

page
2

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

fire resistant performances

pipe penetrations

- 4 [plastic pipes - EN norms](#)
- 5 [PE + PP + PVC](#)
- 6 [PP-R](#)
- 7 [PP-MD](#)
- 8 [PP-MX](#)
- 9 [aluPE-X](#)
- 10 [PE-Xa](#)
- metal pipes**
- 11 [copper](#)
- 12 [steel](#)

cable penetrations

- 13 [cable trays + ladders + wire mesh](#)
- 14 [cables + bundles](#)

air control services

- 15 [rectangular fire dampers](#)
- 15 [circular fire dampers](#)
- 15 [air transfer grilles](#)
- 15 [duct cladding](#)

structural joints

- 16 [linear \(expansion\) joints](#)

electrical socket boxes

- [FR sockets + wiring](#)

acoustical performances

acoustics

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

environmental performances

sustainable buildings

- [protocols: VOC + M1 + BREEAM Int. + Leed4 etc.](#)

product info + certification

downloads + certification

- [TDS + DoP + FoA charts](#)
- [info CE building products with ETA](#)

[▶ INDEX](#)

[PE + PP + PVC](#)

[plastic cable conduits](#)

[PP-R](#)

[PP-MD](#)

[PP-MX](#)

[aluPE-X](#)

[PE-Xa](#)

[copper](#)

[steel](#)

[steel conduits](#)

[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](#)

Firetect is a registered brand of
KLF Building Products BV
Techniekweg 11
NL - 4207 HC Gorinchem
+31 345 63 97 97
info@klf.nl

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; see tab per product on product web page.

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 $\geq 100\text{mm}$; metal or timber studs, plaster board type A + 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 $\geq 600 \text{ kg/m}^3$

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**

type of **metal**

EI

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

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

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

fire resistance in minutes (integrity + insulation)

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 collar + wrap; if larger, use PA 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.

Firetect®

▶ INDEX

PE + PP + PVC

plastic cable conduits

PP-R

PP-MD

PP-MX

aluPE-X

PE-Xa

copper

steel

steel conduits

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

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; see tab per product on product web page.

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

EI

gaps + openings **without any service penetrations**

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.

Firetect®

▶ INDEX

PE + PP + PVC

plastic cable conduits

PP-R

PP-MD

PP-MX

aluPE-X

PE-Xa

copper

steel

steel conduits

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

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

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

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).

- [▶ INDEX](#)
- [PE + PP + PVC](#)
- [plastic cable conduits](#)
- [PP-R](#)
- [PP-MD](#)
- [PP-MX](#)
- [aluPE-X](#)
- [PE-Xa](#)
- [copper](#)
- [steel](#)
- [steel conduits](#)
- [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](#)

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

dØ	s1	pipe insulation	construct. type
up to Ø110	2,7 up to 10,0 mm	non-insulated	flexible + rigid walls + rigid floors
	PE 3,4 up to 10,0		
	PP 2,7 up to 6,3		
	PVC 2,7 up to 10,0		
Ø125	3,1 up to 11,7 mm	non-insulated	
	PE 3,9 up to 11,7		
	PP 3,1 up to 7,1		
Ø140 - Ø160	4,0 up to 14,6 mm	non-insulated	
	PE 4,9 up to 14,6		
	PP 4,0 up to 14,6		
Ø200	4,9 up to 18,2 mm	non-insulated	
	PE 6,2 up to 18,2		
	PP 4,9 up to 18,2		
Ø250	6,2 up to 22,7 mm	non-insulated	
	PE 9,6 up to 22,7		
	PP 6,2 up to 22,7		
	PVC 6,2 up to 22,7		

- 1: flexible wall ≥100mm
- 2: rigid wall ≥100mm
- 3: rigid wall ≥150mm
- 4: flexible ceiling ≥150mm
- 5: rigid floor ≥150mm

suitable Firetect products within classification: *

Graphite sealant DoP CPR-14/0273		FMU collar DoP CPR-14/0251		Wrap DoP CPR-14/0251		supporting construction
walls	floors	walls	floors	walls	floors	
EI 90 in wall 1+2+3	EI 90 in floor 5	EI 60 in wall 1+2+3 also on PA board: screwed on or cast-in collar Ø40 up to Ø110	EI120 in ceiling 4 EI 120 in floor 5 also on PA board: screwed on or cast-in collar Ø40 up to Ø110	EI 120 in wall 1+2+3 2 layer	EI 180 in floor 5 2 layer	Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.
		EI 60 in wall 1+2+3 collar Ø125		EI 60 in wall 1+2+3 2 layer	EI 180 in floor 5 3 layer	
		EI 60 in wall 1+2+3 collar Ø140 or Ø160	EI 90 in floor 5 collar Ø140 or Ø160		EI 180 in floor 5 3 layer	Max. opening in constructive element: see principle detail. Use PA board if opening is larger; see how-to-read.
		EI 60 in wall 1+2+3 collar Ø200				
		EI 60 in wall 1+2+3 also in PA board collar Ø250				Penetration services must be supported; support distance walls max. 500mm support distance floors max. 400mm
				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 smoke seal Acrylic sealant on 2 sides		default: walls: apply on 2 sides floors: apply on 1 side always apply smoke seal Acrylic sealant on 2 sides		

* Alternatively, use Acrylic sealant or PA sealer for pipes ≤ Ø50mm; see [individual results](#).

[INDEX](#)

PE + PP + PVC

[plastic cable conduits](#)

[PP-R](#)

[PP-MD](#)

[PP-MX](#)

[aluPE-X](#)

[PE-Xa](#)

[copper](#)

[steel](#)

[steel conduits](#)

[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](#)

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

dØ	s1	pipe insulation	construct. type
PP-R Ø40 t/m Ø125	3,7 up to 17,1 mm	non-insulated	flexible + rigid walls + rigid floors
	Ø 40 x 3,7 up to s1 5,5		
	Ø 63 x 5,8 up to s1 8,6		
	Ø 75 x 6,8 up to s1 10,3		
	Ø 110 x 10,0 up to s1 15,1		
	Ø 125 x 11,4 up to s1 17,1		

- 1: flexible wall ≥100mm
- 2: rigid wall ≥100mm
- 3: rigid wall ≥150mm
- 5: rigid floor ≥150mm

suitable Firetect products within classification:							
Graphite sealant DoP CPR-14/0273		FMU collar DoP CPR-14/0251		Wrap DoP CPR-14/0251		supporting construction	
walls	floors	walls	floors	floors			
EI 120 in wall 1+2 EI 240 in wall 3	results max. 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				
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				
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	results max. EI 120 in floor 5				
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				
			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 smokesal Acrylic sealant on 2 sides		default: floors: apply on 1 side always apply smokesal Acrylic sealant on 2 sides			

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

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

[▶ INDEX](#)

[PE + PP + PVC](#)

[plastic cable conduits](#)

PP-R

[PP-MD](#)

[PP-MX](#)

[aluPE-X](#)

[PE-Xa](#)

[copper](#)

[steel](#)

[steel conduits](#)

[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](#)

PP-MX classification ≤ Ø160 mm

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

suitable Firetect products within classification:

Graphite sealant DoP CPR-14/0273		FMU collar DoP CPR-14/0251		Wrap DoP CPR-14/0251	
walls	floors	walls	floors	walls	floors
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
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
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
	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
		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
			EI 180 in floor 5 collar Ø140		EI 240 in floor 5 3 layer
			EI 120 in floor 5 collar Ø160	EI 90 in wall 1+2+3 3 layer	EI 240 in floor 5 3 layer
		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
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 Acrylic sealant on 2 sides		default: walls: apply on 2 sides floors: apply on 1 side always apply smoke seal Acrylic sealant on 2 sides	

supporting construction

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

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

dØ	s1	configuration	construct. type
PP-MX Ø32 t/m Ø160	2,7 up to 5,7 mm		flexible + rigid walls + rigid floors
	Ø 50 x 2,7	+ pipe socket	
	Ø 110 x 4,2	+ pipe socket	
	Ø 125 x 4,7	+ pipe socket	
	Ø 160 x 5,7	+ pipe socket	

- 1: flexible wall ≥100mm
- 2: rigid wall ≥100mm
- 3: rigid wall ≥150mm
- 5: rigid floor ≥150mm

[▶ INDEX](#)

[PE + PP + PVC](#)

[plastic cable conduits](#)

[PP-R](#)

[PP-MD](#)

[PP-MX](#)

[aluPE-X](#)

[PE-Xa](#)

[copper](#)

[steel](#)

[steel conduits](#)

[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](#)

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, Armatflex, U Protect Pipe Section Alu2

dØ	s1	pipe insulation	construct. type
up to Ø25	2,0 up to 2,5 mm	non-insulated	flexible + rigid walls + rigid floors
aluPE-X Ø16 up to Ø75	2,0 up to 7,5 mm	+ pipe insulation + synth. rubber, min. 60 kg/m³ 13mm	
		+ glass or rock wool (alu), min. 75 kg/m³ 20 + 30mm	
		40mm	
		50mm	
		60mm	
	80mm		

dØ	s1	pipe insulation	construct. type
up to Ø25	2,0 up to 2,5 mm	non-insulated	flexible + rigid walls + rigid floors
aluPE-X Ø16 up to Ø75	2,0 up to 7,5 mm	+ pipe insulation + synth. rubber, min. 60 kg/m³ 13mm	
		+ glass or rock wool (alu), min. 75 kg/m³ 20 + 30mm	
		40mm	
		50mm	
		60mm	
	80mm		

- 1: flexible wall ≥100mm
- 2: rigid wall ≥100mm
- 3: rigid wall ≥150mm
- 5: rigid floor ≥150mm

suitable Firetect products within classification:

Graphite sealant DoP CPR-14/0273		Acrylic sealant or PA sealer DoP CPR-14/0273		Wrap DoP CPR-14/0251	
walls	floors	walls	floors	walls	floors
EI 120 in wall 1+2+3		EI 120 in wall 1+2+3			
EI 60 in wall 1+2+3 also in PA board	individual results max. EI 90 in floor 5	EI 120 in wall 3	EI 120 in floor 5	EI 60 in wall 1+2+3 2 layer also in PA board	
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	
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
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
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
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
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		default: walls: apply on 2 sides floors: apply on 1 side always apply smoke seal Acrylic sealant on 2 sides	

supporting construction

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

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.

INDEX

PE + PP + PVC

plastic cable conduits

PP-R

PP-MD

PP-MX

aluPE-X

PE-Xa

copper

steel

steel conduits

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

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

dØ	s1	pipe insulation	construct. type
PE-Xa up to Ø32(54)	2,2 up to 4,4 mm	non-insulated	flexible + rigid walls + rigid floors
	Ø 15 (28) x 2,5		
	Ø 16 (25) x 2,2		
PE-Xa up to Ø32(54)	2,2 up to 4,4 mm	+ pipe insulation + polyolefin rubber , min. 28 kg/m ³	
	Ø 15 (28) x 2,5	10mm	
	Ø 16 (25) x 2,2	10mm	
	Ø 32 (54) x 4,4	20mm	

- 1: flexible wall ≥100mm
- 2: rigid wall ≥100mm
- 3: rigid wall ≥150mm
- 5: rigid floor ≥150mm

suitable Firetect products within classification:							
Graphite sealant DoP CPR-14/0273		Acrylic sealant or PA sealer DoP CPR-14/0273		FMU collar DoP CPR-14/0251		Wrap DoP CPR-14/0251	
walls	floors	walls	floors	walls	floors	walls	floors
EI 90 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	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
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	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 240 in wall 3 1 layer	EI 240 in floor 5 1 layer
EI 120 in wall 1+2 EI 240 in wall 3	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
also tested in shaft walls							
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 2 layer	EI 240 in floor 5 2 layer
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
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
also tested in shaft walls							
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 Acrylic sealant on 2 sides		default: walls: apply on 2 sides floors: apply on 1 side always apply smoke seal Acrylic sealant on 2 sides	

supporting construction

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

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.

'eccentric to zero' position in opening is allowed

- ▶ INDEX
- PE + PP + PVC
- plastic cable conduits
- PP-R
- PP-MD
- PP-MX
- aluPE-X
- PE-Xa**
- copper
- steel
- steel conduits
- 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

COPPER classification ≤ Ø76 mm

Fire performances are valid for range of pipe dØ + s1 pipe wall 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

dØ	s1	pipe insulation	construct. type
up to Ø28	1,0 up to 1,2 mm Ø8 up to Ø28 mm	non-insulated	flexible + rigid walls + rigid floors
copper Ø12 up to Ø76	1,0 up to 14,0 mm Ø15 up to Ø35 mm	+ pipe insulation + synth. rubber, min. 60 kg/m ³	
	Ø1,0 up to 2,1 mm Ø15 up to Ø76 mm	+ glass or rock wool (alu), min. 75 kg/m ³	
	1,0 up to 14,0 mm Ø15 up to Ø35 mm	+ rock wool (alu), min. 90 kg/m ³	
		13mm 25mm 40mm 50mm 60mm 80mm 25mm 50mm	

1: flexible wall ≥100mm
2: rigid wall ≥100mm
3: rigid wall ≥150mm
5: rigid floor ≥150mm

suitable Firetect products within classification:

Graphite sealant DoP CPR-14/0273		Acrylic sealant or PA sealer DoP CPR-14/0273		Wrap DoP CPR-14/0251	
walls	floors	walls	floors	walls	floors
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		
EI 90 in wall 1+2+3		individual results max. EI 120 in wall 3	individual results max. EI 120 in floor 5		
EI 90 in wall 1+2+3				EI 90 in wall 1+2 EI 120 in wall 3 2 layer	EI 120 in floor 5 2 layer
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
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
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
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
EI 60 in wall 1+2+3		individual results max. EI 120 in wall 3	individual results max. EI 120 in floor 5		
EI 90 in wall 1+2+3					
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.

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.

▶ INDEX

PE + PP + PVC

plastic cable conduits

PP-R

PP-MD

PP-MX

aluPE-X

PE-Xa

copper

steel

steel conduits

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

STEEL classification ≤ Ø219 mm

Fire performances are valid for range of pipe dØ + s1 pipe wall 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	construct. type
steel Ø12 up to Ø219	1,0 up to 4,5 mm Ø12 up to Ø219 mm	non-insulated	flexible + rigid walls + rigid floor 5s
	1,0 up to 14,2 mm Ø15 up to Ø219 mm	+ pipe insulation	
		+ synth. rubber, min. 60 kg/m ³	
		10mm	
	13mm	13mm	
		25mm	
		1,0 up to 14,2 mm Ø15 up to Ø219 mm	
	20 up to 30mm		
	40mm		
	50mm	50mm	
60mm			
1,0 up to 14,2 mm Ø15 up to Ø219 mm		+ rock wool (alu), min. 90 kg/m ³	
	25mm		
	50mm		
3,25 up to 14,2 mm Ø42 up to Ø219 mm	+ PIR, min. 33 kg/m ³		
	25mm		
	50mm		

suitable Firetect products within classification:

Graphite sealant DoP CPR-14/0273		Acrylic sealant or PA sealer DoP CPR-14/0273		Wrap DoP CPR-14/0251	
walls	floor 5s	walls	floor 5s	walls	floor 5s
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		
EI 90 in wall 1+2+3	EI 90 in floor 5				
EI 120 in wall 1+2+3	EI 60 in floor 5	individual results max. EI 120 in wall 3	individual results max. EI 120 in floor 5		
EI 60 in wall 1+2+3	EI 60 in floor 5				
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
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
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
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
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
EI 60 in wall 1+2+3		EI 120 in wall 3	EI 120 in floor 5 also on PA board		
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 floor 5s: 15 x 25 mm, apply on 2 sides		joint details: min. W x D, default: walls: 10 x 25 mm, apply on 2 sides floor 5s: 15 x 25 mm, apply on 2 sides		default: walls: apply on 2 sides floor 5s: apply on 1 side always apply smoke seal Acrylic sealant on 2 sides	

supporting construction

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

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 floor 5s 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](#)

[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](#)

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

cable penetrations

certification - EAD 350454-00-1104

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 construct. type

cable trays ≤ 500mm + cable ladders ≤ 300mm	max. Cu mm ² = 29647	each cable assembly within max. Cu mm ² ; all cable groups are allowed, max.:	flexible + rigid walls + rigid floors
		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	
cable trays ≤ 600mm	max. Cu mm ² = 15707	each cable assembly within max. Cu mm ² ; all cable groups are allowed, max.:	flexible + rigid walls + rigid floors
		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	
cable trays ≤ 600mm	max. Cu mm ² = 12619	cable assembly within max. Cu mm ² ; allowed cable groups:	flexible + rigid walls + rigid floors
		group 1 - small sheathed group 4 - data + fibre optic	
wire mesh cable trays ≤ 600mm	max. Cu mm ² = 6401	cable assembly within max. Cu mm ² ; allowed cable groups:	flexible + rigid walls + rigid floors
		group 1 - small sheathed group 2 - medium sheathed group 4 - data + fibre optic	

- 1: flexible wall ≥100mm
- 2: rigid wall ≥100mm
- 3: rigid wall ≥150mm
- 5: rigid floor ≥150mm

suitable Firetect products within classification:

Graphite sealant DoP CPR-14/0273	Acrylic or PA sealer DoP CPR-14/0273
EI 60 in wall 1+2+3	EI 60 in wall 1+2+3
EI 30 in wall 1+2+3	EI 30 in wall 2+3
EI 30 in wall 2+3	EI 60 in floor 5
EI 60 in wall 1+2+3	EI 60 in wall 1+2+3
EI 60 in floor 5	EI 60 in floor 5
EI 60 in wall 1+2+3	EI 60 in wall 1+2+3
EI 60 in floor 5	EI 60 in floor 5
results max. EI 180 in wall 3	EI 120 in wall 1+2+3
	EI 60 in wall 1+2+3
	EI 60 in wall 1+2+3
	EI 60 in wall 1+2+3
	EI 90 in wall 1+2+3
	EI 60 in floor 5

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

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

support distance (mm)	opening in supporting construction			finish
	max. opening (mm)	PA board DoP CPR-14/0260	or FR mortar	
at 250mm + 500mm	600x1200	2x 50mm 2S	100mm	NO coating on cables, cable trays or construction
at 500mm	600x1200	2x 50mm 2S	100mm	
at 500mm	600x1200	1x 50mm 2S	50mm	
at 250mm + 400mm	600x5000	2x 50mm 2S	100mm	NO coating on cables, cable trays or construction
at 500mm	600x1200 +25%	2x 50mm 2S	100mm	
at 250mm + 400mm	600x5000	2x 50mm 2S	100mm	
at 500mm	620 x 70	1x 50mm 2S	50mm	NO coating on cables, cable trays or construction
at 500mm	620 x 70	-	-	
at 250mm + 500mm	730 x 230	2x 50mm 2S	100mm	NO coating on cables, cable trays or construction
at 250mm + 500mm	660 x 120	2x 50mm 2S	100mm	
at 400mm	600 x 800	2x 50mm 2S	100mm	

▶ INDEX

PE + PP + PVC

plastic cable conduits

PP-R

PP-MD

PP-MX

aluPE-X

PE-Xa

copper

steel

steel conduits

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

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	construct. type
max. Ø 40 mm	cable assembly within max. Cu mm ² ; allowed cable groups: group 1 - small sheathed group 2 - medium sheathed group 4 - data + fibre optic conduit, plastic	flexible + rigid walls + rigid floors
max. Ø 55 mm	cable assembly within max. Cu mm ² ; allowed cable groups: group 1 - small sheathed group 4 - data + fibre optic conduit, plastic	
max. Ø 121 mm	cable assembly within max. Cu mm ² ; allowed cable groups: group 1 - small sheathed group 2 - medium sheathed group 4 - data + fibre optic conduit, plastic	

- 1: flexible wall ≥100mm
- 2: rigid wall ≥100mm
- 3: rigid wall ≥150mm
- 4: flexible ceiling ≥150mm
- 5: rigid floor ≥150mm

suitable Firetect products within classification:

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	supporting construction
	results max. EI 120 in wall 1+2 EI 240 in wall 3 EI 240 in floor 5		results max. EI 120 in wall 1+2 EI 240 in wall 3 EI 240 in floor 5		Constructive element must be classified acc. EN 13501-2 for the required fire resistance period. 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
	EI 90 in wall 1+2+3 EI 180 in wall 3 EI 180 in floor 5	results max. EI 120 in wall 1+2+3 EI 120 in floor 5			
results max. EI 120 in wall 1+2+3 EI 120 in ceiling 4 EI 240 in floor 5	EI 120 in wall 1+2+3 results max. EI 180 in floor 5 also on PA board	results max. 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/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 Acrylic	

[▶ INDEX](#)

[PE + PP + PVC](#)

[plastic cable conduits](#)

[PP-R](#)

[PP-MD](#)

[PP-MX](#)

[aluPE-X](#)

[PE-Xa](#)

[copper](#)

[steel](#)

[steel conduits](#)

[trays + ladders + wire mesh](#)

[cables + bundles](#)

[fire dampers](#)

[air transfer grilles](#)

[duct cladding](#)

[linear joints](#)

[socket boxes](#)

[blank seals](#)

[EN norms for plastic pipes](#)

[acoustical](#)

[environmental](#)

AIR CONTROL SERVICES classification

Fire performances are principle configurations, valid for steel services within range:

fire dampers up to 600 x 300 mm

air ducts up to 1000 x 1000 mm

always install services acc. manufacturer's instructions

service size service specs construct. type

fire dampers

max. 600 x 300 mm

installation in firewall, supported to floor
acc. EN 1366-3
acc. EN 1634-3

upgrade towards firewall, supported to floor
acc. EN 1366-2
acc. EN 1634-3

max. Ø 125 mm

in spiral pipes
with or without valve
acc. EN 1366-3

air ducts

max. 1000 x 1000 mm

duct cladding
acc. EN 1366-3 walls, max. 500 x 500 mm
acc. EN 1634-3 floors, max. 1000 x 1000 mm

air transfer grilles

max. 600 x 600 mm

ventilation
acc. EN 1364-5

construct. type

flexible + rigid walls + rigid floors

- 1: flexible wall ≥100mm
- 2: rigid wall ≥100mm
- 3: rigid wall ≥150mm
- 4: flexible ceiling ≥150mm
- 5: rigid floor ≥150mm

suitable Firetect products within classification:

PA board DoP CPR-14/0260	PA coating DoP CPR-14/0260	Air grill
EI 90 in wall 1+2+3		
EI 60 in wall 1+2+3 cladding: 1x 50mm 2S		
	EI 120 in wall 1+2+3	
	EI 120 in ceiling 4 EI 120 in floor 5	
EI 60 in wall 1+2+3 cladding: 1x 50mm 1S		
EI 60 in floor 5 cladding: 1x 50mm 1S		
		EI 60 in wall 1+2+3
		EI 120 in floor 5
"butter" cross cut edges of PA board + opening with PA coating apply smoke seal Acrylic	0,8mm coat layer 200 LI walls: apply on 2 sides floors: apply on 1 side apply smoke seal Acrylic	mount with Acrylic sealant walls: apply centrally in wall floors: apply flush with floor

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

opening in supporting construction		
max. opening (mm)	PA board	FR mortar
900x596	2x 50mm 2S	100mm
900x596	2x 50mm 2S	100mm
130		
130		
700x700	2x 50mm 2S	100mm
1200x1200	1x 60mm 2S	60mm
610x610		
605x605		

[▶ INDEX](#)

[PE + PP + PVC](#)

[plastic cable conduits](#)

[PP-R](#)

[PP-MD](#)

[PP-MX](#)

[aluPE-X](#)

[PE-Xa](#)

[copper](#)

[steel](#)

[steel conduits](#)

[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](#)

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:

Flex strip DoP CPR-15/0630		Acrylic sealant or PA sealer DoP CPR-15/0630		Silicone sealant DoP CPR-15/0630	
walls	floors	walls	floors	walls	floors
vertical + horizontal, incl. abutting floors	horizontal, incl. abutting walls	vertical	horizontal, incl. abutting walls	vertical + horizontal, incl. abutting floors	horizontal, incl. abutting walls
EI 120 T-M025-F 00-11 horizontal	results max. EI 240 H-M025-F-W 00-11 horizontal				
EI 120 T-M025-F-W 00-25 horizontal	results max. EI 180 H-M025-F-W 00-25 horizontal				
EI 90 V-M025-F-W 00 25 vertical					
results max. EI 120 T-M025-F-W 00-50 horizontal	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	EI 120 H-M025-F-W 00-50 horizontal
EI 60 V-M025-F-W 00-50 vertical			0	results max. EI 240 V-M025-F-W 00-50 vertical	
				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%	

supporting construction

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

opening	joint width	construct. type
joints max. 100 mm	max. 11 mm	flexible + rigid walls + rigid floors
	max. 25 mm	
	max. 50 mm	
	max. 100 mm	

- 1: flexible wall ≥100mm
- 2: rigid wall ≥100mm
- 3: rigid wall ≥150mm
- 5: rigid floor ≥150mm

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

▶ INDEX

PE + PP + PVC

plastic cable conduits

PP-R

PP-MD

PP-MX

aluPE-X

PE-Xa

copper

steel

steel conduits

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

SOCKET BOXES classification

Fire performances are principle configurations, valid for all plastic (incl. halogen-free) socket boxes within range:

- width up to 380 mm
- height up to 90 mm
- depth up to 73 mm

type of box box friction-fixed in wall / floor construct. type

single socket	small + standard max. width 76 mm max. height 76 mm max. depth up to 71 mm	flexible + rigid walls + flexible ceilings
	extra large + deep max. width 84 mm max. height 90 mm max. depth 73 mm	

single on row + double socket	max. width 380 mm (eg 5 x 76) max. height 76 mm max. depth 71 mm	flexible + rigid walls
	max. width 152 mm (eg 2 x 76) max. height 76 mm max. depth 50 mm	

modular socket	max. width 284 mm max. height 73 mm max. depth 53 mm	flexible + rigid walls
----------------	--	------------------------

- 1: flexible wall ≥100mm
- 2: rigid wall ≥100mm
- 3: rigid wall ≥150mm
- 4: flexible ceiling ≥150mm

suitable Firetect products within classification:

Seal pad EVO DoP CPR-14/0275			
acc. EN 1366-3		acc. EN 1364-1	
1 side	2 sides - back-to-back	1 side	2 sides - back-to-back
max. EI 120 in wall 1, exp. max. EI 120 in wall 1, unexp.	EI 120 in wall 1		EI 60 in wall 1
also tested in non-insulated walls			
EI 120 in wall 2+3, exp. EI 120 in wall 2+3, unexp.	EI 120 in wall 2+		
EI 120 in ceiling 4			
		EI 90 in wall 1, exp. EI 60 in wall 1, unexp.	
EI 60 in wall 1, exp.			
	EI 90 in wall 1		
	EI 90 in wall 2+3		
EI 60 in wall 1, exp. EI 120 in wall 1, unexp.	EI 60 in wall 1		EI 60 in wall 1
	EI 60 in wall 2+3		EI 60 in wall 2+3
also tested in non-insulated walls			

apply EVO into socket box at rear end; 1 EVO per socket / module
 sockets must be wired, cavity wall must be insulated
 if required, apply smoke seal Acrylic sealant for seamless adjacent joint socket - construction

supporting construction

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

all plastic socket boxes, incl. halogen free:
 acc. EN 1366-3
 in flexible walls with plaster board type F
 in rigid walls + floors
 width max. 380 mm
 height max. 76 mm
 depth max. 71 mm

all plastic socket boxes, incl. halogen free:
 acc. EN 1364-1
 in flexible walls with plaster board type A up to type F
 width max. 285 mm
 height max. 90 mm
 depth max. 73 mm

▶ INDEX

PE + PP + PVC

plastic cable conduits

PP-R

PP-MD

PP-MX

aluPE-X

PE-Xa

copper

steel

steel conduits

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