fire resistance - El classification acc. EN 13501-2 / EN 1366-3 + EN smoke resistance acc. EN 1634-3: Sa - S₂₀₀

field of application air control service penetrations

certification - EAD 350454-00-1104 certification - EAD 350454-00-1104

air control service	penetrations	certification - EAD 350454-00-11	04 certification - EAD 350454-00-110	04					
AIR CONTROL SERVICES classification									► INDEX
Fire performances are principle configurations, valid for services within range:					PE + PP + PVC				
fire dampers up to 600 x 300 mm		Graphite sealant	Acrylic sealant or PA sealer	PA coating	PA board	or FR Mortar	Air grill	supporting construction	plastic cable conduits
air ducts up to 1000 x 1000 mm		DoP CPR-14/0273	DoP CPR-14/0273	DoP CPR-14/0260	DoP CPR-14/0260				
always install services acc. manufacturer's instructions									PP-R
								Constructive element must be classified acc. EN	
Service Size service specs								13501-2 for the required fire resistance period:	PP-MD
	installation in firewall, supported to floor								PP-MX
	max. 600 x 300 mm				El 90 in wall 1+2+3	100mm		1: flexible wall ≥ 100 mm, insulated	aluPE-X
	acc. EN 1366-3 acc. EN 1634-3				2x 50mm 2S	1001111		1-n: flexible wall ≥ (xxx) mm, non-insulated 1-sh: shaft wall ≥ (xxx) mm, non-insulated	PE-Xa
Su								1-sw sandwich wall ≥ 100 mm	I L'Ad
l dr	upgrade towards firewall, supported to floor acc. EN 1366-2				EI 60 in wall 1+2+3 cladding: 1x 50mm 2S	100mm		2: rigid wall ≥ 100 mm 3: rigid wall ≥ 150 mm	copper
lan la	acc. EN 1634-3				oladding. TX oonin 20			4: flexible ceiling ≥ 150 mm	steel
fire dampers								5: rigid floor ≥ 150 mm	
		in PA board	in PA board	EI 120 in wall 1+2+3				6: CLT wall ≥ 100 mm 7: CLT floor ≥ 140 mm	steel conduits
	in spiral pipes	IT PA board	El 60 in wall 1-n75	<u>LT 120 IIT Wall 11213</u>					cast iron
	max.Ø 160 mm with or without valve	with pipe insulation:		El 120 in ceiling 4				Max. opening in constructive element: see principle detail. Use PA board if opening is larger; see how-to-	
	acc. EN 1366-3	<u>El 60 in wall 1-n100</u>	<u>EI 60 in wall 1-n100</u>	<u>El 120 in floor 5</u>				read.	trays + ladders + wire mesh
									cables + bundles
	circular ducts							Penetration services must be supported. Always	fire dampers
	max. Ø 300 mm		El 90 in floor 7					install services acc. manufacturer's instructions.	ine dampers
6	acc. EN 1366-3								air transfer grilles
ducts									duct cladding
l p	duct cladding max. 1000 x 1000 mm				EI 60 in wall 1+2+3		1		linear joints
air	acc. EN 1366-3				cladding: 1x 50mm 1S	100mm			
	acc. EN 1634-3				El 60 in floor 5		1		socket boxes
					cladding: 1x 50mm 1S	60mm			blank seals
-									
air transfer grilles	ventilation max. 600 x 600 mm						_[]		
r transfe grilles	acc. EN 1364-5						El 60 in wall 1+2+3		
g i t									
a							El 120 in floor 5		EN norms for plastic pipes
		joint details: min. W x D, default:	joint details: min. W x D, default;	0,8mm coat layer 200 LI	'butter' cross cut edges of	default:	mount with Acrylic sealant		how-to-read
		floors: 10 x 25 mm	floors: 10 x 25 mm	walls: apply on 2 sides	PA board + opening	floors: 30 x 25 mm	walls: apply centrally in wall		
Firetect FoA d23-2 - page 16		apply on 2 sides	apply on 2 sides	floors: apply on 1 side apply smokeseal Acrylic	with PA coating apply smokeseal Acrylic	apply flush with construction	floors: apply flush with floor		acoustical
				tippy on on object to yild					environmental

Firetect®

How-to-read charts Field of Application Firetect [®] fire rated building products						
certification	Use FoA charts as guideline to quickly identify suitable Firetect products within classification.					
	Always apply acc. details as stated per principle detail; click El performance in chart.					
		► INDEX				
	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.					
		PE + PP + PVC				
supporting construction	product has been tested in + certified for constructive element, default type:	plastic cable conduits				
1 1-n(xxx)	flexible wall ≥ 100 mm; metal or timber studs, plaster board type A + wall insulation flexible wall ≥ (xxx) mm; metal or timber studs, plaster board type F, no wall insulation	PP-R				
1-sh(xxx)	shaft wall ≥ (xxx) mm, non-insulated					
	(xxx) = wall thickness in mm; see in charts with EI performance	PP-MD				
1-sw	sandwich wall ≥ 100 mm					
2	rigid wall ≥ 100 mm: blockwork/concrete/masonry, density ≥ 600 kg/m³	PP-MX				
3	rigid wall ≥ 150 mm: blockwork/concrete/masonry, density ≥ 600 kg/m³					
4	flexible ceiling ≥ 150 mm: metal studs, plaster board type F	aluPE-X				
5	rigid floor \ge 150 mm: (aerated) concrete, density \ge 600 kg/m ³	PE-Xa				
6	CLT wall ≥ 100 mm	PE-Xa				
7	CLT floor ≥ 140 mm					
Note	Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.	copper				
Note	Constructive element must be classified acc. EN 15501-2 for the required file resistance period.	steel				
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	steel conduits				
tested in PA board	also applicable in FR Mortar fireseal; contact KLF for more info					
	"you may always upgrade, but never downsize"	cast iron				
		trays + ladders + wire mesh				
pipe penetrations		cables + bundles				
type of plastic	all plastic pipe types acc. <u>EN norms</u>					
type of <mark>metal</mark> El	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)	fire dampers				
U/U + U/C + C/U + C/C	pipe end: U = uncapped and C = capped, at resp. exposed / unexposed side	air transfer grilles				
1S + 2S	PA board coated on 1 side (1S) or 2 sides (2S)					
		duct cladding				
pipe insulation	- all synthetic rubber min. 60 kg/m³ eg Armaflex					
	- all glass wool or rock wool min. 75 kg/m ³ eg Climpipe or U Protect Pipe Section Alu2	linear joints				
	- all polyolefin foam min. 28 kg/m³ eg Uponor					
	- all PIR min. 33 kg/m ³	socket boxes				
LS	local sustained = partly insulated pipe; total insulation length in mm through constructive element (symmetrically)					
LI CS	local interrupted = partly insulated pipe; insulation length in mmon either side of constructive element continued sustained = fully insulated pipe	blank seals				
CI	continued sustained = fully insulated pipe continued interrupted = fully insulated pipe, yet interrupted in constructive element					
max. opening	see principle detail, plus:	EN norms for plastic pipes				
	- allowed oversize opening ≤ 15mm with collar + wrap; if larger, use PA board: walk: max_600 x 1200 mm + 25% floors: max_1000 x 1200 mm up to 600 x 5000 mm	how to mod				
	walls: max. 600 x 1200 mm + 25%, floors: max. 1000 x 1200 mm up to 600 x 5000 mm - allowed ' <mark>oversized' collar</mark> ≤ 15mm, eg use Ø90 collar for Ø80 pipe	how-to-read				
Note	Support pipes; support distance: see principle detail.	acoustical				
	Fasten glass wool or rock wool individually (not wrapped!) with steel wire; see principle detail.					
Firetect FoA d23-2 - page 2		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; click El performance in chart.

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cable penetrations

n

type of service

all steel (galvanised) cable trays + ladders, non-perforated + perforated all steel (galvanised) mesh wire cable trays

El fire resistance in minutes (integrity + insulation)

ninimum working spaces	cor	nfiguration	horizontal	vertical		
	Min. distances from opening edges		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 group 2 - medium sheathed	max. Ø 21mm max. Ø 50mm				
	group 3 - large sheathed group 4 - data + fibre optic	max. Ø 80 max Ø 10	mm 0mm bundl	e		
	group 5 - non-sheathed conduit, steel or plastic	max. Ø 23 max. Ø 16	mm	0		
max. opening	see principle detail					
Note	Support cable services; support distance: see principle detail.					
blank seals	gaps + openings without any ear	vico popetr	ations			
Diality Seals	gaps + openings without any service penetrations					

El fire resistance in minutes (integrity + insulation) up to El 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.

PE + PP + PVC plastic cable conduits PP-R

PP-MD

Firetect[®]

► INDEX

PP-MX aluPE-X PE-Xa

copper steel

cast iron

steel conduits

trays + ladders + wire mesh

cables + bundles

fire dampers air transfer grilles

duct cladding

linear joints

socket boxes

EN norms for plastic pipes

how-to-read

acoustical

environmental