

1. Unieke identificatie van product	Firetect® PA sealer		
2. Beoogd gebruik	bouwproduct om bouwkundige (expansie) naden + voegen en sparingen tbv buis- + kabeldoorvoeren bij brand af te dichten, teneinde voortijdige branddoorslag te voorkomen in: - standaard flexibele wanden $\geq 100\text{mm}$ - standaard massieve wanden $\geq 100\text{mm}$ - standaard massieve vloeren $\geq 150\text{mm}$		
3. Fabrikant	KLF Building Products BV Techniekweg 11, 4207 HC Gorinchem, Nederland		
4. Aangewezen gemachtigde	nvt		
5. AVCP systeem	Systeem 1		
6a. Geharmoniseerde norm	nvt		
Certificeringsinstantie	nvt		
6b. Europees BeoordelingsDocument (EBD)	350454-00-1104	350141-00-1106	
Europese Technische Beoordeling (ETB)	ETA-14/0273	ETA-15/0630	
Conformiteitscertificaat	0960-CPR-SKGIKOB.011133.01.NL		
Technische BeoordelingsInstantie (TBI)	SKG-IKOB	SKG-IKOB	
Identificatie aangemelde instantie	No. 0960	No. 0960	
7. Aangegeven product prestaties			
essentiële kenmerken	eigenschappen	prestaties	
BWR 1 Mechanische weerstand + stabiliteit		nvt	
BWR 2 Brandveiligheid			
EN 13501-1	brandreactie	Klasse F	
EN 13501-2	brandweerstand	per geteste toepassing; EI 30 t/m EI 240, + Sa - S200; zie ANNEX BWR2 + ANNEX A	
	toepassingsgebied		
BWR 3 Hygiëne, gezondheid + milieu		IA1, S/W3	
EAD ...-1104, §2.2.3 + EAD ...-1106, §2.2.4	luchtdoorlaatbaarheid	npd	
EAD ...-1104, §2.2.4 + EAD ...-1106, §2.2.5	waterdichtheid	npd	
EAD ...-1104, §2.2.5 + EAD ...-1106, §2.2.3	bestanddelen, emissie en/of uitstoot gevaarlijke bestanddelen	conform CLP geclassificeerd als niet gevaarlijk vlg. Verordening 1272/2008	
BWR 4 Veiligheid in gebruik			
EAD ...-1104, §2.2.6 + EAD ...-1106, §2.2.6	weerstand tegen belasting	npd	
EAD ...-1104, §2.2.7 + EAD ...-1106, §2.2.7	weerstand tegen beweging	npd	
EAD 350141-00-1106, §2.2.8	adhesie	aangetoond	
EAD ...-1104, §2.2.9 + EAD ...-1106, §2.2.12	duurzaamheid	Z ₂ (intern gebruik)	
EAD 350141-00-1106, §2.2.13	expansie vermogen	max. 7,5% SA (self-adhering)	
BWR 5 Bescherming tegen geluid			
EAD 350454-00-1104, §2.2.10	luchtgeluidisolatie	R _{s,w} = 44 dB up to 53 dB	
	toepassingsgebied	zie ANNEX B	
BWR 6 Energiebesparing + warmtebehoud			
EAD 350454-00-1104, §2.2.11	thermische geleidbaarheid	npd	
EAD 350454-00-1104, §2.2.12	waterdampdoorlaatbaarheid	npd	
Algemene aspecten in relatie tot geschiktheid			
EAD 350454-00-1104, §1.2.2	aangenomen voorgenomen levensduur in gebruik	10 jaar	
8. Specifieke technische documentatie	nvt	npd= geen prestatie bepaald	
De prestaties van de omschreven producten zijn conform de aangegeven prestaties. Deze product prestatie verklaring is verstrekt conform Verordening 305/2011, onder de exclusieve verantwoordelijkheid van de fabrikant. Ondertekend voor en namens de fabrikant te Gorinchem dd 12-05-2023 door C. Buikema			
			
Firetect® is een geregistreerd merk van KLF © KLF Building Products disclaimer			

toepassingsgebied

(FoA)

Firetect® PA sealer

 getest en gecertificeerd middels ETB-14/0273 + ETB-15/0630;
 brandwerende prestaties en toepassingsmethoden voor gebruik in:

bouwdeel¹⁾
brandwerende wanden

vlg. EN 1363-1

- flexibele wand $\geq 100\text{mm}$; metalen of houten regels, gipsplaat type A + wand isolatie
- flexibele wand $\geq 75\text{mm}$; metalen of houten regels, gipsplaat type A, **ongeïsoleerd**
- flexibele wand $\geq 100\text{mm}$; metalen of houten regels, gipsplaat type A, **ongeïsoleerd**
- massieve wand $\geq 100\text{mm}$: (cellen)beton of steenachtig, dichtheid $\geq 600 \text{ kg/m}^3$
- massieve wand $\geq 150\text{mm}$: (cellen)beton of steenachtig, dichtheid $\geq 600 \text{ kg/m}^3$
- CLT wand $\geq 100\text{mm}$: kruislings verlijmd hout

brandwerende vloeren

vlg. EN 1363-1

- massieve vloer $\geq 150\text{mm}$: (gas)beton, dichtheid $\geq 600 \text{ kg/m}^3$
- CLT vloer $\geq 140\text{mm}$: kruislings verlijmd hout

¹⁾ het bouwdeel moet zijn geclassificeerd vlg. EN 13501-2 voor de gestelde brandweerstand

brandweerstand

rookwerendheid vlg. EN 1634-3

 rookwerend: **Sa - S200**
toepassingsgebied:

vlg. EN 13501-2 / 1366-3

EI 30 t/m EI 240: PA sealer
bouwkundige sparingen tbv buis + kabeldoorvoeren:²⁾

- PE/PVC	$\leq \varnothing 50\text{mm}$	ook in PA board
- aluPE-X	$\leq \varnothing 75\text{mm}$	ook met buis isolatie
- PE-Xa	$\leq \varnothing 32 \text{ (54) mm}$	
- koper	$\leq \varnothing 54\text{mm}$	ook met buis isolatie + PA board
- staal	$\leq \varnothing 219\text{mm}$	ook met buis isolatie + PA board
- gietijzer	$\leq \varnothing 110\text{mm}$	
- kabelgoten	$\leq 600 \times 1200\text{mm} + 25\%$ in wanden	uitcoaten is niet nodig
incl. kabelladders + draadgoten	$\leq 1000 \times 1200\text{mm} / 600 \times 5000\text{mm}$ in vloeren	uitcoaten is niet nodig
- kabel bundels	$\leq \varnothing 121\text{mm}$	ook in PA board

toepassingsgebied:

vlg. EN 13501-2 / 1366-4

EI 60 t/m EI 120: PA sealer
bouwkundige naden + voegen:

- lineaire voegen	$\leq 50\text{mm}$	horizontale orientatie, incl. aangrenzende wanden vertikale orientatie
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²⁾ ondersteun voorzieningen; afstand ophanging: zie principe detail

milieu prestaties

 voorbeeld protocollen, bekijk [complete lijst](#)

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

LEED
VOC

A+

EN 717-1§

E1

EMICODE

EC1 PLUS

M1
Indoor Air

Comfort GOLD

gebruiksaanwijzing: applicatie, bevestigingsmiddelen, afwerking & onderhoud: zie TDS
product informatie

 Product certificering middels DoP; meer info over certificering van CE bouwproducten via ETB op firetect.nl/certificering

- complete DoP versie: prestatieverklaring + ANNEX BWR2 + ANNEX A + ANNEX B; op aanvraag
- web DoP versie: prestatieverklaring + ANNEX BWR2; overige info is te downloaden via firetect.nl/downloads
- schema's FoA; geschikte producten per type brandwerende afdichting + EI prestatie + product / voeg details
- TDS: algemene gebruiksaanwijzing + product specs

 Raadpleeg firetect.nl/downloads voor actuele versies; product ontwikkeling + brandtesten zijn continue processen bij KLF

 Neem contact op met KLF voor **afwijkende** EI eisen en (niet)standaard of complexe situaties; mail info@klf.nl


toelichting

FoA schema's toepassingsgebied Firetect® brandwerende bouwmaterialen

certificering

Gebruik FoA schema's als *richtlijn* om snel geschikte Firetect producten binnen classificatie te bepalen.

Applicatie altijd vlg. detaillering zoals vermeld per principle detail; klik EI prestatie in FoA schema.

Product certificering van bouwproducten met CE markering verloopt via prestatieverklaringen (DoPs) in plaats van testrapporten; meer info op www.firetect.nl. Schema's omvatten niet alle test data. Neem voor afwijkende (EI) situaties contact op met KLF: +31 345 63 97 97 of info@klf.nl.

bouwdeel

- 1
- 1-n(xxx)
- 1-sh(xxx)
- 1-sw
- 2
- 3
- 4
- 5
- 6
- 7

product is getest in + gecertificeerd voor bouwdeel, standaard type:

flexibele wand ≥ 100 mm; metalen of houten regels, gipsplaat type A + wand isolatie

flexibele wand ≥ 100 mm, **niet geïsoleerd**

schacht wand ≥ (xxx) mm, **niet geïsoleerd**

(xxx) = wand dikte in mm; zie in schema's bij EI prestatie

sandwich wand ≥ 100 mm

massieve wand ≥ 100 mm: (cellen)beton of steenachtig, densiteit ≥ 600 kg/m³

massieve wand ≥ 150 mm: (cellen)beton of steenachtig, densiteit ≥ 600 kg/m³

flexibel plafond ≥ 150 mm: metalen regels, gipsplaat type F

massieve vloer ≥ 150 mm: (gas)beton, densiteit ≥ 600 kg/m³

CLT wand ≥ 100 mm

CLT vloer ≥ 140 mm

Let op

Bouwdeel moet zijn geclassificeerd vlg. EN 13501-2 voor de gestelde brandweerstand.

getest in bouwdeel type **1**

getest in bouwdeel type **2**

getest in PA board

ook toepasbaar in bouwdeel type **2+3** als wanddikte + m³ gewicht gelijk zijn danwel toenemen

ook toepasbaar in bouwdeel type **3** als wanddikte + m³ gewicht gelijk zijn danwel toenemen

ook toepasbaar met **brandwerende mortel** (BW); neem contact op met KLF voor meer info

"you may always upgrade, but never downsize"

buis doorvoeren

type **kunststof**

type **metaal**

EI

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

1S + 2S

alle kunststof buizen vlg. [EN normen](#)

alle koper of staal buizen; ook geschikt voor materiaal met lagere thermische geleiding + smeltpunt minstens gelijk aan getest materiaal

brandweerstand in minuten (integriteit + isolatie)

buis einde: U = uncapped (open) en C = capped (gesloten), aan resp. blootgestelde / niet blootgestelde zijde

PA board gecoat aan 1 zijde (1S) of 2 zijden (2S)

buis isolatie

- alle synthetische rubber min. 60 kg/m³ bijv. Armaflex

- alle glaswol of steenwol min. 75 kg/m³ bijv. Climpipe

- alle polyolefine schuim min. 28 kg/m³ bijv. Uponor

- alle PIR min. 33 kg/m³

LS local sustained = gedeeltelijk geïsoleerde buis; **totale** isolatie lengte in mm door bouwdeel (symmetrisch)

LI local interrupted = gedeeltelijk geïsoleerde buis; isolatie lengte in mm **aan elke zijde** van bouwdeel

CS continued sustained = volledig geïsoleerde buis

CI continued interrupted = volledig geïsoleerde buis, echter onderbroken in bouwdeel

max. opening

zie principe detail, plus:

- toegestane **overmaatse sparing** ≤ 15mm bij brandmanchet + wrap; indien groter, gebruik PA board:

wanden: max. 600 x 1200 mm + 25%, vloeren: max. 1000 x 1200 mm t/m 600 x 5000 mm

- toegestane '**oversized' brandmanchet** ≤ 15mm, bijv. gebruik Ø90 manchet voor Ø80 buis

Let op

Ondersteun buizen; afstand ophanging: zie principe detail.

Zet glaswol of steenwol individueel vast (niet omwikkelen!) met staaldraad; zie principe detail.



► INDEX

PE + PP + PVC

kunststof mantelbuizen

PP-R

PP-MD

PP-MX

aluPE-X

PE-Xa

koper

staal

stalen mantelbuizen

gietijzer

kabelgoot + ladder / mand

kabels + bundels

brandkleppen

ventilatie roosters

luchtkanaal bekleding

rechte voegen

inbouwdozen

loze sparingen

EN normen kunststof buizen

toelichting

akoestiek

duurzaamheid

toelichting

certificering

FoA schema's toepassingsgebied Firetect® brandwerende bouwmaterialen

Gebruik FoA schema's als *richtlijn* om snel geschikte Firetect producten binnen classificatie te bepalen.

Applicatie altijd vlg. detaillering zoals vermeld per principle detail; klik EI prestatie in FoA schema.

Product certificering van bouwproducten met CE markering verloopt via prestatieverklaringen (DoPs) in plaats van testrapporten; meer info op www.firetect.nl. Schema's omvatten niet alle test data. Neem voor afwijkende (EI) situaties contact op met KLF: +31 345 63 97 97 of info@klf.nl.

kabel doorvoeren

type **voorziening**

alle stalen (gegalvaniseerde) kabelgoten + ladders, niet geperforeerd + geperforeerd
alle stalen (gegalvaniseerde) draadgoten
brandweerstand in minuten (integriteit + isolatie)

EI

optimale bezetting

configuratie		horizontaal	verticaal
Min. afstand naar bouw. sparing	LARGE	35mm	30 mm
	MIXED	30 mm	0 mm
Min. afstand tussen voorzieningen			
	LARGE	5mm	100 mm
	MIXED	20 mm	20 mm

kabelgroepen

KG 1 - klein ommanteld	max. Ø 21mm
KG 2 - medium ommanteld	max. Ø 50mm
KG 3 - groot ommanteld	max. Ø 80mm
KG 4 - data + glasvezel	max. Ø 100mm bundel
KG 5 - niet ommanteld	max. Ø 23mm
mantelbuis, staal of kunststof	max. Ø 16mm

max. opening

zie principe detail

Let op

Ondersteun kabel voorzieningen; afstand ophanging: zie principe detail.

loze sparingen

EI

gaten + sparingen **zonder doorvoeren**
brandweerstand in minuten (integriteit + isolatie)
t/m EI 120 voor toepassing in wanden + vloeren

disclaimer

Raadpleeg www.firetect.nl/downloads voor updates; product ontwikkeling + brandtesten zijn doorlopende processen bij KLF.
Genoemde merken zijn uitsluitend voor illustratief gebruik, ter indicatie van geteste type materialen.



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kunststof mantelbuizen

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gietijzer

kabelgoot + ladder / mand

kabels + bundels

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luchtkanaal bekleding

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inbouwdozen

loze sparingen

EN normen kunststof buizen

toelichting

akoestiek

duurzaamheid

kunststof buizen

Firetect® brandwerende bouwmaterialen zijn toepasbaar in:

PE
polyethylene

aluPE-X
verwarming + sanitair
ook wel PEX-AL-PEX,
Al-Composite of Multilayer

PE-Xa
druk- en warmte bestendig
cross-linked PE

PE-LD + PE-HD
dØ t/m 250 mm s1 3,2 t/m 22,7 mm
buizen binnen bandbreedte (dØ+s1) vlg. EN 1519-1 EN 12666-1 EN 12201-2 EN ISO 15494 DIN 8074 DIN 8075 DIN 19535-10
bijv. Wavin TS Agru PE 100 Agru PE 100-RC

aluPE-X
dØ t/m 75 mm s1 2,0 t/m 7,5 mm
buizen binnen bandbreedte (dØ+s1) vlg. EN 1519-1 EN 12201-2 EN 12666-1 EN ISO 15494 DIN 8074 DIN 8075 DIN 19535-10
bijv. Uponor MLC TECEflex Geberit Mepla Kekelit Kelox KM 110 Rehau Rautitan stabil Henco Alupex Bbijv.etube Alpex

PE-Xa
dØ t/m 32 (54) mm s1 2,2 t/m 4,4 mm
buizen binnen bandbreedte (dØ+s1) vlg. EN 1519-1 EN 12201-2 EN 12666-1 EN 15875 EN ISO 15494 ISO 21003 DIN 8074 DIN 8075 DIN 19535-10
bijv. Uponor Aqua Geberit Mepla Kekelit Kelox KM 110 Rehau Rautitan flex Rehau Rautitan stabil

PP
polypropylene

PP-R
high pressure + temperature

PP-MD
low noise

PP
dØ t/m 250 mm s1 2,7 t/m 22,7 mm
buizen binnen bandbreedte (dØ+s1) vlg. EN 1451-1 EN ISO 15494 EN ISO 15874 DIN 8077 DIN 8078
bijv. Dyka PP Agru PP-H

PP-R
dØ t/m 110 mm s1 3,7 t/m 15,1 mm
buizen binnen bandbreedte (dØ+s1) vlg. EN 1451-1 EN ISO 15494 EN ISO 15874 ISO 21003 DIN 8077 DIN 8078
bijv. Aquatherm Blue Aquatherm Green Aquatechnik PP-R Akatherm PP-R Wavin Pilsa

PP-MD
dØ t/m 160 mm s1 1,8 t/m 5,4 mm
buizen binnen bandbreedte (dØ+s1) vlg. EN 1451-1 EN ISO 15494 EN ISO 15874 DIN 8077 DIN 8078
bijv. 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 t/m 160 mm s1 2,7 t/m 5,7 mm
buizen binnen bandbreedte (dØ+s1) vlg. EN 1451-1 EN ISO 15494 EN ISO 15874 DIN 8077 DIN 8078
bijv. Geberit Silent-Pro

PVC
polyvinyl chloride

PVC + PVC-C + PVC-U
dØ t/m 400 mm s1 2,7 t/m 22,7 mm
buizen binnen bandbreedte (dØ+s1) vlg. EN 1329-1 EN 1453-1 EN 1452 EN 1566-1 EN ISO 15493 ISO 15877 DIN 8061 DIN 8062 DIN 19531-10

Toepassingsgebied van buizen, getest met Firetect producten

Brandwerende prestaties zijn geldig voor bandbreedte buis diameter **dØ** + buiswanddikte **s1** van hetzelfde buis materiaal.

Per FoA schema (buis **materiaal**) is vermeld welk Firetect product te gebruiken binnen de bandbreedte (dØ+s1).

Installeer voorzieningen altijd vlg. instructies van fabrikant; afstand ophanging ≤ 500mm (wanden) en ≤ 400mm (vloeren).

Firetect®

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PE + PP + PVC

kunststof mantelbuizen

PP-R

PP-MD

PP-MX

aluPE-X

PE-Xa

koper

staal

stalen mantelbuizen

gietijzer

kabelgoot + ladder / mand

kabels + bundels

brandkleppen

ventilatie roosters

luchtkanaal bekleding

rechte voegen

inbouwdozen

loze springen

EN normen kunststof buizen

toelichting

akoestiek

duurzaamheid

PE + PP + PVC classification ≤ Ø250 mm			suitable Firetect products within classification: *						supporting construction	
Fire performances are valid for range of dØ pipe diameter + s1 pipe thickness within the same pipe material:									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	
PE + PP + PVC acc. EN norms			Graphite sealant DoP CPR-14/0273		FMU collar DoP CPR-14/0251		Wrap DoP CPR-14/0251			
dØ	s1	pipe insulation	walls	floors	walls	floors	walls	floors		
up to Ø110	2,7 up to 10,0	non-insulated								
	PE 3,4 up to 10,0		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 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		EI 120 in ceiling 4 EI 120 in floor 5 EI 90 in floor 7 also on PA board : screwed on or cast-in			
	PP 2,7 up to 6,3		EI 90 in floor 5				EI 120 in wall 1+2+3 2 layer			
	PVC 2,7 up to 10,0		EI 90 in floor 7				EI 180 in floor 5 2 layer EI 90 in floor 7 2 layer			
Ø125	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			
	PE 3,9 up to 11,7						EI 180 in floor 5 3 layer			
	PP 3,1 up to 7,1									
	PVC 3,1 up to 11,7									
Ø140 - Ø160	4,0 up to 14,6	non-insulated			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			
	PE 4,9 up to 14,6						EI 180 in floor 5 3 layer			
	PP 4,0 up to 14,6									
	PVC 4,0 up to 14,6									
Ø200	4,9 up to 18,2	non-insulated			EI 60 in wall 1+2+3 EI 60 in wall 1-n100 collar Ø200					
	PE 6,2 up to 18,2									
	PP 4,9 up to 18,2									
	PVC 4,9 up to 18,2									
Ø250	6,2 up to 22,7	non-insulated			EI 60 in wall 1+2+3 also in PA board collar Ø250					
	PE 9,6 up to 22,7									
	PP 6,2 up to 22,7									
	PVC 6,2 up to 22,7									
* 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 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			

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		suitable Firetect products within classification:				supporting construction
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		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	
dØ	s1	walls	floors	walls	floors	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/m ³ 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 EI 120 in wall 2+3 in FR Mortar	individual results max. EI 90 in floor 5 EI 90 in floor 7 10 x 25 mm	EI 120 in wall 3 EI 90 in wall 6 EI 60 in wall 2+3 in FR Mortar	EI 90 in floor 7 collar Ø50 - Ø90 EI 60 in wall 1+2+3 2 layer also in PA board EI 90 in wall 2+3 1 layer in FR Mortar	EI 90 in floor 7 2 layer
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/m ³ 20 + 30mm 40mm 50mm 60mm 80mm	EI 120 in wall 1+2 EI 240 in wall 3 EI 120 in wall 1+2 EI 240 in wall 3 EI 120 in wall 1+2 EI 240 in wall 3 EI 120 in wall 1+2 EI 240 in wall 3 EI 120 in wall 1+2 EI 240 in wall 3	EI 240 in floor 5 EI 240 in floor 5 EI 240 in floor 5 EI 240 in floor 5		EI 120 in wall 1+2 EI 240 in wall 3 1 layer EI 120 in wall 1+2 EI 240 in wall 3 1 layer EI 120 in wall 1+2 EI 240 in wall 3 2 layer EI 120 in wall 1+2+3 3 layer EI 120 in wall 1+2+3 3 layer	EI 240 in floor 5 2 layer EI 240 in floor 5 2 layer EI 240 in floor 5 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 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	
Firetect FoA d23-2 - page 9						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-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
Ø15 (28)	2.5	non-insulated
		+ pipe insulation + polyolefin rubber, min. 28 kg/m ³ 10mm
Ø16 (25)	2.2	non-insulated
		+ pipe insulation + polyolefin rubber, min. 28 kg/m ³ 10mm
Ø32 (54)	4.4	non-insulated
		+ pipe insulation + polyolefin rubber, min. 28 kg/m ³ 20mm

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 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
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 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 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 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
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 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
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 smokesseal Acrylic sealant on 2 sides		default: walls: apply on 2 sides floors: apply on 1 side always apply smokesseal 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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'eccentric to zero' position in opening is allowed

field of application		fire resistance - EI classification acc. EN 13501-2 / EN 1366-3		Firetect®	
metal pipe penetrations		certification - EAD 350454-00-1104			
COPPER classification ≤ Ø76 mm		suitable Firetect products within classification:			
Fire performances are valid for range of dØ pipe diameter + s1 pipe thickness within the same pipe material:		Graphite sealant DoP CPR-14/0273		Acrylic sealant or PA sealer DoP CPR-14/0273	
copper dØ max. 76 mm s1 max. 14,0 mm		Wrap DoP CPR-14/0251		supporting construction	
pipe insulation brands eg Climpipe, Rockwool, Armaflex, U Protect Pipe Section Alu2					
dØ	s1	pipe insulation		walls	floors
up to Ø28	1,0 up to 1,2	non-insulated		individual results max. EI 180 in wall	individual results max. EI 180 in floor 5
				individual results max. EI 120 in wall	individual results max. EI 120 in floor 5
up to Ø42 + synth. rubber or rock wool (alu) insulation	1,0 up to 14,0	+ pipe insulation			
		+ synth. rubber, min. 60 kg/m³			
		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
		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
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
		40mm		EI 90 in wall 1+2+3	EI 90 in floor 5
		50mm		EI 90 in wall 1+2+3	EI 90 in floor 5
		60mm		EI 90 in wall 3	EI 90 in floor 5
	80mm			EI 240 in wall 3	EI 240 in floor 5
		joint details: min. W x D, default: walls: 10 x 25 mm, apply on 2 sides floors: 15 x 25 mm, apply on 2 sides		joint details: min. W x D, default: walls: 10 x 25 mm, apply on 2 sides floors: 15 x 25 mm, apply on 2 sides	
				default: walls: apply on 2 sides floors: apply on 1 side always apply smoke seal Acrylic sealant on 2 sides	
		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		

dØ	s1	pipe insulation
steel Ø12 up to Ø219	1,0 up to 4,5 mm	non-insulated
	Ø12 up to Ø219 mm	
	1,0 up to 14,2 mm	+ pipe insulation
	Ø15 up to Ø219 mm	+ synth. rubber, min. 60 kg/m³
	10mm	
	13mm	
	25mm	
	1,0 up to 14,2 mm	+ pipe insulation
	Ø15 up to Ø219 mm	+ glass or rock wool (alu), min. 75 kg/m³
	20 up to 30mm	
	40mm	
	50mm	
60mm		
80mm		
1,0 up to 14,2 mm	+ pipe insulation	
Ø15 up to Ø219 mm	+ rock wool (alu), min. 90 kg/m³	
25mm		
50mm		
3,25 up to 14,2 mm	+ pipe insulation	
Ø42 up to Ø219 mm	+ PIR, min. 33 kg/m³	
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	floors	walls	floors	walls	floors
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 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
individual results max. EI 90 in wall 1-n100 EI 60 in wall 1-n75					
EI 60 in wall 1+2+3 EI 60 in wall 1-n100	EI 60 in floor 5				
individual results max. EI 60 in wall 1-n75					
EI 60 in wall 1+2+3	EI 90 in floor 5			EI 60 in wall 1+2+3 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 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 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 60 in wall 1-n100 individual results max. EI 30 in wall 1-n75	EI 120 in floor 5 also on PA board		
EI 90 in wall 1+2+3		individual results max. EI 90 in wall 1-n100			
EI 60 in wall 1+2+3	EI 180 in floor 5				
EI 60 in wall 1+2+3	EI 90 in floor 5				
joint details: min. W x D, default: walls: 10 x 25 mm, apply on 2 sides floors: 15 x 25 mm, apply on 2 sides		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: 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
STEEL CONDUITS
SPIRAL pipes: see
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CAST IRON ≤ Ø110 mm			suitable Firetect products within classification:			
Fire performances are valid for range of dØ pipe diameter + s1 pipe thickness within the same pipe material:			Acrylic sealant or PA sealer		Wrap	
cast iron			DoP CPR-14/0273		DoP CPR-14/0251	
dØ max. 110 mm						
s1 max. 3,5 mm						
pipe insulation brands eg Rockwool, Armaflex						
dØ	s1	pipe insulation	walls	floors	walls	floors
steel Ø12 up to Ø219	3,5 mm	non-insulated Ø58 up to Ø110 mm				
	3,5 mm	+ pipe insulation Ø58 up to Ø110 mm + synth. rubber, min. 60 kg/m³ 13mm			max. EI 90 in wall 6 2 layer	max. EI 90 in floor 7 2 layer
	3,5 mm	Ø58 up to Ø110 mm + rock wool (alu), min. 85 kg/m³ 20mm 30mm	EI 90 in wall 6	EI 90 in floor 7		
			EI 90 in wall 6	EI 90 in floor 7		
			joint details: min. W x D, default: walls: 5 x 25 mm, apply on 2 sides floors: 5 x 25 mm, apply on 2 sides		default: walls: apply on 2 sides floors: apply on 2 sides always apply smoke seal Acrylic sealant on 2 sides	

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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

service size Cu mm² cable specs

cable trays ≤ 500mm + cable ladders ≤ 300mm

max Cu mm² = **29647**

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

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

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

max Cu mm² = **15707**

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

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

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

**trays /
ladders
≤ 600mm**

max Cu mm² = **12619**

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

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

**wire mesh trays
≤ 600mm**

max Cu mm² = **6401**

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

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

suitable Firetect products within classification:

Graphite sealant

DoP CPR-14/0273

Acrylic or PA sealer

DoP CPR-14/0273

PA board

DoP CPR-14/0260

FR Mortar

EI 60 in wall 1+2+3

EI 30 in wall 1+2+3

EI 30 in wall 2+3

EI 60 in floor 5

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 30 in wall 1n-75

EI 60 in wall 1+2+3

EI 90 in wall 1+2+3

EI 30 in wall 1n-75

EI 60 in floor 5

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 !**

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

- flexible wall ≥ 100 mm, insulated
- flexible wall ≥ (xxx) mm, **non-insulated**
- shaft wall ≥ (xxx) mm, **non-insulated**
- sandwich wall ≥ 100 mm
- rigid wall ≥ 100 mm
- rigid wall ≥ 150 mm
- flexible ceiling ≥ 150 mm
- rigid floor ≥ 150 mm
- CLT wall ≥ 100 mm
- CLT floor ≥ 140 mm

max. opening (mm)

support distance (mm)

600x1200

at 250mm + 500mm

600x1200

at 500mm

600x1200

at 500mm

600x5000

at 250mm + 400mm

2x 50mm 2S

100mm

2x 50mm 2S

100mm

1x 50mm 2S

50mm

2x 50mm 2S

100mm

2x 50mm 2S

100mm

600x1200 +25%

at 500mm

2x 50mm 2S

100mm

600x5000

at 250mm + 400mm

1x 50mm 2S

50mm

620 x 70

at 500mm

-

-

620 x 70

at 500mm

-

-

220 x 80

at 250mm + 500mm

2x 50mm 2S

100mm

730 x 230

at 250mm + 500mm

2x 50mm 2S

100mm

660 x 120

at 250mm + 500mm

-

-

420 x 100

at 250mm + 500mm

2x 50mm 2S

100mm

600 x 800

at 400mm

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

bundle size

cable specs

max. Ø 40 mm

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

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

max. Ø 55 mm

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

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

max. Ø 121 mm

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

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

suitable 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

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 $\geq$ (xxx) mm, **non-insulated**
1-sh: shaft wall $\geq$ (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

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

[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](#)

[EI 240 in wall 3](#)

[EI 90 in wall 6](#)

[EI 240 in floor 5](#)

[EI 90 in floor 7](#)

[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](#)

[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 $\geq 100\text{kg/m}^3$
in transit on 2 sides

position centrally in
construction

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

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%

opening		joints max. 100 mm
joint width		
max. 11 mm		
max. 25 mm		
max. 50 mm		
max. 100 mm		

suitable Firetect products within classification:					
Flex strip		Acrylic sealant or PA sealer		Silicone sealant	
DoP CPR-15/0630		DoP CPR-15/0630		DoP CPR-15/0630	
walls	floors	walls	floors	walls	floors
vertical + horizontal, incl. abutting floors	horizontal, incl. abutting walls	vertical + horizontal, incl. abutting floors	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	20mm joint width EI 90 T-M007-F-W 00-20 horizontal			
EI 90 V-M025-F-W 00 25 vertical		20mm joint width EI 90 V-M007-F-W 00-20 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				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%	

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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cables + bundles

fire dampers

air transfer grilles

duct cladding

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blank seals

EN norms for plastic pipes

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acoustical

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