

**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 <sup>3</sup> 10mm 13mm 25mm	
	1,0 up to 14,2 mm Ø15 up to Ø219 mm	+ glass or rock wool (alu), min. 75 kg/m <sup>3</sup> 20 up to 30mm 40mm 50mm 60mm 80mm	
	1,0 up to 14,2 mm Ø15 up to Ø219 mm	+ rock wool (alu), min. 90 kg/m <sup>3</sup> 25mm 50mm	
	3,25 up to 14,2 mm Ø42 up to Ø219 mm	+ PIR, min. 33 kg/m <sup>3</sup> 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. <a href="#">EI 120 in wall</a>	individual results max. <a href="#">EI 120 in floor 5</a>	individual results max. <a href="#">EI 180 in wall</a>	individual results max. <a href="#">EI 180 in floor 5</a>		
<a href="#">EI 90 in wall 1+2+3</a>	<a href="#">EI 90 in floor 5</a>				
<a href="#">EI 120 in wall 1+2+3</a>	<a href="#">EI 60 in floor 5</a>	individual results max. <a href="#">EI 120 in wall 3</a>	individual results max. <a href="#">EI 120 in floor 5</a>		
<a href="#">EI 60 in wall 1+2+3</a>	<a href="#">EI 60 in floor 5</a>				
<a href="#">EI 60 in wall 1+2+3</a>	<a href="#">EI 90 in floor 5</a>			<a href="#">EI 60 in wall 1+2+3</a> 1 layer	<a href="#">EI 90 in floor 5</a> 2 layer
<a href="#">EI 60 in wall 1+2+3</a>	<a href="#">EI 90 in floor 5</a>			<a href="#">EI 90 in wall 1+2+3</a> 1 layer	<a href="#">EI 90 in floor 5</a> 2 layer
<a href="#">EI 90 in wall 1+2+3</a>	<a href="#">EI 90 in floor 5</a>			<a href="#">EI 120 in wall 1+2+3</a> 2 layer	<a href="#">EI 120 in floor 5</a> 2 layer
<a href="#">EI 90 in wall 1+2+3</a>	<a href="#">EI 90 in floor 5</a>			<a href="#">EI 60 in wall 1+2+3</a> 3 layer	<a href="#">EI 120 in floor 5</a> 3 layer
<a href="#">EI 90 in wall 1+2+3</a>	<a href="#">EI 180 in floor 5</a>			<a href="#">EI 60 in wall 1+2+3</a> 3 layer	<a href="#">EI 120 in floor 5</a> 3 layer
<a href="#">EI 60 in wall 1+2+3</a>		<a href="#">EI 120 in wall 3</a>	<a href="#">EI 120 in floor 5</a> also on <b>PA board</b>		
<a href="#">EI 90 in wall 1+2+3</a>					
<a href="#">EI 60 in wall 1+2+3</a>	<a href="#">EI 180 in floor 5</a>				
<a href="#">EI 60 in wall 1+2+3</a>	<a href="#">EI 90 in floor 5</a>				

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**

## 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](http://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](mailto: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 +  $\text{m}^3$  weight are either equal or increased  
tested in construction type 2 also application in constructive element type 3 if wall thickness +  $\text{m}^3$  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 uncapped U / capped C at resp. exposed + unexposed side

pipe insulation

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

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

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environmental