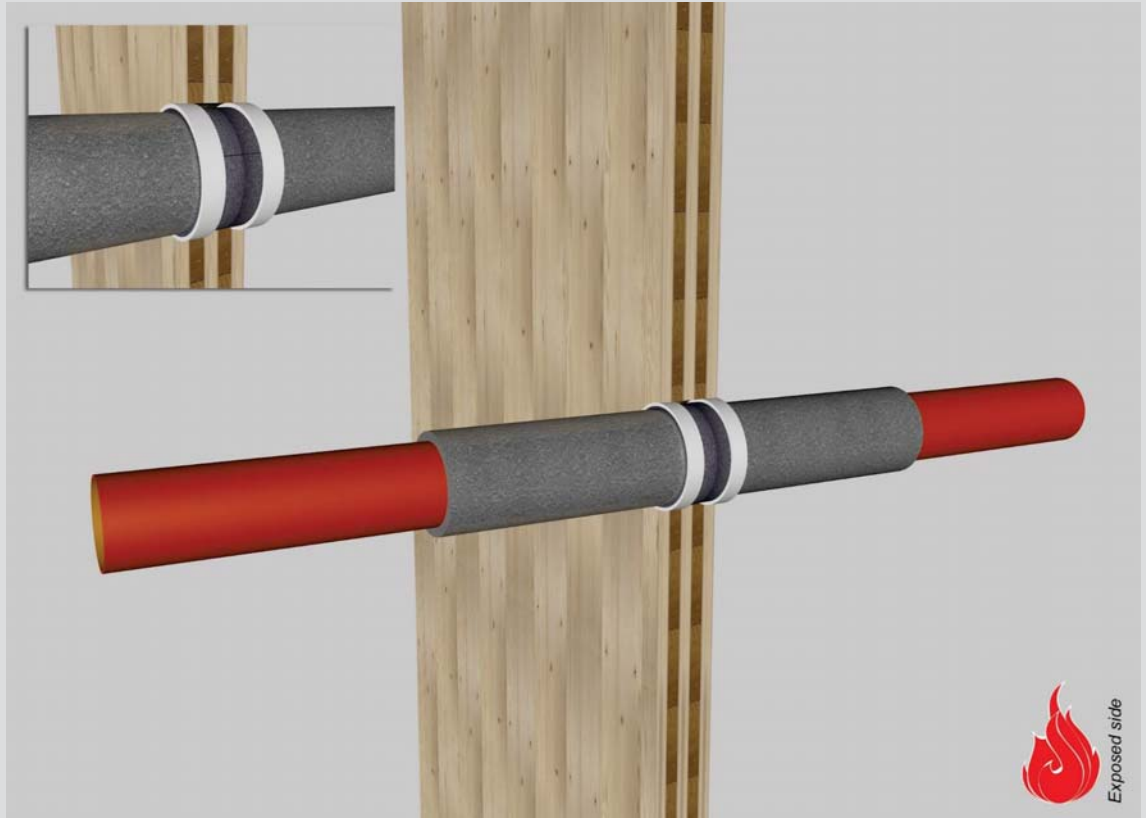
- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- other pipe dØ + s1 (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45°

principle detail

tested property
test method
service no.

Firesafe

fire resistance
EN 1366-3
27-16



cast iron pipes

service type ¹⁾		pipe insulation		EI	constructive element ²⁾	Firesafe FT Wrap		application	finish required	max. opening in construction	pipe end configuration	max. angle
dØ (mm)	s1 (mm)		min. 60 kg/m³ eg Armaflex			length π x Ø x	no. of layers					
Ø58	3,5	synth. rubber 13mm	700 LS + LI + CS + CI	EI 90	CLT walls ≥ 100 mm	π x Ø x	2	2 sides	*	102 mm	C/U + U/C + C/C	perpendicular + all angles between 90° and 45°
		synth. rubber 13mm	700 LS + LI + CS + CI	EI 90	CLT floors ≥ 140 mm	π x Ø x	2	1 side	**	94 mm	C/U + U/C + C/C	
Ø110	3,5	synth. rubber 13mm	700 LS + LI + CS + CI	EI 60	CLT walls ≥ 100 mm	π x Ø x	2	2 sides	*	154 mm	C/U + U/C + C/C	
		synth. rubber 13mm	700 LS + LI + CS + CI	EI 60	CLT floors ≥ 140 mm	π x Ø x	2	1 side	**	146 mm	C/U + U/C + C/C	

* joint seal FT Acrylic 5 x 25mm on 2 sides
* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm (wall) or ≤ 400mm (floor).

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

Notes:

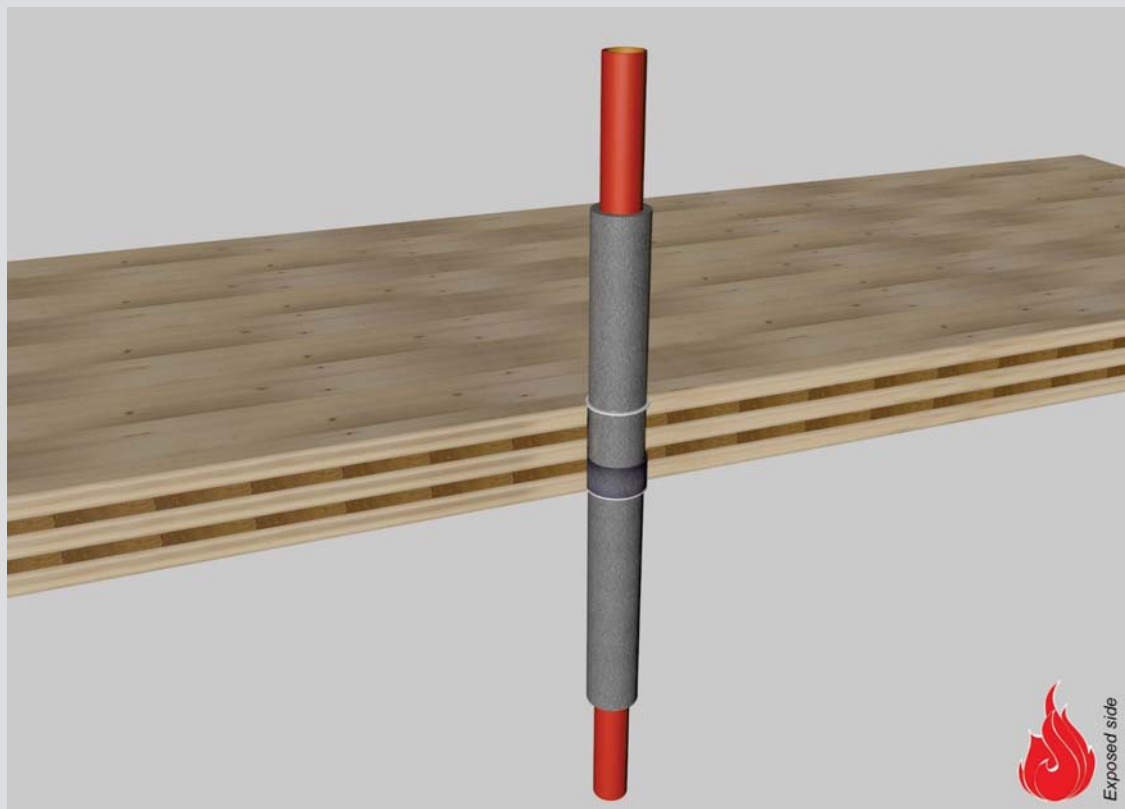
- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- other pipe $d\varnothing + s1$ (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45°

principle detail

tested property
test method
service no.

Firesafe

fire resistance
EN 1366-3
28-19



cast iron pipes

service type ¹⁾		pipe insulation		EI	constructive element ²⁾	Firesafe FT Wrap		application	finish required	max. opening in construction	pipe end configuration	max. angle
dØ (mm)	s1 (mm)		min. 60 kg/m³ eg Armaflex			length	no. of layers					
Ø58	3,5	synth. rubber 13mm	700 LS + LI + CS + CI	EI 90	CLT walls ≥ 100 mm	$\pi \times \varnothing \times$	2	2 sides	*	102 mm	C/U + U/C + C/C	perpendicular + all angles between 90° and 45°
		synth. rubber 13mm	700 LS + LI + CS + CI	EI 90	CLT floors ≥ 140 mm	$\pi \times \varnothing \times$	2	1 side	**	94 mm	C/U + U/C + C/C	
Ø110	3,5	synth. rubber 13mm	700 LS + LI + CS + CI	EI 60	CLT walls ≥ 100 mm	$\pi \times \varnothing \times$	2	2 sides	*	154 mm	C/U + U/C + C/C	
		synth. rubber 13mm	700 LS + LI + CS + CI	EI 60	CLT floors ≥ 140 mm	$\pi \times \varnothing \times$	2	1 side	**	146 mm	C/U + U/C + C/C	

* joint seal FT Acrylic 5 x 25mm on 2 sides

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm (wall) or ≤ 400mm (floor).

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

Notes:

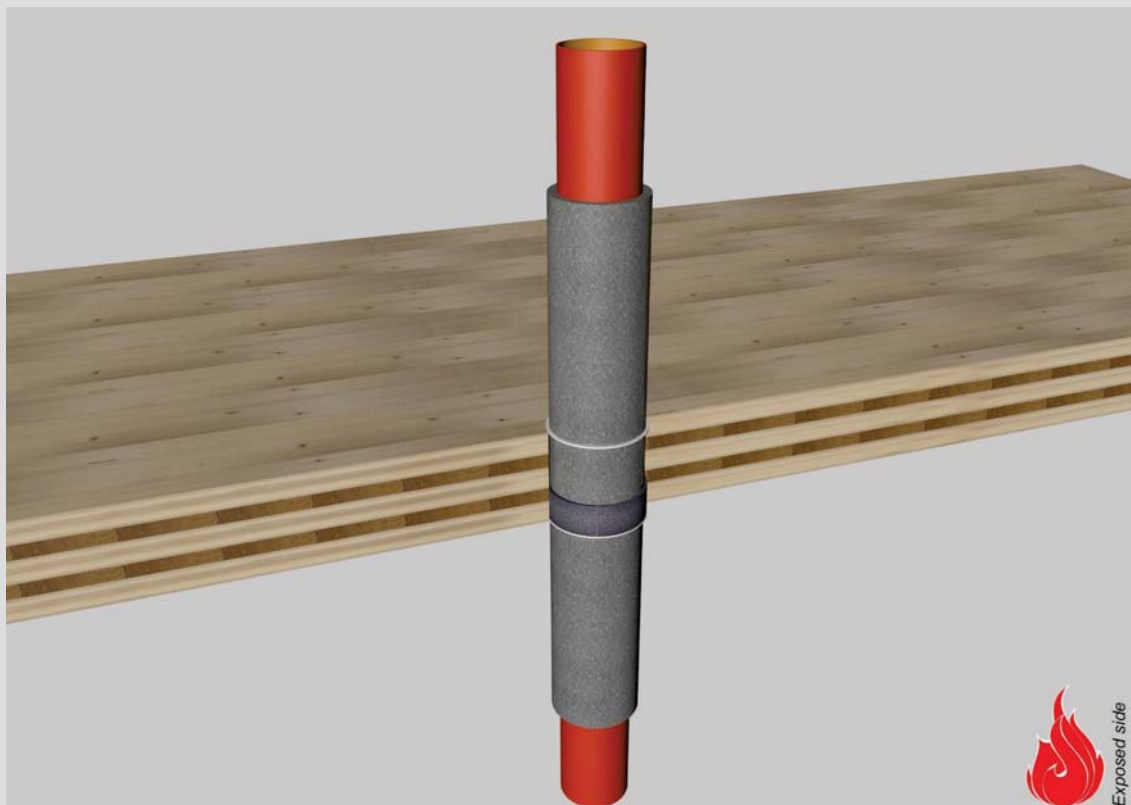
- installation instructions in TDS
- apply smoke seal Firesafe FT Acrylic on 2 sides
- other pipe $d\varnothing + s1$ (thickness) are allowed within range and same pipe material
- angle: perpendicular + all angles between 90° and 45°

principle detail

tested property
test method
service no.

Firesafe

fire resistance
EN 1366-3
28-23



cast iron pipes

service type ¹⁾		pipe insulation		EI	constructive element ²⁾	FT Wrap		application	finish required	max. opening in construction	pipe end configuration	max. angle
dØ (mm)	s1 (mm)		min. 60 kg/m³ eg Armaflex			Firesafe FT Wrap length	no. of layers					
Ø58	3,5	synth. rubber 13mm	700 LS + LI + CS + CI	EI 90	CLT walls ≥ 100 mm	$\pi \times \varnothing \times$	2	2 sides	*	102 mm	C/U + U/C + C/C	perpendicular + all angles between 90° and 45°
		synth. rubber 13mm	700 LS + LI + CS + CI	EI 90	CLT floors ≥ 140 mm	$\pi \times \varnothing \times$	2	1 side	**	94 mm	C/U + U/C + C/C	
Ø110	3,5	synth. rubber 13mm	700 LS + LI + CS + CI	EI 60	CLT walls ≥ 100 mm	$\pi \times \varnothing \times$	2	2 sides	*	154 mm	C/U + U/C + C/C	
		synth. rubber 13mm	700 LS + LI + CS + CI	EI 60	CLT floors ≥ 140 mm	$\pi \times \varnothing \times$	2	1 side	**	146 mm	C/U + U/C + C/C	

* joint seal FT Acrylic 5 x 25mm on 2 sides

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm (wall) or ≤ 400mm (floor).

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

TRAYS + LADDERS + WIRE MESH classification ≤ 600 mm

Fire performances are valid for for **range** of **cable group** +
max. **Cu mm²** with steel services:

cable group 1 + 2 + 3 + 5

dØ up to 80 mm

cable group 4 (data + fibre optic)

dØ up to 100 mm

service size Cu mm² cable specs

cable trays ≤ 500mm + cable ladders ≤ 300mm

max. Cu mm² = **29647**

each cable assembly within max. Cu mm²;
all cable groups are allowed, max.:

Ø 21mm group 1 - small sheathed
Ø 61mm group 2 - medium sheathed
Ø 80mm group 3 - large sheathed
Ø 100mm group 4 - data + fibre optic
Ø 23mm group 5 - non-sheathed

all conduits:
max. 3x Ø 16mm steel / plastic

max. Cu mm² = **15707**

each cable assembly within max. Cu mm²;
all cable groups are allowed, max.:

Ø 21mm group 1 - small sheathed
Ø 47mm group 2 - medium sheathed
Ø 52mm group 3 - large sheathed
Ø 100mm group 4 - data + fibre optic
Ø 23mm group 5 - non-sheathed

all conduits:
max. 3x Ø 16mm steel / plastic

**trays /
ladders
≤ 600mm**

max. Cu mm² = **12619**

each cable assembly within max. Cu mm²;
allowed cable groups:

group 1 - small sheathed
group 4 - data + fibre optic

**wire mesh trays
≤ 600mm**

max. Cu mm² = **6401**

each cable assembly within max. Cu mm²;
allowed cable groups:

group 1 - small sheathed
group 2 - medium sheathed
group 4 - data + fibre optic

suitable Firesafe products within classification:

FT Graphite

DoP CPR-16/0094

FT Acrylic or FT Paste

DoP CPR-16/0094

FT Board or

GPG

DoP CPR-16/0103

EI 60 in wall 1+2+3

EI 30 in wall 1+2+3

EI 30 in wall 2+3

EI 60 in floor 5

2x 50mm 2S

100mm

2x 50mm 2S

100mm

1x 50mm 2S

50mm

2x 50mm 2S

100mm

Constructive element must be classified acc. EN 13501-2 for the required fire resistance period:

1: flexible wall ≥100mm, insulated

1-n100: flexible wall ≥100mm, non-insulated

1-n75: flexible wall ≥75mm, non-insulated

2: rigid wall ≥100mm

3: rigid wall ≥150mm

4: flexible ceiling ≥150mm

5: rigid floor ≥150mm

6: CLT wall ≥100mm

7: CLT floor ≥140mm

max. opening (mm)

support distance (mm)

600x1200

at 250mm + 500mm

600x1200

at 500mm

600x1200

at 500mm

600x5000

at 250mm + 400mm

EI 60 in wall 1+2+3

EI 60 in wall 1+2+3

EI 60 in floor 5

EI 60 in floor 5

2x 50mm 2S

100mm

2x 50mm 2S

100mm

600x1200 +25%

at 500mm

600x5000

at 250mm + 400mm

results max.

EI 180 in wall 3

EI 120 in wall 1+2+3

EI 60 in wall 1+2+3

EI 30 in wall 1n-75

1x 50mm 2S

50mm

-

-

-

-

620 x 70

at 500mm

620 x 70

at 500mm

220 x 80

at 250mm + 500mm

EI 60 in wall 1+2+3

EI 90 in wall 1+2+3

EI 30 in wall 1n-75

EI 60 in floor 5

2x 50mm 2S

100mm

2x 50mm 2S

100mm

-

-

2x 50mm 2S

100mm

730 x 230

at 250mm + 500mm

660 x 120

at 250mm + 500mm

420 x 100

at 250mm + 500mm

600 x 800

at 400mm

joint details, default:

walls: 5mm around cables, apply on 2 sides
floors: 5mm around cables, apply on 2 sides

finish, default:

NO coating on cables, cable tray or on
constructive element !

Max. opening in
constructive element:
see also principle detail.

Penetration services must
be **supported**.

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Installation:

- installation instructions in TDS
- FIRE COLLAR fastened onto FT Board with FT Board spiral screws
- 5mm Firesafe FT Acrylic around cables + wire mesh cable tray
- no coat back!

principle detail**Firesafe**

tested property

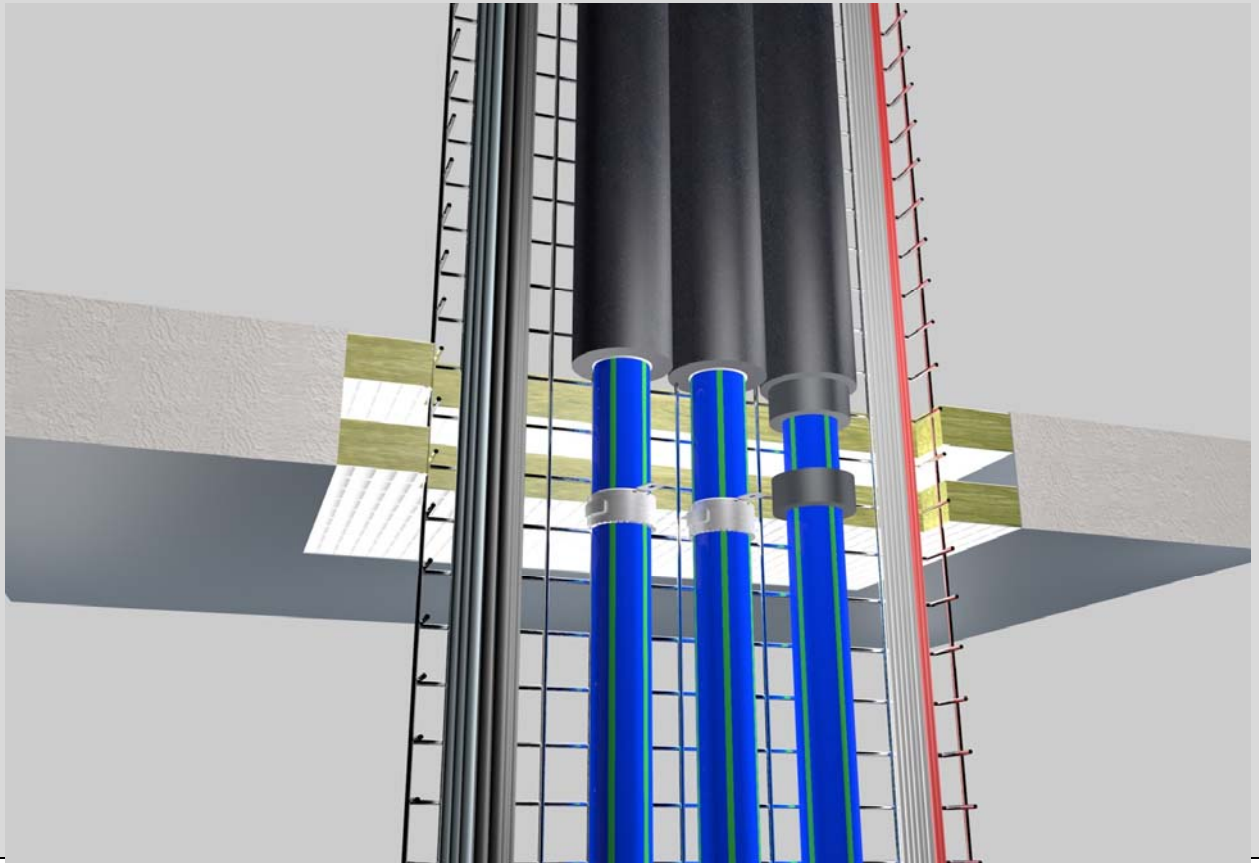
fire resistance

test method

EN 1366-3

service no.

17-6-6

**PP-R pipes****FIRE COLLAR**

service type		pipe insulation		 EI	constructive element ²⁾	Firesafe pipe collar Ø in mm	application 1 or 2 sides	finish required	max. opening in construction	pipe end configuration	max. angle	
dØ (mm)	s1 (mm)	min. 28 kg/m3 eg Uponor										
Ø40	min. 3,7	-		EI 240	rigid floors ≥ 150 mm	Ø40	1 side	*	40 mm	U/C + C/C	perpendicular + all angles between 90° and 45°	
	max. 5,5	-		EI 180	rigid floors ≥ 150 mm	Ø40	1 side	*	40 mm	U/C + C/C		
Ø63	min. 5,8	-		EI 120	rigid floors ≥ 150 mm	Ø63	1 side	*	63 mm	U/C + C/C		
	max. 8,6	-		EI 120	rigid floors ≥ 150 mm	Ø63	1 side	*	63 mm	U/C + C/C		
2x bundled	5,8	polyolefin 25mm	750 LS + LI + CS + CI	EI 60	rigid floors ≥ 150 mm	Ø63	1 side	*	600 x 800 mm	U/C + C/C		
Ø75	min. 6,8	-		EI 120	rigid floors ≥ 150 mm	Ø75	1 side	*	75 mm	U/C + C/C		
	max. 10,3	-		EI 120	rigid floors ≥ 150 mm	Ø75	1 side	*	75 mm	U/C + C/C		
Ø110	min. 10	-		EI 90	rigid floors ≥ 150 mm	Ø110	1 side	*	110 mm	U/C + C/C		
	max. 15,1	-		EI 120	rigid floors ≥ 150 mm	Ø110	1 side	*	110 mm	U/C + C/C		
max.												
Ø125	11,4	-		EI 180	rigid floors ≥ 150 mm	Ø125	1 side	*	132 mm	U/C + C/C		
	17,1	-		EI 120	rigid floors ≥ 150 mm	Ø125	1 side	*	132 mm	U/C + C/C		

in FT Board 2S 50 mm

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 400mm.

³⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

CABLE BUNDLES classification ≤ 121 mm

Fire performances are valid for for **range of cable group + max. Cu mm²:**

cable group 1 + 2 + 4 + 5

dØ up to 31 mm

also cables in plastic conduits

dØ up to 110 mm

bundle size**cable specs****max. Ø 40 mm**

cable assembly within max. Cu mm²;
allowed cable groups:

group 1 - small sheathed
group 2 - medium sheathed
group 4 - data + fibre optic
conduit, plastic

max. Ø 55 mm

cable assembly within max. Cu mm²;
allowed cable groups:

group 1 - small sheathed
group 4 - data + fibre optic
conduit, plastic

max. Ø 121 mm

cable assembly within max. Cu mm²;
allowed cable groups:

group 1 - small sheathed
group 2 - medium sheathed
group 4 - data + fibre optic
conduit, plastic

suitable Firesafe products within classification:

FT Graphite	FT Acrylic or FT Paste	Cable Transit	Flex Plug	FIRE COLLAR
DoP CPR-16/0094	DoP CPR-16/0094	DoP CPR-15/0339	DoP CPR-15/0339	DoP CPR-15/0339
	EI 120 in wall 1+2 EI 240 in wall 3		EI 120 in wall 1+2 EI 240 in wall 3	
	EI 90 in wall 6			
	EI 240 in floor 5 EI 90 in floor 7		EI 240 in floor 5	
EI 60 in wall 1-n75	EI 90 in wall 1+2 EI 180 in wall 3	EI 120 in wall 1+2+3		
	EI 180 in floor 5	EI 90 in wall 6		
		EI 90 in floor 7		
EI 120 in wall 1+2+3 EI 90 in wall 1-n100 EI 60 in wall 1-n75	EI 120 in wall 1+2+3	EI 90 in wall 1+2+3		EI 120 in wall 1+2+3
EI 90 in wall 6	EI 90 in wall 6			
EI 240 in floor 5 EI 120 in ceiling 4 EI 90 in floor 7	EI 180 in floor 5 also on FT Board EI 90 in floor 7	EI 120 in floor 5		EI 240 in floor 5
joint details: min. W x D, default: walls: 10 x 25 mm, apply on 2 sides floors: 15 x 25 mm, apply on 2 sides	position centrally in construction mount with FT Acrylic put loose rock wool ≥ 100kg/m ³ in transit on 2 sides	position centrally in construction	default: walls: apply on 2 sides floors: apply on 1 side apply smoke seal FT Acrylic	

supporting construction

Constructive element must be classified acc. EN 13501-2 for the required fire resistance period:

1: flexible wall ≥100mm, insulated

1-n100: flexible wall ≥100mm, **non-insulated**

1-n75: flexible wall ≥75mm, **non-insulated**

2: rigid wall ≥100mm

3: rigid wall ≥150mm

4: flexible ceiling ≥150mm

5: rigid floor ≥150mm

6: CLT wall ≥100mm

7: CLT floor ≥140mm

Max. opening in constructive element: see principle detail. Use FT Board if opening is larger; see how-to-read.

Penetration services must be **supported**;
support distance walls max. 500mm
support distance floors max. 400mm

NOTE:

CONDUITS in trays + ladders: see
CABLE TRAYS

[► INDEX](#)[PE + PP + PVC](#)[plastic cable conduits](#)[PP-R](#)[PP-MD](#)[PP-MX](#)[aluPE-X](#)[PE-Xa](#)[copper](#)[steel](#)[steel conduits](#)[cast iron](#)[trays + ladders + wire mesh](#)[cables + bundles](#)[fire dampers](#)[air transfer grilles](#)[duct cladding](#)[linear joints](#)[socket boxes](#)[blank seals](#)[EN norms for plastic pipes](#)[how-to-read](#)[acoustical](#)[environmental](#)

Notes:

- installation instructions in TDS
- mount with Firesafe FT Acrylic on 2 sides and close transit with loose RW
- **other cable dØ** are allowed within group type
- EI for flexible walls $\geq 100\text{mm}$ is also applicable for **rigid walls** $\geq 100\text{mm}$

principle detail

Firesafe

tested property

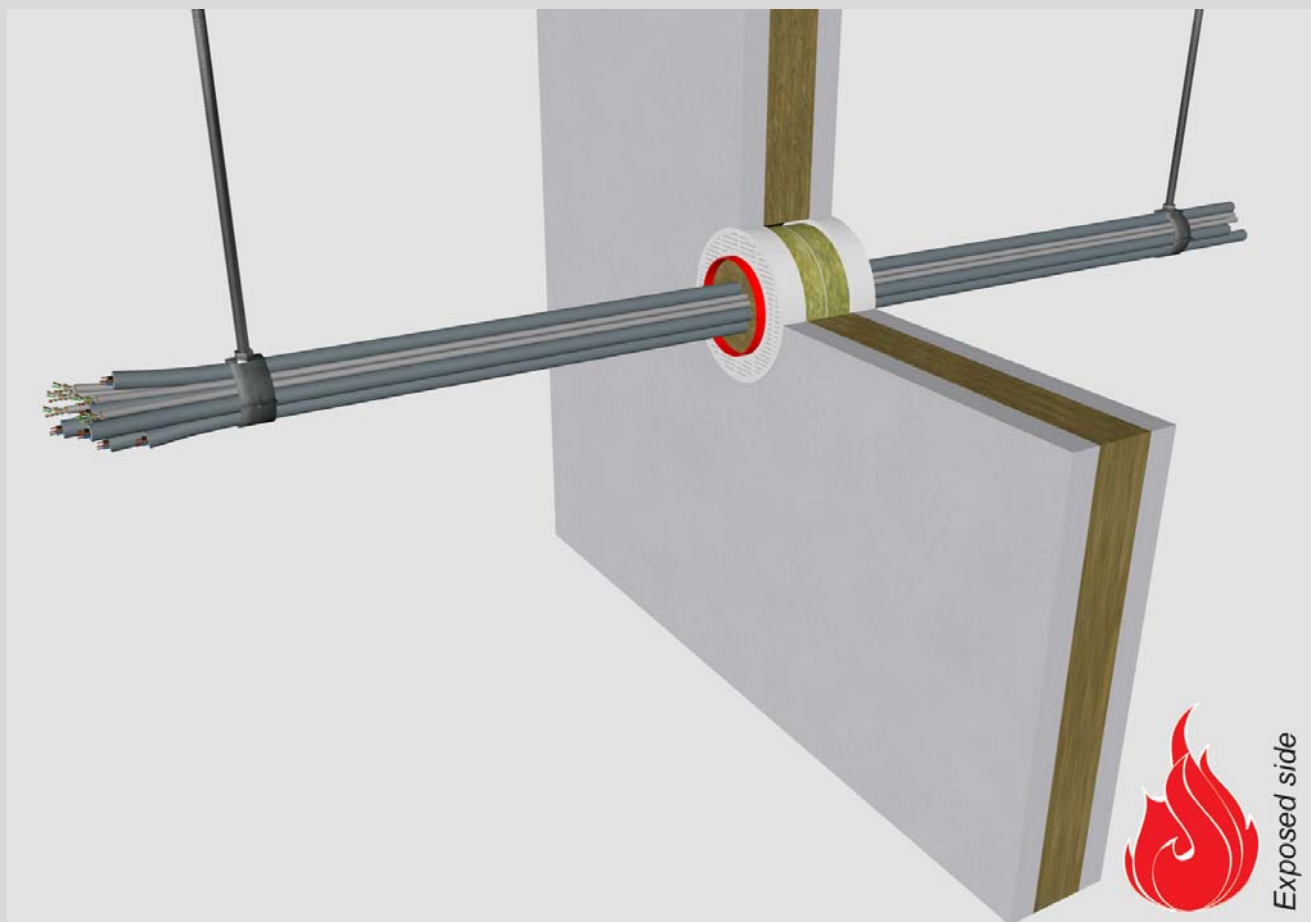
fire resistance

test method

EN 1366-3

service no.

21-14



cables

Cable Transit

bundle dØ (mm)	cable specs ¹⁾ group	conduit	assembly Cu (mm ²)	EI	constructive element ²⁾	Firesafe cable box Ø in mm	application 1 or 2 sides	finish required	max. opening in construction
max.									
up to Ø50	group 1 - small sheathed $\leq \varnothing 16\text{mm}$	PVC conduit	559	EI 90	CLT walls $\geq 100\text{ mm}$	Ø 50 mm	2 sides	*	Ø60
	group 1 - small sheathed $\leq \varnothing 16\text{mm}$	PVC conduit	559	EI 90	CLT floors $\geq 140\text{ mm}$	Ø 50 mm	2 sides	*	Ø60
	group 1 - small sheathed $\leq \varnothing 21\text{mm}$	-	1124	EI 60	flexible walls $\geq 100\text{ mm}$	Ø 50 mm	centrally	*	Ø76
	group 1 - small sheathed $\leq \varnothing 21\text{mm}$	-	817	EI 120	flexible walls $\geq 100\text{ mm}$	Ø 50 mm	centrally	*	Ø90
	group 1 - small sheathed $\leq \varnothing 21\text{mm}$	-	1124	EI 120	rigid walls $\geq 150\text{ mm}$	Ø 50 mm	centrally	*	Ø71
	group 1 - small sheathed $\leq \varnothing 21\text{mm}$	-	1124	EI 120	rigid floors $\geq 150\text{ mm}$	Ø 50 mm	centrally	*	Ø71
	group 4 - data + fibre optic	-	61	EI 120	flexible walls $\geq 100\text{ mm}$	Ø 50 mm	centrally	*	Ø90
max.									
Ø90	group 1 - small sheathed $\leq \varnothing 21\text{mm}$	-	2729	EI 60	flexible walls $\geq 100\text{ mm}$	Ø 90 mm	centrally	*	Ø110
	group 1 - small sheathed $\leq \varnothing 21\text{mm}$	-	1855	EI 90	flexible walls $\geq 100\text{ mm}$	Ø 90 mm	centrally	*	Ø140
	group 1 - small sheathed $\leq \varnothing 21\text{mm}$	-	2248	EI 120	rigid floors $\geq 150\text{ mm}$	Ø 90 mm	centrally	*	Ø110
	group 4 - data + fibre optic	-	365	EI 90	flexible walls $\geq 100\text{ mm}$	Ø 90 mm	centrally	*	Ø140

in FT Board 2S 50 mm

* mount transit with FT Acrylic

+ put loose rock wool $\geq 100\text{kg/m}^3$ in transit on 2 sides

¹⁾ Penetration services must be supported; support distance $\leq 500\text{mm}$ (wall) or $\leq 400\text{mm}$ (floor).

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls $\geq 100\text{mm}$ is also applicable for rigid walls $\geq 100\text{mm}$!

Notes:

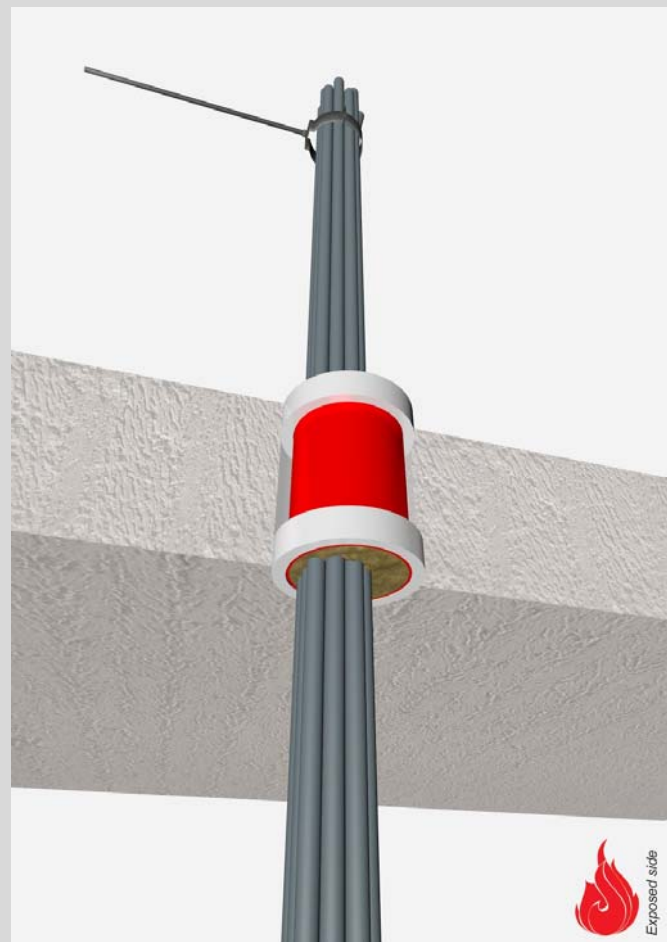
- installation instructions in TDS
- mount with Firesafe FT Acrylic on 2 sides and close transit with loose RW
- **other cable dØ** are allowed within group type
- EI for flexible walls $\geq 100\text{mm}$ is also applicable for **rigid walls** $\geq 100\text{mm}$

principle detail**Firesafe****tested property****test method****service no.**

fire resistance

EN 1366-3

8-6-6

**cables****Cable Transit**

bundle dØ (mm)	cable specs ¹⁾ group	conduit	assembly Cu (mm ²)	EI	constructive element ²⁾	Firesafe cable box Ø in mm	application 1 or 2 sides	finish required	max. opening in construction
max.									
up to Ø50	group 1 - small sheathed $\leq \varnothing 16\text{mm}$	PVC conduit	559	EI 90	CLT walls $\geq 100\text{ mm}$	Ø 50 mm	2 sides	*	Ø60
	group 1 - small sheathed $\leq \varnothing 16\text{mm}$	PVC conduit	559	EI 90	CLT floors $\geq 140\text{ mm}$	Ø 50 mm	2 sides	*	Ø60
	group 1 - small sheathed $\leq \varnothing 21\text{mm}$	-	1124	EI 60	flexible walls $\geq 100\text{ mm}$	Ø 50 mm	centrally	*	Ø76
	group 1 - small sheathed $\leq \varnothing 21\text{mm}$	-	817	EI 120	flexible walls $\geq 100\text{ mm}$	Ø 50 mm	centrally	*	Ø90
	group 1 - small sheathed $\leq \varnothing 21\text{mm}$	-	1124	EI 120	rigid walls $\geq 150\text{ mm}$	Ø 50 mm	centrally	*	Ø71
	group 1 - small sheathed $\leq \varnothing 21\text{mm}$	-	1124	EI 120	rigid floors $\geq 150\text{ mm}$	Ø 50 mm	centrally	*	Ø71
	group 4 - data + fibre optic	-	61	EI 120	flexible walls $\geq 100\text{ mm}$	Ø 50 mm	centrally	*	Ø90
max.									
Ø90	group 1 - small sheathed $\leq \varnothing 21\text{mm}$	-	2729	EI 60	flexible walls $\geq 100\text{ mm}$	Ø 90 mm	centrally	*	Ø110
	group 1 - small sheathed $\leq \varnothing 21\text{mm}$	-	1855	EI 90	flexible walls $\geq 100\text{ mm}$	Ø 90 mm	centrally	*	Ø140
	group 1 - small sheathed $\leq \varnothing 21\text{mm}$	-	2248	EI 120	rigid floors $\geq 150\text{ mm}$	Ø 90 mm	centrally	*	Ø110
	group 4 - data + fibre optic	-	365	EI 90	flexible walls $\geq 100\text{ mm}$	Ø 90 mm	centrally	*	Ø140

in FT Board 2S 50 mm

* mount transit with FT Acrylic

+ put loose rock wool $\geq 100\text{kg/m}^3$ in transit on 2 sides

¹⁾ Penetration services must be supported; support distance $\leq 500\text{mm}$ (wall) or $\leq 400\text{mm}$ (floor).

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls $\geq 100\text{mm}$ is also applicable for rigid walls $\geq 100\text{mm}$!

Notes:

- installation instructions in TDS
- mount with Firesafe FT Acrylic on 2 sides and close transit with loose RW
- **other cable dØ** are allowed within group type
- EI for flexible walls $\geq 100\text{mm}$ is also applicable for **rigid walls** $\geq 100\text{mm}$

principle detail

Firesafe

tested property

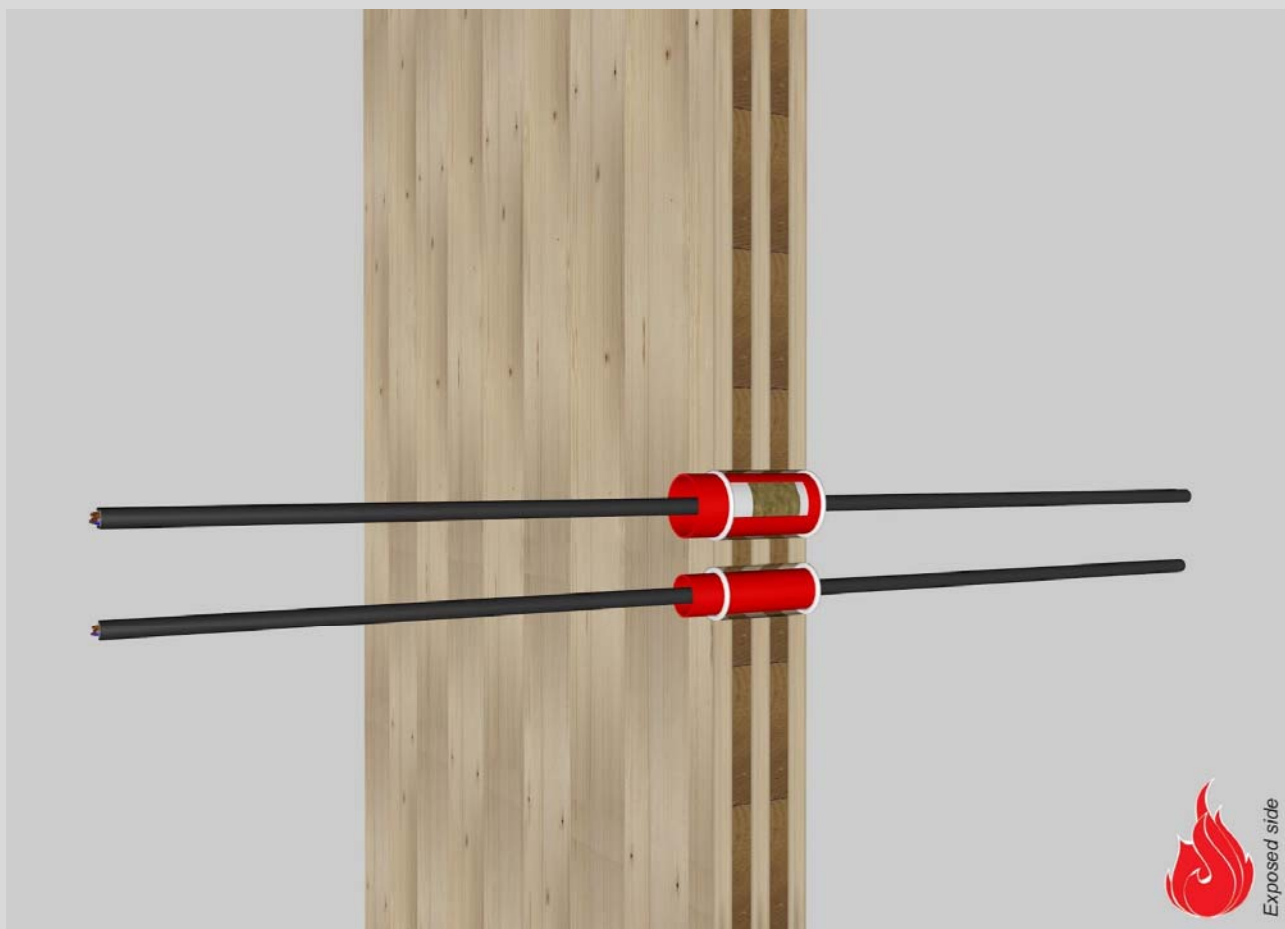
test method

service no.

fire resistance

EN 1366-3

27-1



cables

Cable Transit

bundle dØ (mm)	cable specs ¹⁾ group	conduit	assembly Cu (mm ²)	EI	constructive element ²⁾	Firesafe cable box Ø in mm	application 1 or 2 sides	finish required	max. opening in construction
max.									
up to Ø50	group 1 - small sheathed $\leq \varnothing 16\text{mm}$	PVC conduit	559	EI 90	CLT walls $\geq 100\text{ mm}$	Ø 50 mm	2 sides	*	Ø60
	group 1 - small sheathed $\leq \varnothing 16\text{mm}$	PVC conduit	559	EI 90	CLT floors $\geq 140\text{ mm}$	Ø 50 mm	2 sides	*	Ø60
	group 1 - small sheathed $\leq \varnothing 21\text{mm}$	-	1124	EI 60	flexible walls $\geq 100\text{ mm}$	Ø 50 mm	centrally	*	Ø76
	group 1 - small sheathed $\leq \varnothing 21\text{mm}$	-	817	EI 120	flexible walls $\geq 100\text{ mm}$	Ø 50 mm	centrally	*	Ø90
	group 1 - small sheathed $\leq \varnothing 21\text{mm}$	-	1124	EI 120	rigid walls $\geq 150\text{ mm}$	Ø 50 mm	centrally	*	Ø71
	group 1 - small sheathed $\leq \varnothing 21\text{mm}$	-	1124	EI 120	rigid floors $\geq 150\text{ mm}$	Ø 50 mm	centrally	*	Ø71
	group 4 - data + fibre optic	-	61	EI 120	flexible walls $\geq 100\text{ mm}$	Ø 50 mm	centrally	*	Ø90
max.									
Ø90	group 1 - small sheathed $\leq \varnothing 21\text{mm}$	-	2729	EI 60	flexible walls $\geq 100\text{ mm}$	Ø 90 mm	centrally	*	Ø110
	group 1 - small sheathed $\leq \varnothing 21\text{mm}$	-	1855	EI 90	flexible walls $\geq 100\text{ mm}$	Ø 90 mm	centrally	*	Ø140
	group 1 - small sheathed $\leq \varnothing 21\text{mm}$	-	2248	EI 120	rigid floors $\geq 150\text{ mm}$	Ø 90 mm	centrally	*	Ø110
	group 4 - data + fibre optic	-	365	EI 90	flexible walls $\geq 100\text{ mm}$	Ø 90 mm	centrally	*	Ø140

in FT Board 2S 50 mm

* mount transit with FT Acrylic

+ put loose rock wool $\geq 100\text{kg/m}^3$ in transit on 2 sides

¹⁾ Penetration services must be supported; support distance $\leq 500\text{mm}$ (wall) or $\leq 400\text{mm}$ (floor).

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls $\geq 100\text{mm}$ is also applicable for rigid walls $\geq 100\text{mm}$!

Notes:

- installation instructions in TDS
- mount with Firesafe FT Acrylic on 2 sides and close transit with loose RW
- **other cable dØ** are allowed within group type
- EI for flexible walls $\geq 100\text{mm}$ is also applicable for **rigid walls** $\geq 100\text{mm}$

principle detail

Firesafe

tested property

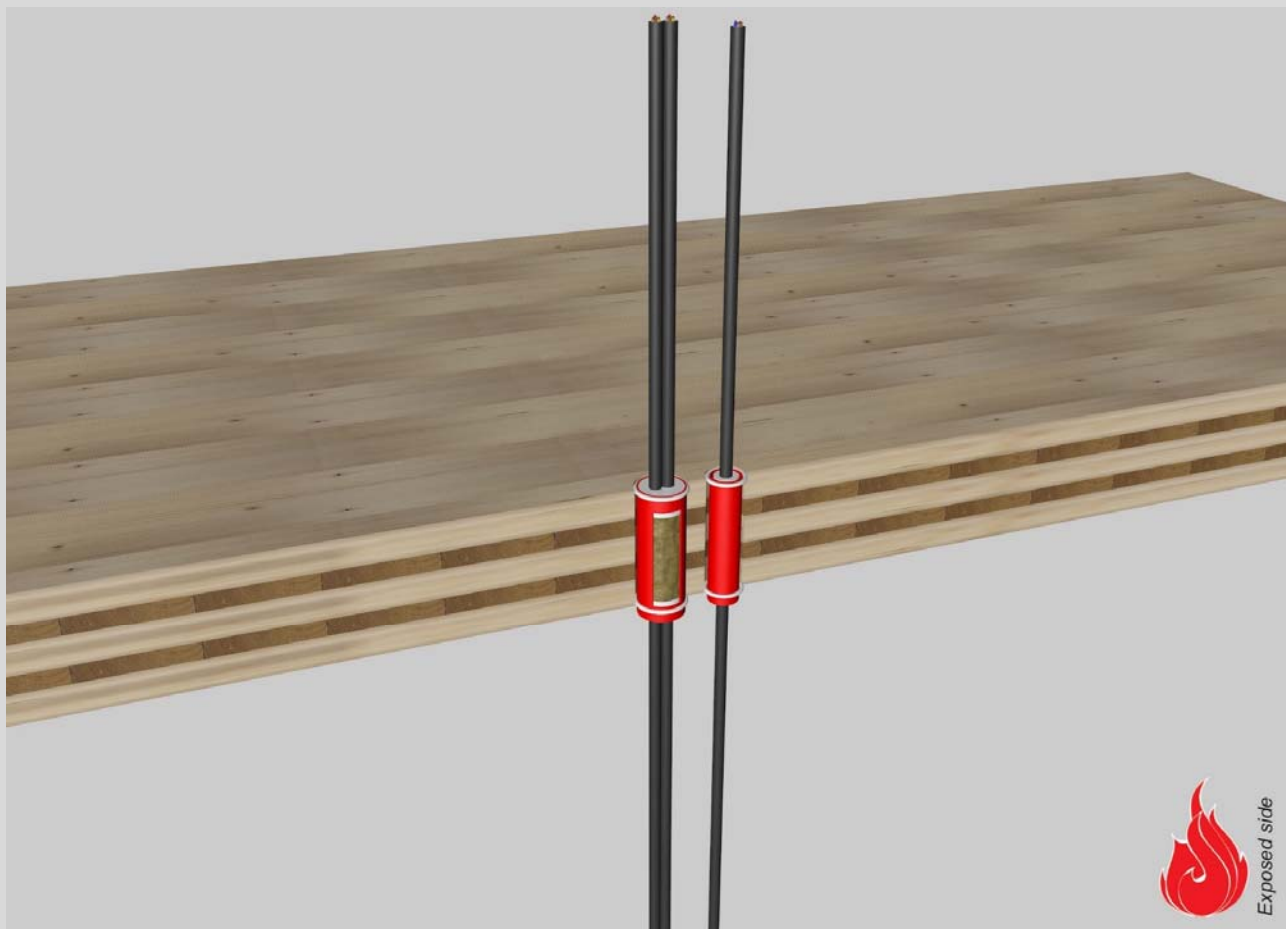
test method

service no.

fire resistance

EN 1366-3

28-13



cables

Cable Transit

bundle dØ (mm)	cable specs ¹⁾ group	conduit	assembly Cu (mm ²)	EI	constructive element ²⁾	Firesafe cable box Ø in mm	application 1 or 2 sides	finish required	max. opening in construction
max.									
up to Ø50	group 1 - small sheathed $\leq \varnothing 16\text{mm}$	PVC conduit	559	EI 90	CLT walls $\geq 100\text{ mm}$	Ø 50 mm	2 sides	*	Ø60
	group 1 - small sheathed $\leq \varnothing 16\text{mm}$	PVC conduit	559	EI 90	CLT floors $\geq 140\text{ mm}$	Ø 50 mm	2 sides	*	Ø60
	group 1 - small sheathed $\leq \varnothing 21\text{mm}$	-	1124	EI 60	flexible walls $\geq 100\text{ mm}$	Ø 50 mm	centrally	*	Ø76
	group 1 - small sheathed $\leq \varnothing 21\text{mm}$	-	817	EI 120	flexible walls $\geq 100\text{ mm}$	Ø 50 mm	centrally	*	Ø90
	group 1 - small sheathed $\leq \varnothing 21\text{mm}$	-	1124	EI 120	rigid walls $\geq 150\text{ mm}$	Ø 50 mm	centrally	*	Ø71
	group 1 - small sheathed $\leq \varnothing 21\text{mm}$	-	1124	EI 120	rigid floors $\geq 150\text{ mm}$	Ø 50 mm	centrally	*	Ø71
	group 4 - data + fibre optic	-	61	EI 120	flexible walls $\geq 100\text{ mm}$	Ø 50 mm	centrally	*	Ø90
max.									
Ø90	group 1 - small sheathed $\leq \varnothing 21\text{mm}$	-	2729	EI 60	flexible walls $\geq 100\text{ mm}$	Ø 90 mm	centrally	*	Ø110
	group 1 - small sheathed $\leq \varnothing 21\text{mm}$	-	1855	EI 90	flexible walls $\geq 100\text{ mm}$	Ø 90 mm	centrally	*	Ø140
	group 1 - small sheathed $\leq \varnothing 21\text{mm}$	-	2248	EI 120	rigid floors $\geq 150\text{ mm}$	Ø 90 mm	centrally	*	Ø110
	group 4 - data + fibre optic	-	365	EI 90	flexible walls $\geq 100\text{ mm}$	Ø 90 mm	centrally	*	Ø140

in FT Board 2S 50 mm

* mount transit with FT Acrylic

+ put loose rock wool $\geq 100\text{kg/m}^3$ in transit on 2 sides

¹⁾ Penetration services must be supported; support distance $\leq 500\text{mm}$ (wall) or $\leq 400\text{mm}$ (floor).

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls $\geq 100\text{mm}$ is also applicable for rigid walls $\geq 100\text{mm}$!

Notes:

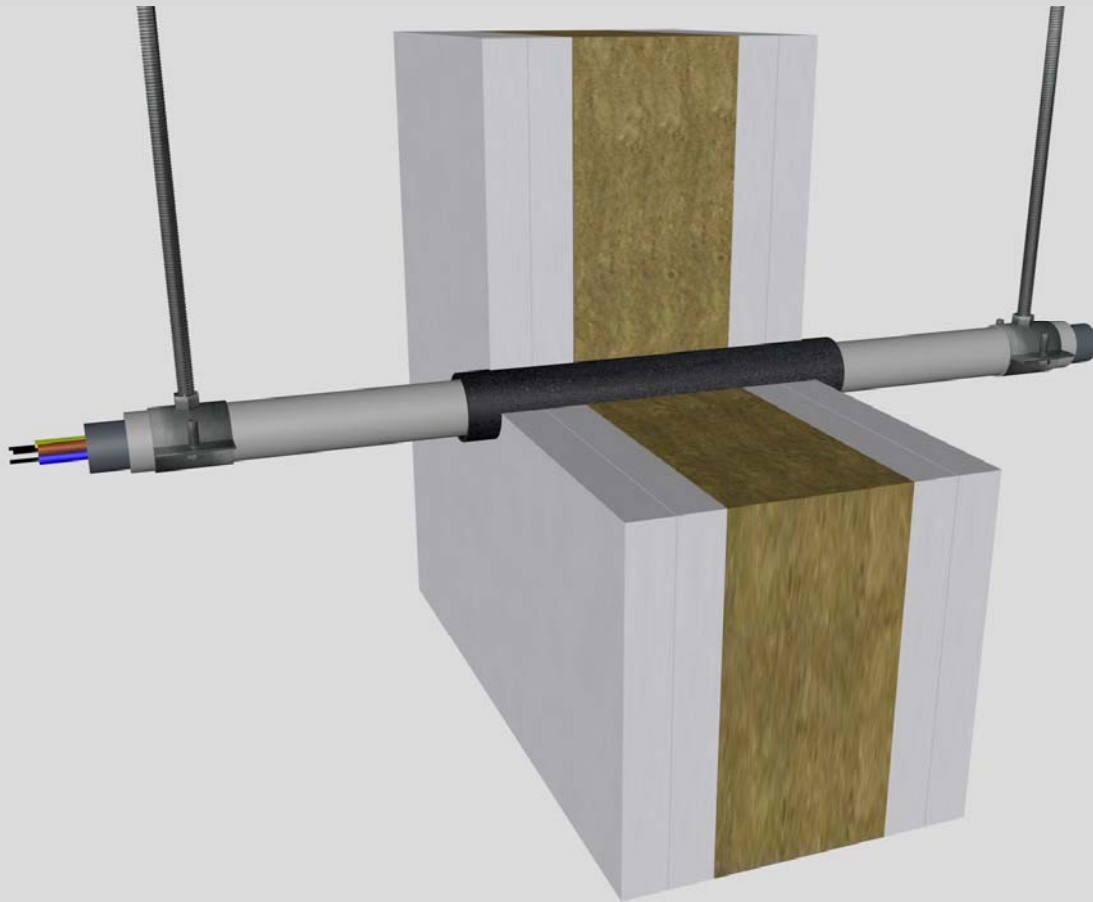
- installation instructions in TDS
- **other cable dØ** are allowed within group type (and same conduit material)
- EI for flexible walls ≥100mm is also applicable for **rigid walls** ≥100mm

principle detail

tested property
test method
service no.

Firesafe

fire resistance
EN 1366-3
19-47



cables

Flex PLug

bundle dØ (mm)	cable specs ¹⁾ group	conduit	assembly Cu (mm ²)	EI	constructive element ²⁾	Firesafe cable plug Ø in mm	application 1 or 2 sides	finish required	max. opening in construction
max.			max.						
Ø20	group 1 - small sheathed ≤ Ø 20mm	-	208	EI 120	flexible walls ≥ 100 mm	Ø 20 mm	centrally	-	Ø20
		-	208	EI 240	rigid walls ≥ 150 mm	Ø 20 mm	centrally	-	Ø20
		-	208	EI 240	rigid floors ≥ 150 mm	Ø 20 mm	centrally	-	Ø20
		PE conduit	208	EI 90	flexible walls ≥ 100 mm	Ø 20 mm	centrally	-	Ø20
		PE conduit	208	EI 240	rigid walls ≥ 150 mm	Ø 20 mm	centrally	-	Ø20
		PE conduit	208	EI 240	rigid floors ≥ 150 mm	Ø 20 mm	centrally	-	Ø20
Ø20	group 4 - data + fibre optic	-	183	EI 120	flexible walls ≥ 100 mm	Ø 20 mm	centrally	-	Ø20
		-	183	EI 240	rigid walls ≥ 150 mm	Ø 20 mm	centrally	-	Ø20
		-	183	EI 240	rigid floors ≥ 150 mm	Ø 20 mm	centrally	-	Ø20

¹⁾ Penetration services must be supported; support distance ≤ 500mm (wall) or ≤ 400mm (floor).

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm!

Notes:

- installation instructions in TDS
- **other cable dØ** are allowed within group type (and same conduit material)
- EI for flexible walls $\geq 100\text{mm}$ is also applicable for **rigid walls** $\geq 100\text{mm}$

principle detail

Firesafe

tested property

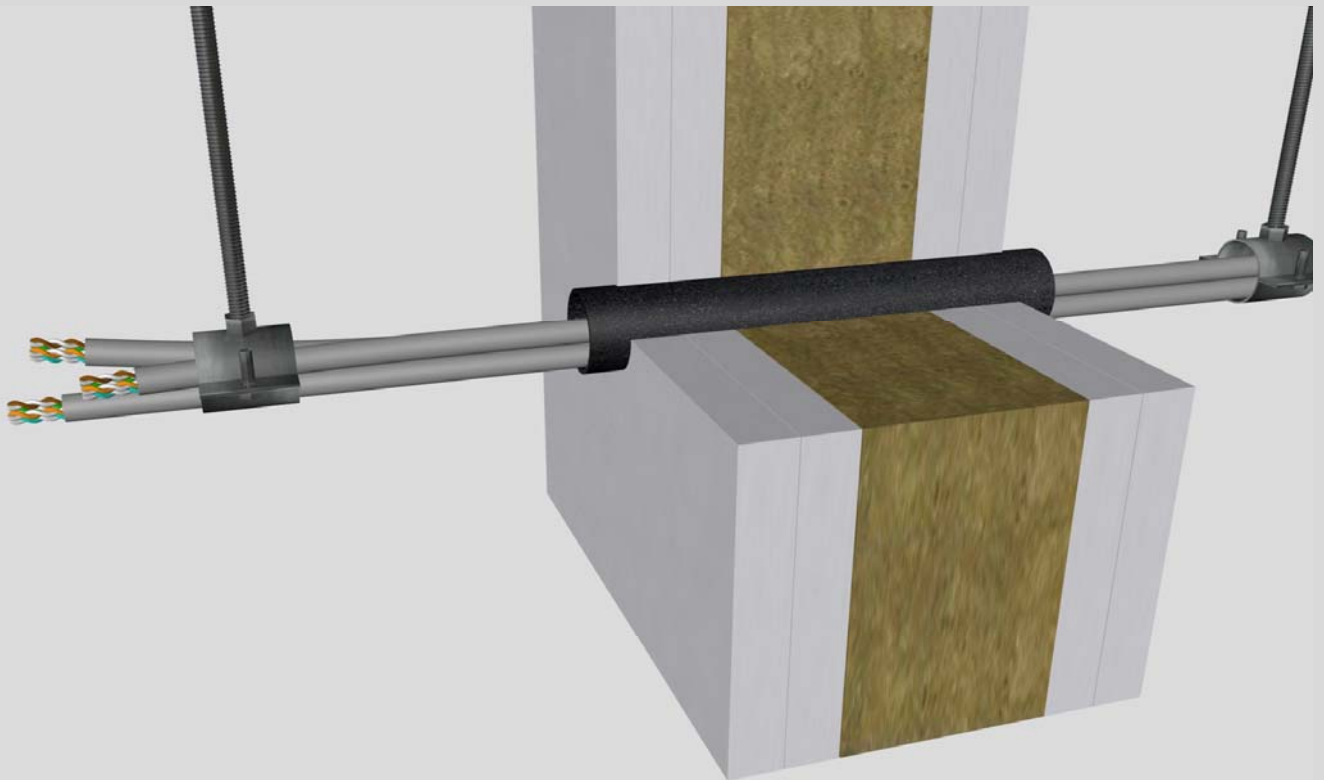
fire resistance

test method

EN 1366-3

service no.

19-46



cables

Flex PLug

bundle dØ (mm)	cable specs ¹⁾ group	conduit	assembly Cu (mm ²)	EI	constructive element ²⁾	Firesafe cable plug Ø in mm	application 1 or 2 sides	finish required	max. opening in construction
max.			max.						
Ø20	group 1 - small sheathed $\leq \text{Ø } 20\text{mm}$	-	208	EI 120	flexible walls $\geq 100\text{ mm}$	Ø 20 mm	centrally	-	Ø20
		-	208	EI 240	rigid walls $\geq 150\text{ mm}$	Ø 20 mm	centrally	-	Ø20
		-	208	EI 240	rigid floors $\geq 150\text{ mm}$	Ø 20 mm	centrally	-	Ø20
		PE conduit	208	EI 90	flexible walls $\geq 100\text{ mm}$	Ø 20 mm	centrally	-	Ø20
		PE conduit	208	EI 240	rigid walls $\geq 150\text{ mm}$	Ø 20 mm	centrally	-	Ø20
		PE conduit	208	EI 240	rigid floors $\geq 150\text{ mm}$	Ø 20 mm	centrally	-	Ø20
Ø20	group 4 - data + fibre optic	-	183	EI 120	flexible walls $\geq 100\text{ mm}$	Ø 20 mm	centrally	-	Ø20
		-	183	EI 240	rigid walls $\geq 150\text{ mm}$	Ø 20 mm	centrally	-	Ø20
		-	183	EI 240	rigid floors $\geq 150\text{ mm}$	Ø 20 mm	centrally	-	Ø20

¹⁾ Penetration services must be supported; support distance $\leq 500\text{mm}$ (wall) or $\leq 400\text{mm}$ (floor).

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls $\geq 100\text{mm}$ is also applicable for rigid walls $\geq 100\text{mm}$!

Notes:

- installation instructions in TDS
- **other cable dØ** are allowed within group type (and same conduit material)
- EI for flexible walls $\geq 100\text{mm}$ is also applicable for **rigid walls** $\geq 100\text{mm}$

principle detail**Firesafe**

tested property

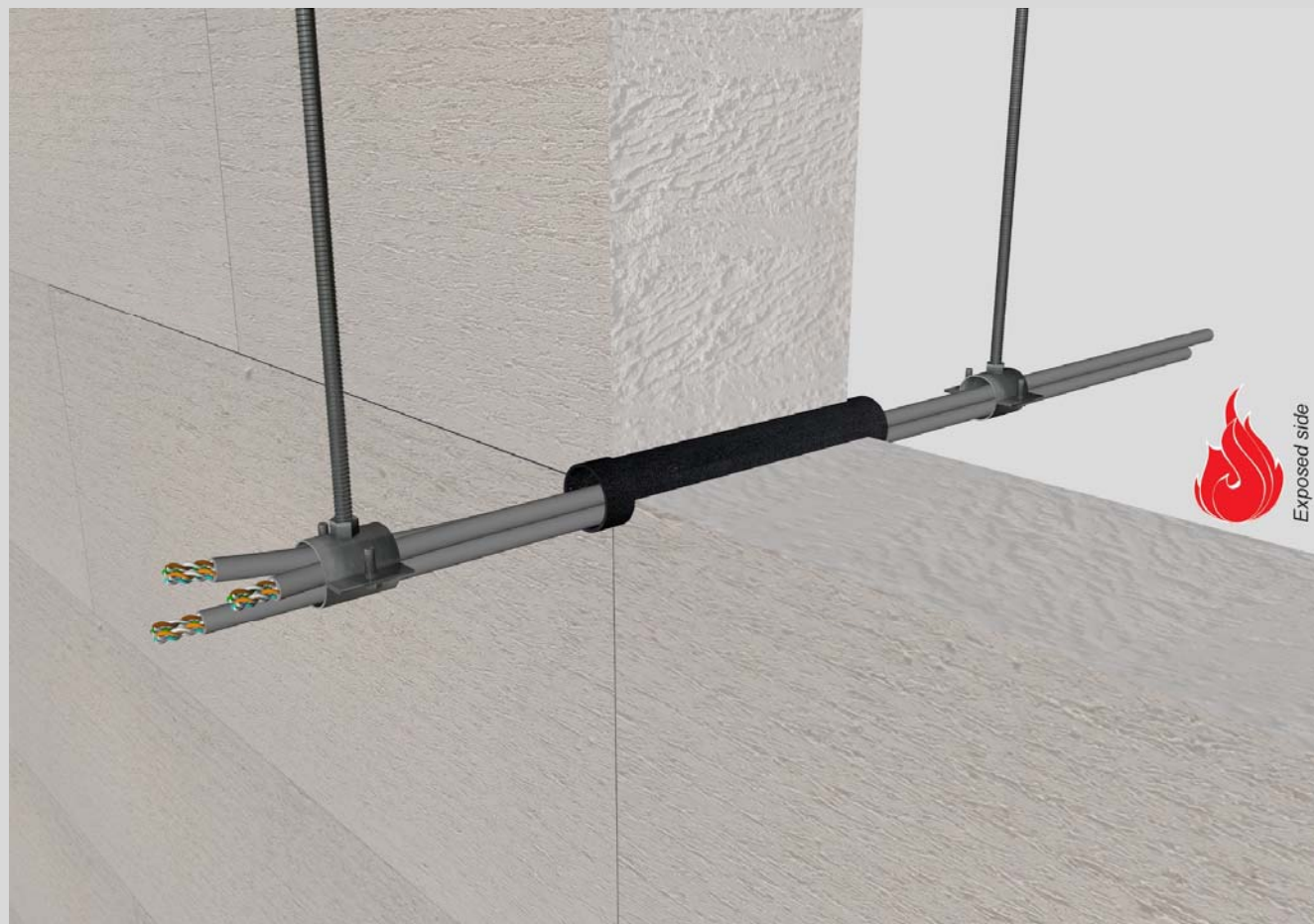
fire resistance

test method

EN 1366-3

service no.

19-46r

**cables****Flex PLug**

bundle dØ (mm)	cable specs ¹⁾ group	conduit	assembly Cu (mm ²)	EI	constructive element ²⁾	Firesafe cable plug Ø in mm	application 1 or 2 sides	finish required	max. opening in construction
max.			max.						
Ø20	group 1 - small sheathed $\leq \varnothing 20\text{mm}$	-	208	EI 120	flexible walls $\geq 100\text{ mm}$	Ø 20 mm	centrally	-	Ø20
		-	208	EI 240	rigid walls $\geq 150\text{ mm}$	Ø 20 mm	centrally	-	Ø20
		-	208	EI 240	rigid floors $\geq 150\text{ mm}$	Ø 20 mm	centrally	-	Ø20
	PE conduit		208	EI 90	flexible walls $\geq 100\text{ mm}$	Ø 20 mm	centrally	-	Ø20
	PE conduit		208	EI 240	rigid walls $\geq 150\text{ mm}$	Ø 20 mm	centrally	-	Ø20
	PE conduit		208	EI 240	rigid floors $\geq 150\text{ mm}$	Ø 20 mm	centrally	-	Ø20
Ø20	group 4 - data + fibre optic	-	183	EI 120	flexible walls $\geq 100\text{ mm}$	Ø 20 mm	centrally	-	Ø20
		-	183	EI 240	rigid walls $\geq 150\text{ mm}$	Ø 20 mm	centrally	-	Ø20
		-	183	EI 240	rigid floors $\geq 150\text{ mm}$	Ø 20 mm	centrally	-	Ø20

¹⁾ Penetration services must be supported; support distance $\leq 500\text{mm}$ (wall) or $\leq 400\text{mm}$ (floor).

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls $\geq 100\text{mm}$ is also applicable for rigid walls $\geq 100\text{mm}$!

Notes:

- installation instructions in TDS
- **other cable dØ** are allowed within group type (and same conduit material)
- EI for flexible walls $\geq 100\text{mm}$ is also applicable for **rigid walls** $\geq 100\text{mm}$

principle detail**Firesafe**

tested property

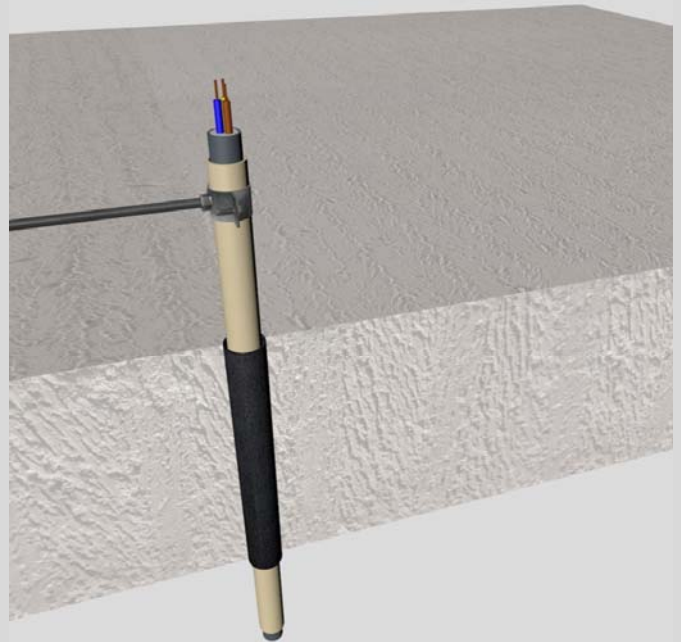
fire resistance

test method

EN 1366-3

service no.

22-40

**cables****Flex PLug**

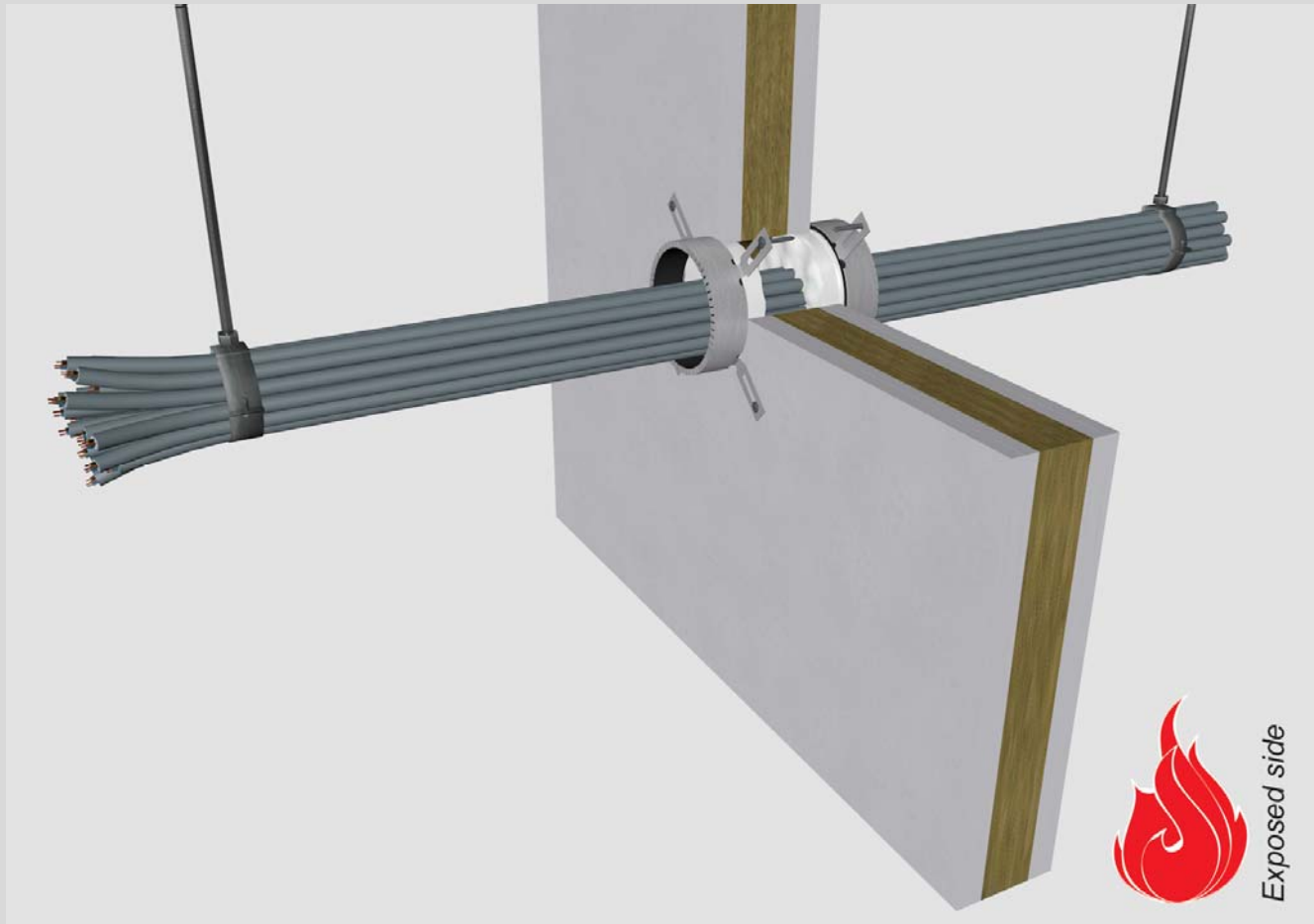
bundle dØ (mm)	cable specs ¹⁾ group	conduit	assembly Cu (mm ²)	 EI	constructive element ²⁾	Firesafe cable plug Ø in mm	application 1 or 2 sides	finish required	max. opening in construction
max.			max.						
Ø20	group 1 - small sheathed $\leq \text{Ø } 20\text{mm}$	-	208	EI 120	flexible walls $\geq 100\text{ mm}$	Ø 20 mm	centrally	-	Ø20
		-	208	EI 240	rigid walls $\geq 150\text{ mm}$	Ø 20 mm	centrally	-	Ø20
		-	208	EI 240	rigid floors $\geq 150\text{ mm}$	Ø 20 mm	centrally	-	Ø20
	PE conduit		208	EI 90	flexible walls $\geq 100\text{ mm}$	Ø 20 mm	centrally	-	Ø20
	PE conduit		208	EI 240	rigid walls $\geq 150\text{ mm}$	Ø 20 mm	centrally	-	Ø20
	PE conduit		208	EI 240	rigid floors $\geq 150\text{ mm}$	Ø 20 mm	centrally	-	Ø20
Ø20	group 4 - data + fibre optic	-	183	EI 120	flexible walls $\geq 100\text{ mm}$	Ø 20 mm	centrally	-	Ø20
		-	183	EI 240	rigid walls $\geq 150\text{ mm}$	Ø 20 mm	centrally	-	Ø20
		-	183	EI 240	rigid floors $\geq 150\text{ mm}$	Ø 20 mm	centrally	-	Ø20

¹⁾ Penetration services must be supported; support distance $\leq 500\text{mm}$ (wall) or $\leq 400\text{mm}$ (floor).

²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls $\geq 100\text{mm}$ is also applicable for rigid walls $\geq 100\text{mm}$!

- Notes:**
- installation instructions in TDS
 - apply smoke seal Firesafe FT Acrylic on 2 sides
 - **other cable dØ** are allowed within group type and same conduit material
 - EI for flexible walls ≥100mm is also applicable for **rigid walls** ≥100mm

principle detail	Firesafe
tested property	fire resistance
test method	EN 1366-3
service no.	21-10



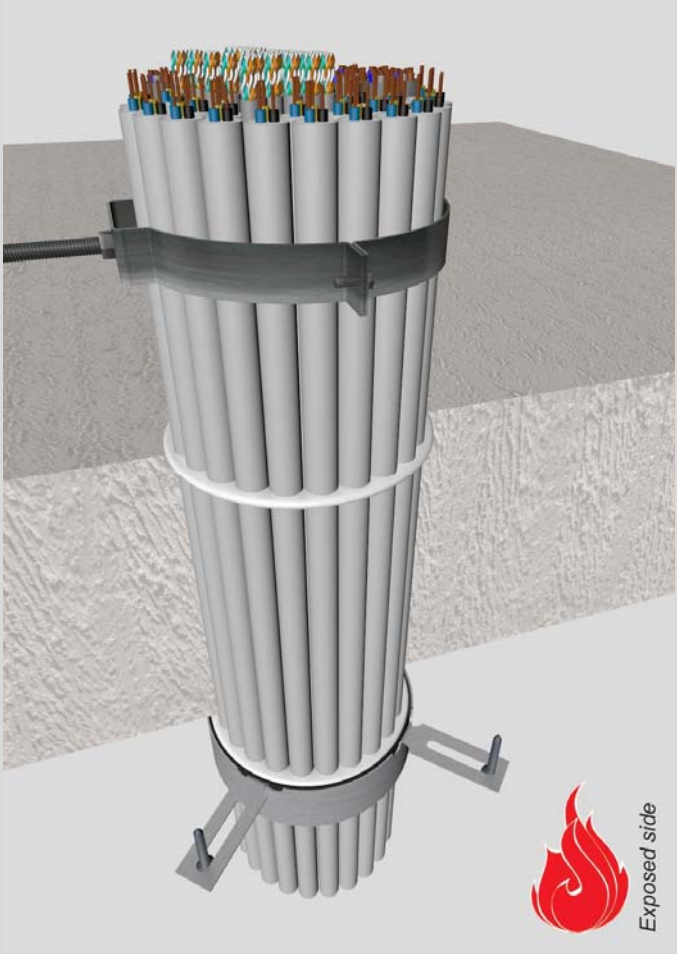
cables									
bundle dØ (mm)	cable specs ¹⁾		assembly Cu (mm ²)	 EI	constructive element ²⁾	FIRE COLLAR			
	group	conduit				Firesafe pipe collar Ø in mm	application 1 or 2 sides	finish required	max. opening in construction
max.			max.						
Ø110	group 1 - small sheathed ≤ Ø 21mm	-	4052	EI 120	flexible walls ≥ 100 mm	Ø 110 mm	2 sides	*	Ø110
Ø110	group 1 - small sheathed ≤ Ø 21mm	-	11494	EI 240	rigid floors ≥ 150 mm	Ø 110 mm	1 side	*	Ø110

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm (wall) or ≤ 400mm (floor).
²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm!

- Notes:**
- installation instructions in TDS
 - apply smoke seal Firesafe FT Acrylic on 2 sides
 - **other cable dØ** are allowed within group type and same conduit material
 - EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm

principle detail	Firesafe
tested property	fire resistance
test method	EN 1366-3
service no.	22-47



cables

FIRE COLLAR

bundle	cable specs ¹⁾		assembly	 EI	constructive element ²⁾	Firesafe pipe collar	application	finish	max. opening
	group	conduit				Ø in mm	1 or 2 sides	required	in construction
			Cu (mm ²)						
max.			max.						
Ø110	group 1 - small sheathed ≤ Ø 21mm	-	4052	EI 120	flexible walls ≥ 100 mm	Ø 110 mm	2 sides	*	Ø110
Ø110	group 1 - small sheathed ≤ Ø 21mm	-	11494	EI 240	rigid floors ≥ 150 mm	Ø 110 mm	1 side	*	Ø110

* smoke seal FT Acrylic on 2 sides

¹⁾ Penetration services must be supported; support distance ≤ 500mm (wall) or ≤ 400mm (floor).
²⁾ Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. EI for flexible walls ≥100mm is also applicable for rigid walls ≥100mm!