

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	flexible + rigid walls + rigid floors
	Ø 50 x 2,7		
	Ø 110 x 4,2		
	Ø 125 x 4,7		
	Ø 160 x 5,7		

+ pipe socket

+ pipe socket

+ pipe socket

+ pipe socket

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

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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.

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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).

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