

product	Firetect® P - field of application
description	fire protective board, reinforced full-core plasterboard
intended use	fireboard to protect elements to be used for structural steelwork + fire compartments
certification	tested and certified by ETA-14/0292-P; fire resistance performances and assembly methods for uses in:

constructive element		
loadbearing steel elements acc. EAD 350142-00-1106	- columns, profile sections 50 up to 355 [m ⁻¹] - beams, profile sections 50 up to 355 [m ⁻¹]	
non-loadbearing walls acc. EAD 350142-00-1106	- drylining assemblies: partitions shaft walls	Eurocode 5 (out of scope ETA 14/0292-P)
fire rated ceilings acc. EN 1995-1-2+C2	- ceilings under structural timber floors / roofs	Eurocode 5 (out of scope ETA 14/0292-P)
adjacent joint wall / roof / facade acc. NEN 6068+C1 fire propagation + flashover	- flame barriers under trapezoidal steel roofs	Dutch NEN (out of scope ETA 14/0292-P)

fire resistance			configuration
related to field of application			
	board cladding for structural steel		
acc. EN 13501-2 / 13381-4			
R 30	columns	beams	board thickness depending on
R 60	500 ° C	600 ° C	design temperature +
R 90	ctc 1200mm	ctc 600mm	factor [m ⁻¹] + no. of exposed sides
R 120			see tables ¹⁾
R 180			at www.firetect.eu/download
acc. EN 13501-2 / 1364-1	fire rated partitions ²⁾		
EI 60	1 layer Firetect P10 on either side		
EI 90	1 layer Firetect P15 on either side		
EI 120	1 layer Firetect P20 on either side		
EI 180	2 layer Firetect P20 on either side		
acc. EN 1995-1-2+C2	fire rated shaft walls ^{3a)}		
30 minutes	1 layer Firetect P20		
60 minutes	2 layer Firetect P15		
90 minutes	2 layer Firetect P20		
120 minutes	1 layer Firetect P25 + 1 layer Firetect P30		
acc. EN 1995-1-2+C2	fire rated ceilings ⁴⁾		
90 minutes	1 layer Firetect A20 + 1 layer Firetect P12,5		
acc. NEN 6068+C1	flame barriers for adjacent joint wall ^{3b)} / roof ⁵⁾ / facade		
30 minutes	1 layer Firetect P12,5 495x1200mm on 1 side		
60 minutes	1 layer Firetect P12,5 495x1200mm on 2 sides		

¹⁾ Other design temperatures 350 °C up to 750 °C available upon request.

²⁾ Flexible walls with cavity insulation under rigid floors ≥ 150mm, density ≥ 650 kg/m³.

³⁾ Rigid constructive element ≥ 150mm, density ≥ 650 kg/m³: shafts under rigid floors ^{3a)} + adjacent joint onto rigid walls ^{3b)}.

⁴⁾ Flexible ceilings with plenum insulation under structural timber floors.

directions for use

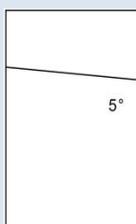
Firetect® P as board cladding for structural steel

important installation must follow DoP No. CPR-14/0292-P

- equipment - tacker, air / gas / powder operated gun
 - sawing equipment
 sawing machine: use exhaust equipment, type self-cleaning < 10 mg/m³ particle absorption
 use saw blades with hardened metal teeth
 on site: cut board with hand or power saw

installation **BOARD CLADDING for structural steel**

- Firetect P boards, board length 1200mm; mount boards butt joint
- board thickness, depending on profile factor [m⁻¹] + no. of exposed sides + design temperature ¹⁾
- columns: joints staggered
- ! - beams: butt joints in base boards may either coincide or stagger with butt joints in upright boards
- mounting on noggings or directly onto steel



mounting on noggings:

- use Firetect P noggings (5° wedge + base parts), min. 95x20mm (width x thickness)
 for beams > IPE400, use proportionally larger noggings
- fit noggings between steel flanges at ctc 1200mm (columns) + ctc 600mm (beams)
- upright boards are shot stapled on noggings with joints across noggings
- base boards are attached between protruding parts of upright boards
- use steel staples, non-corrosive, ctc 120mm:

- board thickness ≤ 15mm: staple crown 8.6mm, staple steel thickness 1.25mm
- board thickness > 15mm: staple crown 10.6mm, staple steel thickness 1.60mm
- 1 layer or 1st layer: staple leg: 30mm between boards, 35mm on noggings
- ≥ 2 layers: staple leg: 38mm between boards, 50mm on noggings

mounting directly onto steel: (hollow sections)

- steel hardened nails, min. 3 nails per 1000mm, staggered
 nail length depending on board thickness, 20 or 30mm (nail steel thickness min. 2.60mm)

joint finish

- 1 layer, butt joint: NO joint filler required; if board-to-board joint >3mm: use Firetect Acrylic sealant
 note: base boards with beams do NOT require cover strips for joints !
- 2 layers, butt joint: NO joint filler required with joints / boards staggered at min. 300mm

¹⁾ See tables at www.firetect.eu/download; other design temperatures 350 °C up to 750 °C available upon request.

directions for use

Firetect® P for fire rated walls

important installation must follow DoP No. CPR-14/0292-P

- equipment - electric screwdriver
 - sawing equipment
 sawing machine: use exhaust equipment, type self-cleaning < 10 mg/m³ particle absorption
 use saw blades with hardened metal teeth; on site: cut board with hand or power saw

installation **general**

- Firetect P boards, butt joint; wall height ≤ 4000mm; no limitations for wall width
- board thickness + no. of layers, depending on required fire resistance see also page 1

metal stud acc. EN 14195 **PARTITIONS**, mounting onto supportive construction (metal stud):

- U70F MS profiles 70x40x40mm, thick 0,6mm, top¹⁾ + bottom
- C70 MS profiles 68,8x49x51mm, thick 0,6mm, vertical
- install boards with long axis vertical; use phosphated drylining screws, fine thread; ctc 300mm
- vertical joints between boards are made coincident with MS
- horizontal joints (backed with continuous cavity insulation), staggered on either side

insulation acc. EN 13162 - apply cavity insulation, butt joint; mineral wool; density depending on required fire resistance

cavity insulation :

acc. EN 13501-2 / 1364-1	<u>screw specs (mm):</u>	<u>joint specs</u>	λ = 0.037 W/mK, melting point ≥ 1000 °C
EI 60 : board thickness 10mm, 1 layer	Ø 3,5 x 25	butt joint	mineral wool ≥70mm, density ≥110 kg/m ³
EI 90 : board thickness 15mm, 1 layer	Ø 3,5 x 35	butt joint	mineral wool ≥70mm, density ≥45 kg/m ³
EI 120 : board thickness 20mm, 1 layer	Ø 3,5 x 35	butt joint	mineral wool ≥70mm, density ≥45 kg/m ³
EI 180 : board thickness 20mm, 2 layer	Ø 3,5 x 35 (1 st layer) + Ø 3,5 x 55 (2 nd layer)	staggered at min. 300mm	mineral wool ≥70mm, density ≥45 kg/m ³

Required expansion allowance at top:

partitions with height:	3000 mm	4000 mm
EI 30	11mm	15mm
EI 60	16mm	22mm
EI 90	17mm	22mm
EI 120	17mm	22mm
EI 180	17mm	22mm

metal stud acc. EN 14195 **SHAFT WALLS**, mounting onto supportive construction (metal stud):

- U50F MS profiles 50x40x40, thick 0,6mm, top¹⁾ + bottom
- C50 MS profiles 48,8x49x51mm, thick 0,6mm, vertical
- install boards with long axis vertical; use phosphated drylining screws, fine thread; ctc 300mm
- vertical joints between boards are made coincident with MS
- horizontal joints are staggered on either side

insulation acc. EN 13162 - NONE required !

acc. EN 1995-1-2+C2	<u>screw specs (mm):</u>	<u>joint specs</u>
30 minutes: board thickness 20mm, 1 layer	Ø 3,5 x 35	butt joint
60 minutes: board thickness 15mm, 2 layer	Ø 3,5 x 25 (1 st layer) + Ø 3,5 x 45 (2 nd layer)	staggered at min. 300mm
90 minutes: board thickness 20mm, 2 layer	Ø 3,5 x 35 (1 st layer) + Ø 3,5 x 55 (2 nd layer)	staggered at min. 300mm
120 minutes: board thickness 55mm, 2 layer	Ø 3,5 x 35 (1 st layer) + Ø 3,5 x 65 (2 nd layer)	staggered at min. 300mm

joint finish

- joints with adjacent constructive element(s): apply Acrylic for horizontal partition edges and 1 vertical edge
- 1 layer: butt joint; NO joint filler required, if board-to-board joint >3mm: use Firetect Acrylic sealant
- 2 layers: butt joint, NO joint filler required with joints staggered at min. 300mm

¹⁾ Fixed onto rigid constructive element ≥ 150mm, density ≥ 650 kg/m³.

directions for use

Firetect® P for fire rated ceilings + flame barriers

important installation must follow DoP No. CPR-14/0292-P

- equipment - electric screwdriver
 - sawing equipment
 use saw blades with hardened metal teeth; on site: cut board with hand or power saw
 use exhaust equipment, type self-cleaning < 10 mg/m³ particle absorption

installation **FIRE RATED CEILING**¹⁾

- Firetect P boards, butt joint
 no limitations for ceiling height or width

mounting onto supportive construction (metal stud):

- C60/27 profiles acc. EN 14195, ctc 400mm

acc. EN 1995-1-2+C2

- 90 minutes** 1 layer Firetect A20 + 1 layer Firetect P12,5
 - use phosphated drylining screws fine thread
 screw length = 35 (1st layer) + 55mm (2nd layer), ctc 300mm
 - apply plenum insulation acc. EN 13162, mineral wool ≥ 50mm

joint finish

- NONE if butt joint + joints staggered at min. 300mm

installation **FLAME BARRIERS for adjacent joint wall²⁾ / roof³⁾ / facade**

- Firetect P12,5 strips 495x1200mm, butt joint; directly onto steel roof
 no limitations for ceiling height or width
- 1 or 2 sides, depending on required fire resistance:

see also page 1

acc. NEN 6068+C1

- 30 minutes** 1 layer Firetect P12,5 on 1 side
60 minutes 1 layer Firetect P12,5 on 2 sides

mounting directly onto constructive element:

installation method 1

under steel roofs with mineral wool roof insulation

- use phosphated drylining screws, fine thread;
 screw length= board thickness + 10mm, alternately 3 screws per corrugation, staggered
- apply mineral wool ≥ 27 kg/m³ in cannelures of roofing sheets (top + bottom) at wall position
- apply a 1000mm strip of concrete tiles at wall position on top of roofing felt

installation method 2

under steel roofs with EPS / PIR / PUR roof insulation

- use phosphated drylining screws, fine thread;
 screw length= board thickness + 10mm, alternately 3 screws per corrugation, staggered
- apply mineral wool ≥ 27 kg/m³ in cannelures of roofing sheets (top + bottom) at wall position
- interrupt roof insulation at wall position
 + replace by mineral wool roof insulation ≥ 115 kg/m³ min. 350mm wide
- apply a 1000mm strip of concrete tiles at wall position on top of roofing felt

joint finish

- NONE if butt joint; if board-to-board joint >3mm: use Firetect Acrylic sealant

¹⁾ Ceilings under structural timber or trapezoidal corrugated steel roofs ³⁾.

²⁾ Rigid walls ≥ 150mm, density ≥ 650 kg/m³.

³⁾ Trapezoidal corrugated steel roofs with mineral wool roof insulation.

Note: all constructive elements in the fire propagation / flash over 'zone' (thus also wall, roof, steelwork) must have the same fire resistance.

specifications

Firetect® P - general product specifications

material	reinforced full-core plaster fireboard with organic components
colour	white, smooth upper surface, stucco ready
fire resistance	R 30 up to R 180, EN; depending on application and configuration
	EI 30 up to EI 180, EN; depending on application and configuration
	30 up to 60 minutes, NEN; depending on application and configuration
tested acc.	EN 13381-4 + EN 1364-1 + EN 1995-1-2+C2 + NEN 6068+C1
classified acc.	EN 13501-1: Class A1; EN 13501-2
environmental performance	
release of dangerous substances	none: non-formaldehyde, non-asbestos
use category	Z ₂ , internal use
mechanical resistance / stability	flexural strength: 4,08 Mpa
resistance mechanical fastening	pull-through: 629 N; pull-out: 0,93 kN; shear load: 928 N
application conditions	between +5 °C and +30 °C, max. 70% RH
packaging	on pallets max. 1200x2400mm, shrink foil wrapped + corners protected; no. of boards: see below
storage	store dry, max. 70% RH, avoid condensation and UV; protect from frost; see below
shelf life	infinite, if stored acc. instructions
activation temperature	not applicable
flash point	not applicable
thermal conductivity	0,24 W/mk
density	see below; nominal ± 20 kgs, subject to variable (humid) environmental conditions

available sizes

standard size	1200 mm width; length: see below	other sizes upon request; tolerance ± 0,5mm/m ¹
standard thickness	12,5 mm up to 25 mm; see below	other sizes upon request; tolerance ± 1.0mm

limitations

- use Firetect C in case of high mechanical impact risks
- use Firetect C in case of variable (humid) environmental conditons

transport & storage

- with tautliner, load + unload sideways; do not stack more than 2 pallets
- always keep dry; standard packaging is inadequate for protection against rain or leaking water
- store on level ground; do not stack more than 2 pallets
- HS code: 68099000

	W x L x Th	boards / pallet	m ² / pallet	kgs / pallet	density kg/m ²	density kg/m ³
Firetect P 12,5	1200 x 2500 x 12,5mm	36	103,7	± 1250	12,0	± 975
Firetect P 15	1200 x 2500 x 15mm	30	86,4	± 1300	15,0	± 975
Firetect P 20	1200 x 2000 x 20mm	24	57,6	± 1160	20,0	± 975
Firetect P 25	1200 x 1500 x 25mm	20	36,0	± 900	25,0	± 975

health & safety

- no specific restrictions
- work according to health & safety Directive and use appropriate PPE (dust mask)
- this product is classified as not dangerous under Regulation 1272/2008 and is in compliance with CLP regulations



product information

- tables board thickness and other documentation can be downloaded at www.firetect.eu/download
- product certification by DoP; more info on certification of CE building products through ETA at www.firetect.eu/certification; consult www.firetect.eu for the latest version of this TDS, as product development and testing are ongoing processes at KLF
- contact KLF for other R / EI requirements and (non)standard or complex site requirements; mail info@klf.nl
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