Firetect®

DECLARATION OF PERFORMANCE

(DoP)

No.CPR-14/0273+15/0630-paste

version 23/1

1. Unique identification of product	**Firetect® PA sealer**	
2. Intended use	service closure for structural (expansion) joints and openings for pipe + cable penetrations, to form a penetration seal in case of fire to reinstate the fire resistance of: - standard flexible walls ≥ 100mm - standard rigid walls ≥ 100mm - standard rigid floors ≥ 150mm	
3. Manufacturer	KLF Building Products BV Techniekweg 11, 4207 HC Gorinchem, The Netherlands	
4. Authorised representative	not applicable	
5. System of AVCP	System 1	
6a. Harmonised standard	not applicable	
Notified body	not applicable	
6b. European Assessment Document (EAD)	350454-00-1104	350141-00-1106
European Technical Assessment (ETA)	ETA-14/0273	ETA-15/0630
Certificate of Constancy of Performance	0960-CPR-SKGIKOB.011133.01.NL	
Technical Assessment Body (TAB)	SKG-IKOB	SKG-IKOB
Identification notified body	No. 0960	No. 0960

7. Declared performances

basic requirements	characteristics	performances
BWR 1 Mechanical resistance + stability		not relevant
BWR 2 Safety in case of fire		
EN 13501-1	reaction to fire	Class F
EN 13501-2	resistance to fire	per tested assembly; EI 30 up to EI 240,
	field of application	+ Sa - S200; see ANNEX BWR2 + ANNEX A
BWR 3 Hygiene, health + environment		IA1, S/W3
EAD …-1104, §2.2.3 + EAD …-1106, §2.2.4	air permeability	npd
EAD …-1104, §2.2.4 + EAD …-1106, §2.2.5	water permeability	npd
EAD …-1104, §2.2.5 + EAD …-1106, §2.2.3	content, emission and/or release of dangerous substances	acc. CLP classified as not dangerous acc. Regulation 1272/2008
BWR 4 Safety + accessibility in use		
EAD …-1104, §2.2.6 + EAD …-1106, §2.2.6	mechanical resistance + stability	npd
EAD …-1104, §2.2.7 + EAD …-1106, §2.2.7	resistance to impact / movement	npd
EAD 350141-00-1106, §2.2.8	adhesion	passed
EAD …-1104, §2.2.9 + EAD …-1106, §2.2.12	durability	Z_2 (internal use)
EAD 350141-00-1106, §2.2.13	movement capability	max. 7,5% SA (self-adhering)
BWR 5 Protection against noise		
EAD 350454-00-1104, §2.2.10	airborne sound insulation	$R_{s,w}$ = 44 dB up to 53 dB
	field of application	see ANNEX B
BWR 6 Energy economy + heat retention		
EAD 350454-00-1104, §2.2.11	thermal properties	npd
EAD 350454-00-1104, §2.2.12	water vapour permeability	npd
General aspects relation to fitness for use		
EAD 350454-00-1104, §1.2.2	assumed working life for the intended use	10 years

8. Specific Technical Documentation — not applicable

npd= no performance determined

The performances of the products identified are in conformity with the declared performances. This declaration of performance is issued, in accordance with Regulation 305/2011, under the sole responsibility of the manufacturer.

Signed for and on behalf of the manufacturer in Gorinchem dated 12-05-2023 by C. Buikema

Firetect® is a registered brand of KLF

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disclaimer

field of application
(FoA)

Firetect® PA sealer

tested and certified by ETA-14/0273 + ETA-15/0630;
fire resistance performances and assembly methods for uses in:

constructive element [1)]

fire rated walls acc. EN 1363-1	- flexible wall ≥100mm; metal or timber studs, plaster board type A + wall insulation - flexible wall ≥75mm; metal or timber studs, plaster board type A, **non-insulated** - flexible wall ≥100mm; metal or timber studs, plaster board type A, **non-insulated** - rigid wall ≥100mm: blockwork/concrete/masonry, density ≥ 600 kg/m^3 - rigid wall ≥150mm: blockwork/concrete/masonry, density ≥ 600 kg/m^3 - CLT wall ≥100mm: cross-laminated timber
fire rated floors acc. EN 1363-1	- rigid floor ≥150mm: (aerated) concrete, density ≥ 600 kg/m^3 - CLT floor ≥140mm: cross-laminated timber

[1)] the constructive element must be classified acc. EN 13501-2 for the required fire resistance period

fire resistance

smoke control acc. EN 1634-3
smoke leakage control: Sa - S200

field of application: acc. EN 13501-2 / 1366-3
EI **30** up to EI **240**: PA sealer
structural openings for pipe + cable penetrations: [2)]

- PE/PVC	≤ Ø50mm	also in PA board
- aluPE-X	≤ Ø75mm	also with pipe insulation
- PE-Xa	≤ Ø32 (54) mm	
- copper	≤ Ø54mm	also with pipe insulation + PA board
- steel	≤ Ø219mm	also with pipe insulation + PA board
- cast iron	≤ Ø110mm	
- cable trays	≤ 600x1200mm +25% in walls	coat back is **not** required
incl. cable ladders + wire mesh	≤ 1000x1200 mm / 600x5000mm in floors	coat back is **not** required
- cable bundles	≤ Ø121mm	also in PA board

field of application: acc. EN 13501-2 / 1366-4
EI **60** up to EI **120**: PA sealer
structural joints:

- linear joints	≤ 50mm	horizontal orientation, incl. abutting walls vertical orientation

[2)] support services; support distance: see principle detail

environmental performances	BREEAM	LEED	VOC	EN 717-1§	EMICODE	M1	Indoor Air
example protocols, click for full list	☑		A+	E1	EC1 PLUS		Comfort GOLD

EPD reg.no. **S-P-09706**

directions for use: application, fasteners, finish & maintenance: see TDS

product information

Product certification by DoP; more info on certification of CE building products through ETA at firetect.eu/certification
- full DoP version: declaration of performance + ANNEX BWR2 + ANNEX A + ANNEX B; upon request
- web DoP version: declaration of performance + ANNEX BWR2; other info can be downloaded at firetect.eu/download
- FoA charts; suitable products per type of fireseal + EI performance + product / joint details
- TDS: general directions for use + product specs

Consult firetect.eu/download for updated versions; product development + fire tests are ongoing processes at KLF.
Contact KLF for other EI requirements and (non)standard or complex site requirements; mail info@klf.nl

CE
ETA
EPD

How-to-read

charts Field of Application Firetect® fire rated building products

certification

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

Always apply acc. details as stated per principle detail; click EI performance in chart.

Product certification of CE marked building products is done by DoPs (Declaration of Performance), rather than test reports; more info at www.firetect.eu. Charts do not include all test data. Contact KLF for non-standard (EI) requirements: +31 345 63 97 97 or info@klf.nl.

supporting construction

product has been tested in + certified for constructive element, default type:

1	flexible wall ≥ 100 mm; metal or timber studs, plaster board type A + wall insulation
1-n(xxx)	flexible wall ≥ (xxx) mm; metal or timber studs, plaster board type F, **no** wall insulation
1-sh(xxx)	shaft wall ≥ (xxx) mm, **non**-insulated
	(xxx) = wall thickness in mm; see in charts with EI performance
1-sw	sandwich wall ≥ 100 mm
2	rigid wall ≥ 100 mm: blockwork/concrete/masonry, density ≥ 600 kg/m^3
3	rigid wall ≥ 150 mm: blockwork/concrete/masonry, density ≥ 600 kg/m^3
4	flexible ceiling ≥ 150 mm: metal studs, plaster board type F
5	rigid floor ≥ 150 mm: (aerated) concrete, density ≥ 600 kg/m^3
6	CLT wall ≥ 100 mm
7	CLT floor ≥ 140 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 PA board	also applicable in FR Mortar fireseal; contact KLF for more info

"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: U = uncapped and C = capped, at resp. exposed / unexposed side
1S + 2S	PA board coated on 1 side (1S) or 2 sides (2S)
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 ≤ 15mm with collar + wrap; if larger, use PA board:
	walls: max. 600 x 1200 mm + 25%, floors: max. 1000 x 1200 mm up to 600 x 5000 mm
	- allowed 'oversized' collar ≤ 15mm, eg use Ø90 collar for Ø80 pipe
Note	Support pipes; support distance: see principle detail.
	Fasten glass wool or rock wool individually (not wrapped!) with steel wire; see principle detail.

How-to-read

charts Field of Application Firetect® fire rated building products

certification

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

Always apply acc. details as stated per principle detail; click EI performance in chart.

Product certification of CE marked building products is done by DoPs (Declaration of Performance), rather than test reports; more info at www.firetect.eu. Charts do not include all test data. Contact KLF for non-standard (EI) requirements: +31 345 63 97 97 or info@klf.nl.

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

gaps + openings without any service penetrations

EI: fire resistance in minutes (integrity + insulation)

up to EI 120 for application in walls + floors

disclaimer

Consult www.firetect.eu/download for updates; product development + fire tests are ongoing processes at KLF.
Mentioned brand names are for illustrative purpose only, to indicate type of material tested.

FoA plastic pipes

Firetect® 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

PE-LD + PE-HD	aluPE-X	PE-Xa
dØ up to 250 mm	dØ up to 75 mm	dØ up to 32 (54) mm
s1 3,2 up to 22,7 mm	s1 2,0 up to 7,5 mm	s1 2,2 up to 4,4 mm
pipes within range (dØ+s1) acc.	pipes within range (dØ+s1) acc.	pipes within range (dØ+s1) acc.
EN 1519-1	EN 1519-1	EN 1519-1
EN 12666-1	EN 12201-2	EN 12201-2
EN 12201-2	EN 12666-1	EN 12666-1
EN ISO 15494	EN ISO 15494	EN 15875
DIN 8074	DIN 8074	EN ISO 15494
DIN 8075	DIN 8075	ISO 21003
DIN 19535-10	DIN 19535-10	DIN 8074
		DIN 8075
		DIN 19535-10
eg Wavin TS	eg Uponor MLC	eg Uponor Aqua
Agru PE 100	TECEflex	Geberit Mepla
Agru PE 100-RC	Geberit Mepla	Kekelit Kelox KM 110
	Kekelit Kelox KM 110	Rehau Rautitan flex
	Rehau Rautitan stabil	Rehau Rautitan stabil
	Henco Alupex	
	Begetube Alpex	

PP
polypropylene

PP-R
high pressure + temperature

PP-MD
low noise

PP	PP-R	PP-MD	PP-MX
dØ up to 250 mm	dØ up to 110 mm	dØ up to 160 mm	dØ up to 160 mm
s1 2,7 up to 22,7 mm	s1 3,7 up to 15,1 mm	s1 1,8 up to 5,4 mm	s1 2,7 up to 5,7 mm
pipes within range (dØ+s1) acc.	pipes within range (dØ+s1) acc.	pipes within range (dØ+s1) acc.	pipes within range (dØ+s1) acc.
EN 1451-1	EN 1451-1	EN 1451-1	EN 1451-1
EN ISO 15494	EN ISO 15494	EN ISO 15494	EN ISO 15494
EN ISO 15874	EN ISO 15874	EN ISO 15874	EN ISO 15874
DIN 8077	ISO 21003	DIN 8077	DIN 8077
DIN 8078	DIN 8077	DIN 8078	DIN 8078
	DIN 8078		
eg Dyka PP	eg Aquatherm Blue	eg Uponor Decibel	eg Geberit Silent-Pro
Agru PP-H	Aquatherm Green	Geberit Silent-PP	
	Aquatechnik PP-R	Pipelife Master 3	
	Akatherm PP-R	Rehau Raupiano Plus	
	Wavin Pilsa	Poloplast Polo-Kal NG / 3S	
		Wavin SiTech / AS	
		Valsir Silere / Triplus	

PVC
polyvinyl chloride

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

Scope of pipes tested with Firetect products

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

*Per Foa chart (pipe **material**) is stated what Firetect product to use within range (dØ+s1).*

Always install services acc. manufacturer's instructions; support distance ≤ 500mm (walls) and ≤ 400mm (floors).

PE + PP + PVC classification ≤ Ø250 mm

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

PE + PP + PVC acc. EN norms
dØ up to 250 mm
s1 up to 22,7 mm
pipe brands eg Pipelife, Agru, Dyka, Wavin

suitable Firetect products within classification: *

dØ	s1	pipe insulation	Graphite sealant (DoP CPR-14/0273) walls	Graphite sealant floors	FMU collar (DoP CPR-14/0251) walls	FMU collar floors	Wrap (DoP CPR-14/0251) walls	Wrap floors
up to Ø110	2,7 up to 10,0 PE 3,4 up to 10,0 PP 2,7 up to 6,3 PVC 2,7 up to 10,0	non-insulated	EI 90 in wall 1+2+3 EI 90 in wall 1-n100 EI 30 in wall 1-n75 EI 90 in wall 6	EI 90 in floor 5 EI 90 in floor 7	EI 60 in wall 1+2+3 EI 60 in wall 1-n100 EI 30 in wall 1-n75 also on **PA board**: screwed on or cast-in	EI120 in ceiling 4 EI 120 in floor 5 EI 90 in floor 7 also on **PA board**: screwed on or cast-in	EI 120 in wall 1+2+3 2 layer	EI 180 in floor 5 2 layer EI 90 in floor 7 2 layer
Ø125	3,1 up to 11,7 PE 3,9 up to 11,7 PP 3,1 up to 7,1 PVC 3,1 up to 11,7	non-insulated			EI 60 in wall 1+2+3 EI 60 in wall 1-n100 collar Ø125		EI 60 in wall 1+2+3 2 layer	EI 180 in floor 5 3 layer
Ø140 - Ø160	4,0 up to 14,6 PE 4,9 up to 14,6 PP 4,0 up to 14,6 PVC 4,0 up to 14,6	non-insulated			EI 60 in wall 1+2+3 EI 60 in wall 1-n100 collar Ø140 or Ø160	EI 90 in floor 5 collar Ø140 or Ø160		EI 180 in floor 5 3 layer
Ø200	4,9 up to 18,2 PE 6,2 up to 18,2 PP 4,9 up to 18,2 PVC 4,9 up to 18,2	non-insulated			EI 60 in wall 1+2+3 EI 60 in wall 1-n100 collar Ø200			
Ø250	6,2 up to 22,7 PE 9,6 up to 22,7 PP 6,2 up to 22,7 PVC 6,2 up to 22,7	non-insulated			EI 60 in wall 1+2+3 also in **PA board** collar Ø250			

* Alternatively, use Acrylic sealant or PA sealer for pipes ≤ Ø50mm; see individual results.

non-standard configurations eg angled, bundled or XL:
up to Ø400mm with FMU collar

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 smokeseal Acrylic sealant on 2 sides

default:
walls: apply on 2 sides
floors: apply on 1 side
always apply smokeseal Acrylic sealant on 2 sides

supporting construction

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

1: flexible wall ≥ 100 mm, insulated
1-n: flexible wall ≥ (xxx) mm, **non-insulated**
1-sh: shaft wall ≥ (xxx) mm, **non-insulated**
1-sw sandwich wall ≥ 100 mm
2: rigid wall ≥ 100 mm
3: rigid wall ≥ 150 mm
4: flexible ceiling ≥ 150 mm
5: rigid floor ≥ 150 mm
6: CLT wall ≥ 100 mm
7: CLT floor ≥ 140 mm

Max. **opening** in constructive element: see principle detail. Use PA 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: see
PLASTIC CABLE CONDUITS

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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
how-to-read
acoustical
environmental

aluPE-X (composite) classification ≤ Ø75 mm

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 Climpipe, Rockwool, Armaflex, U Protect Pipe Section Alu2

suitable Firetect products within classification:

dØ	s1	pipe insulation	Graphite sealant (DoP CPR-14/0273) walls	Graphite sealant floors	Acrylic sealant or PA sealer (DoP CPR-14/0273) walls	Acrylic sealant or PA sealer floors	FMU collar (DoP CPR-14/0251) floors	Wrap (DoP CPR-14/0251) walls	Wrap 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							
		+ synth. rubber, min. 60 kg/m³ up to 13mm	EI 60 in wall 1+2+3 EI 90 in wall 1-n100 EI 60 in wall 1-n75 also in PA board	individual results max. EI 90 in floor 5 EI 90 in floor 7	EI 120 in wall 3 EI 90 in wall 6	EI 120 in floor 5 EI 90 in floor 7 10 x 25 mm	EI 90 in floor 7 collar Ø50 - Ø90	EI 60 in wall 1+2+3 2 layer also in PA board	EI 90 in floor 7 2 layer
			EI 120 in wall 2+3 in FR Mortar		EI 60 in wall 2+3 in FR Mortar			EI 90 in wall 2+3 1 layer in FR Mortar	
Ø16 up to Ø75 + glass or rock wool (alu) insulation	2,0 up to 7,5	+ pipe insulation							
		+ 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				EI 120 in wall 1+2 EI 240 in wall 3 1 layer	EI 240 in floor 5 2 layer
		40mm	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 1 layer	EI 240 in floor 5 2 layer
		50mm	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 2 layer	EI 240 in floor 5 2 layer
		60mm	EI 120 in wall 1+2 EI 240 in wall 3	EI 240 in floor 5				EI 120 in wall 1+2+3 3 layer	EI 120 in floor 5 3 layer
		80mm	EI 120 in wall 1+2 EI 240 in wall 3	EI 240 in floor 5				EI 120 in wall 1+2+3 3 layer	EI 120 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		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 smokeseal Acrylic sealant on 2 sides	default: walls: apply on 2 sides floors: apply on 1 side always apply smokeseal Acrylic sealant on 2 sides	

supporting construction

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

1: flexible wall ≥ 100 mm, insulated
1-n: flexible wall ≥ (xxx) mm, **non-insulated**
1-sh: shaft wall ≥ (xxx) mm, **non-insulated**
1-sw sandwich wall ≥ 100 mm
2: rigid wall ≥ 100 mm
3: rigid wall ≥ 150 mm
4: flexible ceiling ≥ 150 mm
5: rigid floor ≥ 150 mm
6: CLT wall ≥ 100 mm
7: CLT floor ≥ 140 mm

Max. **opening** in constructive element: see principle detail. Use PA 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.

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PE + PP + PVC
plastic cable conduits
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PP-MD
PP-MX
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steel conduits
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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

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

suitable Firetect products within classification:

dØ	s1	pipe insulation	Graphite sealant (DoP CPR-14/0273) walls	Graphite sealant floors	Acrylic sealant or PA sealer (DoP CPR-14/0273) walls	Acrylic sealant floors	FMU collar (DoP CPR-14/0251) walls	FMU collar floors	Wrap (DoP CPR-14/0251) walls	Wrap floors
Ø15 (28)	2,5	non-insulated	EI 90 in wall 1+2 EI 240 in wall 3 EI 60 in wall 1-sh75 on PA board	EI 240 in floor 5	EI 90 in wall 1+2 EI 240 in wall 3	EI 240 in floor 5	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 240 in wall 3 1 layer	EI 240 in floor 5 1 layer
		+ pipe insulation + polyolefin rubber, min. 28 kg/m³ 10mm	EI 120 in wall 1+2 EI 240 in wall 3 EI60 in wall 1-sh75 on PA board	EI 240 in floor 5			EI 120 in wall 1+2 EI 120 in wall 3 collar Ø50	EI 120 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
Ø16 (25)	2,2	non-insulated	EI 120 in wall 1+2 EI 240 in wall 3 EI 60 in wall 1-sh75 on PA board	EI 240 in floor 5	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 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 240 in wall 3 1 layer	EI 240 in floor 5 1 layer
		+ pipe insulation + polyolefin rubber, min. 28 kg/m³ 10mm	EI 120 in wall 1+2 EI 240 in wall 3	EI 240 in floor 5			EI 120 in wall 1+2 EI 120 in wall 3 collar Ø50	EI 120 in floor 5 collar Ø50	EI 120 in wall 1+2 EI 240 in wall 3 1 or 2 layer	EI 240 in floor 5 2 layer
Ø32 (54)	4,4	non-insulated	EI 120 in wall 1+2 EI 240 in wall 3 EI 60 in wall 1-sh75 on PA board	EI 240 in floor 5	EI 60 in wall 1+2 EI 180 in wall 3	EI 180 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 1 layer	EI 240 in floor 5 1 layer
		+ pipe insulation + polyolefin rubber, min. 28 kg/m³ 20mm	EI 90 in wall 1+2 EI 120 in wall 3	EI 90 in floor 5			EI 60 in wall 1+2 EI 240 in wall 3 collar Ø110	EI 240 in floor 5 collar Ø110	EI 90 in wall 1+2 EI 240 in wall 3 2 layer	EI 240 in floor 5 2 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 smokeseal Acrylic sealant on 2 sides		default: walls: apply on 2 sides floors: apply on 1 side always apply smokeseal Acrylic sealant on 2 sides	

'eccentric to zero' position in opening is allowed

supporting construction

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

1: flexible wall ≥ 100 mm, insulated
1-n: flexible wall ≥ (xxx) mm, **non-insulated**
1-sh: shaft wall ≥ (xxx) mm, **non-insulated**
1-sw sandwich wall ≥ 100 mm
2: rigid wall ≥ 100 mm
3: rigid wall ≥ 150 mm
4: flexible ceiling ≥ 150 mm
5: rigid floor ≥ 150 mm
6: CLT wall ≥ 100 mm
7: CLT floor ≥ 140 mm

Max. **opening** in constructive element: see principle detail. Use PA 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.

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COPPER classification ≤ Ø76 mm

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

copper	
dØ	max. 76 mm
s1	max. 14,0 mm

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

suitable Firetect products within classification:

dØ	s1	pipe insulation	Graphite sealant (DoP CPR-14/0273) walls	Graphite sealant floors	Acrylic sealant or PA sealer (DoP CPR-14/0273) walls	Acrylic sealant floors	Wrap (DoP CPR-14/0251) walls	Wrap 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						
		13mm	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
		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						
		25mm	EI 60 in wall 1+2+3		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		
		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 20 up to 30mm	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	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	EI 120 in floor 5 2 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	EI 120 in floor 5 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	EI 120 in floor 5 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	EI 120 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		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 smokeseal Acrylic sealant on 2 sides	

supporting construction

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

1: flexible wall ≥ 100 mm, insulated
1-n: flexible wall ≥ (xxx) mm, **non-insulated**
1-sh: shaft wall ≥ (xxx) mm, **non-insulated**
1-sw sandwich wall ≥ 100 mm
2: rigid wall ≥ 100 mm
3: rigid wall ≥ 150 mm
4: flexible ceiling ≥ 150 mm
5: rigid floor ≥ 150 mm
6: CLT wall ≥ 100 mm
7: CLT floor ≥ 140 mm

Max. **opening** in constructive element: see principle detail. Use PA 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.

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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

suitable Firetect products within classification:

steel Ø12 up to Ø219

dØ	s1	pipe insulation	Graphite sealant (DoP CPR-14/0273) walls	Graphite sealant floors	Acrylic sealant or PA sealer (DoP CPR-14/0273) walls	Acrylic sealant or PA sealer floors	Wrap (DoP CPR-14/0251) walls	Wrap floors
steel Ø12 up to Ø219	1,0 up to 4,5 mm Ø12 up to Ø219 mm	non-insulated	individual results max. EI 120 in wall	individual results max. EI 120 in floor 5	individual results max. EI 180 in wall	individual results max. EI 180 in floor 5		
steel Ø12 up to Ø219	1,0 up to 14,2 mm Ø15 up to Ø219 mm + synth. rubber, min. 60 kg/m³	+ pipe insulation 10mm	EI 90 in wall 1+2+3	EI 90 in floor 5				
steel Ø12 up to Ø219	1,0 up to 14,2 mm Ø15 up to Ø219 mm + synth. rubber, min. 60 kg/m³	+ pipe insulation 13mm	EI 120 in wall 1+2+3 individual results max. EI 90 in wall 1-n100 EI 60 in wall 1-n75	EI 60 in floor 5 EI 90 in floor 7	individual results max. EI 120 in wall 3	individual results max. EI 120 in floor 5		EI 90 in floor 7 2 layer
steel Ø12 up to Ø219	1,0 up to 14,2 mm Ø15 up to Ø219 mm + synth. rubber, min. 60 kg/m³	+ pipe insulation 25mm	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 floor 5				
steel Ø12 up to Ø219	1,0 up to 14,2 mm Ø15 up to Ø219 mm + glass or rock wool (alu), min. 75 kg/m³	+ pipe insulation 20 up to 30mm	EI 60 in wall 1+2+3	EI 90 in floor 5			EI 60 in wall 1+2+3 1 layer	EI 90 in floor 5 2 layer
steel Ø12 up to Ø219	1,0 up to 14,2 mm Ø15 up to Ø219 mm + glass or rock wool (alu), min. 75 kg/m³	+ pipe insulation 40mm	EI 60 in wall 1+2+3	EI 90 in floor 5			EI 90 in wall 1+2+3 1 layer	EI 90 in floor 5 2 layer
steel Ø12 up to Ø219	1,0 up to 14,2 mm Ø15 up to Ø219 mm + glass or rock wool (alu), min. 75 kg/m³	+ pipe insulation 50mm	EI 90 in wall 1+2+3	EI 90 in floor 5			EI 120 in wall 1+2+3 2 layer	EI 120 in floor 5 2 layer
steel Ø12 up to Ø219	1,0 up to 14,2 mm Ø15 up to Ø219 mm + glass or rock wool (alu), min. 75 kg/m³	+ pipe insulation 60mm	EI 90 in wall 1+2+3	EI 90 in floor 5			EI 60 in wall 1+2+3 3 layer	EI 120 in floor 5 3 layer
steel Ø12 up to Ø219	1,0 up to 14,2 mm Ø15 up to Ø219 mm + glass or rock wool (alu), min. 75 kg/m³	+ pipe insulation 80mm	EI 90 in wall 1+2+3	EI 180 in floor 5			EI 60 in wall 1+2+3 3 layer	EI 120 in floor 5 3 layer
steel Ø12 up to Ø219	1,0 up to 14,2 mm Ø15 up to Ø219 mm + rock wool (alu), min. 90 kg/m³	+ pipe insulation 25mm	EI 60 in wall 1+2+3		EI 120 in wall 3 EI 60 in wall 1-n100 individual results max. EI 30 in wall 1-n75	EI 120 in floor 5 also on PA board		
steel Ø12 up to Ø219	1,0 up to 14,2 mm Ø15 up to Ø219 mm + rock wool (alu), min. 90 kg/m³	+ pipe insulation 50mm	EI 90 in wall 1+2+3		individual results max. EI 90 in wall 1-n100			
steel Ø12 up to Ø219	3,25 up to 14,2 mm Ø42 up to Ø219 mm + PIR, min. 33 kg/m³	+ pipe insulation 25mm	EI 60 in wall 1+2+3	EI 180 in floor 5				
steel Ø12 up to Ø219	3,25 up to 14,2 mm Ø42 up to Ø219 mm + PIR, min. 33 kg/m³	+ pipe insulation 50mm	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		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 smokeseal Acrylic sealant on 2 sides	

supporting construction

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

1: flexible wall ≥ 100 mm, insulated
1-n: flexible wall ≥ (xxx) mm, **non-insulated**
1-sh: shaft wall ≥ (xxx) mm, **non-insulated**
1-sw sandwich wall ≥ 100 mm
2: rigid wall ≥ 100 mm
3: rigid wall ≥ 150 mm
4: flexible ceiling ≥ 150 mm
5: rigid floor ≥ 150 mm
6: CLT wall ≥ 100 mm
7: CLT floor ≥ 140 mm

Max. **opening** in constructive element: see principle detail. Use PA 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
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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

suitable Firetect products within classification:

dØ	s1	pipe insulation	Acrylic sealant or PA sealer (DoP CPR-14/0273) walls	Acrylic sealant or PA sealer (DoP CPR-14/0273) floors	Wrap (DoP CPR-14/0251) walls	Wrap (DoP CPR-14/0251) floors
steel Ø12 up to Ø219	3,5 mm Ø58 up to Ø110 mm	non-insulated			max. EI 90 in wall 6 2 layer	max. EI 90 in floor 7 2 layer
steel Ø12 up to Ø219	3,5 mm Ø58 up to Ø110 mm	+ pipe insulation + **synth. rubber**, min. 60 kg/m³ 13mm	EI 90 in wall 6	EI 90 in floor 7		
steel Ø12 up to Ø219	3,5 mm Ø58 up to Ø110 mm	+ **rock wool** (alu), min. 85 kg/m³ 20 mm	EI 90 in wall 6	EI 90 in floor 7		
steel Ø12 up to Ø219	3,5 mm Ø58 up to Ø110 mm	+ **rock wool** (alu), min. 85 kg/m³ 30mm	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

default:
walls: apply on 2 sides
floors: apply on 2 sides
always apply smokeseal Acrylic sealant on 2 sides

supporting construction

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

1: flexible wall ≥ 100 mm, insulated
1-n: flexible wall ≥ (xxx) mm, **non-insulated**
1-sh: shaft wall ≥ (xxx) mm, **non-insulated**
1-sw sandwich wall ≥ 100 mm
2: rigid wall ≥ 100 mm
3: rigid wall ≥ 150 mm
4: flexible ceiling ≥ 150 mm
5: rigid floor ≥ 150 mm
6: CLT wall ≥ 100 mm
7: CLT floor ≥ 140 mm

Max. **opening** in constructive element: see principle detail. Use PA 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.

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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

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

1: flexible wall ≥ 100 mm, insulated
1-n: flexible wall ≥ (xxx) mm, **non-insulated**
1-sh: shaft wall ≥ (xxx) mm, **non-insulated**
1-sw sandwich wall ≥ 100 mm
2: rigid wall ≥ 100 mm
3: rigid wall ≥ 150 mm
4: flexible ceiling ≥ 150 mm
5: rigid floor ≥ 150 mm
6: CLT wall ≥ 100 mm
7: CLT floor ≥ 140 mm

suitable Firetect products within classification:

service size	Cu mm²	cable specs	Graphite sealant (DoP CPR-14/0273)	Acrylic or PA sealer (DoP CPR-14/0273)	PA board (DoP CPR-14/0260)	or FR Mortar	max. opening (mm)	support distance (mm)
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		EI 60 in wall 1+2+3	2x 50mm 2S	100mm	600x1200	at 250mm + 500mm
				EI 30 in wall 1+2+3	2x 50mm 2S	100mm	600x1200	at 500mm
				EI 30 in wall 2+3	1x 50mm 2S	50mm	600x1200	at 500mm
				EI 60 in floor 5	2x 50mm 2S	100mm	600x5000	at 250mm + 400mm
	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	EI 60 in wall 1+2+3	EI 60 in wall 1+2+3	2x 50mm 2S	100mm	600x1200 +25%	at 500mm
			EI 60 in floor 5	EI 60 in floor 5	2x 50mm 2S	100mm	600x5000	at 250mm + 400mm
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	results max. EI 180 in wall 3	EI 120 in wall 1+2+3	1x 50mm 2S	50mm	620 x 70	at 500mm
				EI 60 in wall 1+2+3	-	-	620 x 70	at 500mm
				EI 30 in wall 1n-75	-	-	220 x 80	at 250mm + 500mm
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		EI 60 in wall 1+2+3	2x 50mm 2S	100mm	730 x 230	at 250mm + 500mm
				EI 90 in wall 1+2+3	2x 50mm 2S	100mm	660 x 120	at 250mm + 500mm
				EI 30 in wall 1n-75	-	-	420 x 100	at 250mm + 500mm
				EI 60 in floor 5	2x 50mm 2S	100mm	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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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

suitable Firetect products within classification:

bundle size	cable specs	Graphite sealant DoP CPR-14/0273	Acrylic or PA sealer DoP CPR-14/0273	Cable transit DoP CPR-14/0251	Flex plug DoP CPR-14/0251	FMU collar DoP CPR-14/0251
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		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 120 in wall 1+2 EI 240 in wall 3 EI 240 in floor 5	
max. Ø 55 mm	cable assembly within max. Cu mm²; allowed cable groups: group 1 - small sheathed group 4 - data + fibre optic conduit, plastic	EI 60 in wall 1-n75	EI 90 in wall 1+2 EI 180 in wall 3 EI 180 in floor 5	EI 120 in wall 1+2+3 EI 90 in wall 6 EI 90 in floor 7		
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	EI 120 in wall 1+2+3 EI 90 in wall 1-n100 EI 60 in wall 1-n75 EI 90 in wall 6 EI 240 in floor 5 EI 120 in ceiling 4 EI 90 in floor 7	EI 120 in wall 1+2+3 EI 90 in wall 6 EI 180 in floor 5 also on **PA board** EI 90 in floor 7	EI 90 in wall 1+2+3 EI 120 in floor 5		EI 120 in wall 1+2+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	position centrally in construction mount with Acrylic sealant put loose rock wool ≥ 100kg/m³ in transit on 2 sides	position centrally in construction	default: walls: apply on 2 sides floors: apply on 1 side apply smokeseal Acrylic	

supporting construction

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

1: flexible wall ≥ 100 mm, insulated
1-n: flexible wall ≥ (xxx) mm, **non-insulated**
1-sh: shaft wall ≥ (xxx) mm, **non-insulated**
1-sw sandwich wall ≥ 100 mm
2: rigid wall ≥ 100 mm
3: rigid wall ≥ 150 mm
4: flexible ceiling ≥ 150 mm
5: rigid floor ≥ 150 mm
6: CLT wall ≥ 100 mm
7: CLT floor ≥ 140 mm

Max. **opening** in constructive element: see principle detail. Use PA 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**

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LINEAR JOINTS classification

Fire performances are valid for structural (linear) joints within range:
joint width up to 100 mm
expansion up to 25%

suitable Firetect products within classification:

joints max. 100 mm

opening / joint width	Flex strip (DoP CPR-15/0630) walls: vertical + horizontal, incl. abutting floors	Flex strip floors: horizontal, incl. abutting walls	Acrylic sealant or PA sealer (DoP CPR-15/0630) walls: vertical + horizontal, incl. abutting floors	Acrylic sealant / PA sealer floors: horizontal, incl. abutting walls	Silicone sealant (DoP CPR-15/0630) walls: vertical + horizontal, incl. abutting floors	Silicone sealant floors: horizontal, incl. abutting walls
max. 11 mm	EI 120 T-M025-F 00-11 horizontal	results max. EI 240 H-M025-F-W 00-11 horizontal				
max. 25 mm	EI 120 T-M025-F-W 00-25 horizontal EI 90 V-M025-F-W 00 25 vertical	results max. EI 180 H-M025-F-W 00-25 horizontal	20mm joint width EI 90 T-M007-F-W 00-20 horizontal 20mm joint width EI 90 V-M007-F-W 00-20 vertical			
max. 50 mm	results max. EI 120 T-M025-F-W 00-50 horizontal EI 60 V-M025-F-W 00-50 vertical	results max. EI 120 H-M025-F-W 00-50 horizontal	results max. EI 90 V-M007-F-W 00-50 vertical	EI 120 H-M007-F-W 00-50 horizontal	EI 60 T-M025-F-W 00-50 horizontal results max. EI 240 V-M025-F-W 00-50 vertical	EI 120 H-M025-F-W 00-50 horizontal
max. 100 mm					EI 60 V-M025-F-W 00-99 vertical	
	default: joint width = strip width (nominal) friction-fixed: max. expansion 40%		joint details: width: full width, depth: see principle detail, self-adhering: max. expansion 12,5%		joint details: width: full width, depth: see principle detail, self-adhering: max. expansion 25%	

Orientation
H = horizontal supporting construction
V = vertical supporting construction - vertical joint
T = vertical supporting construction - horizontal joint

Movement capability
X = no movement
M000 = movement induced (%)
Joint widths range (mm)
W00 to 99

Constructive element must be classified acc. EN 13501-2 for the required fire resistance period:
1: flexible wall ≥ 100 mm, insulated
1-n: flexible wall ≥ (xxx) mm, **non-insulated**
1-sh: shaft wall ≥ (xxx) mm, **non-insulated**
1-sw sandwich wall ≥ 100 mm
2: rigid wall ≥ 100 mm
3: rigid wall ≥ 150 mm
4: flexible ceiling ≥ 150 mm
5: rigid floor ≥ 150 mm
6: CLT wall ≥ 100 mm
7: CLT floor ≥ 140 mm

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