product	**Firetect® A** - field of application
description	fire protective board, hard-pressed mineral board
intended use	fireboard to protect elements to be used for structural steelwork + fire compartments
certification	tested and certified by ETA-14/0402-A; 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 $[m^{-1}]$	
fire rated ceilings acc. EN 1995-1-2+C2	- ceilings under structural timber floors / roofs - ceilings under trapezoidal steel roofs	Eurocode 5 (out of scope ETA 14/0402-A) Eurocode 5 (out of scope ETA 14/0402-A)
adjacent joint wall / roof / facade acc. NEN 6068+C1: fire propagation + flashover	- flame barriers under trapezoidal steel roofs	Dutch NEN (out of scope ETA 14/0402-A)

fire resistance
related to field of application

board cladding for structural steel

configuration

acc. EN 13501-2 / 13381-4

	columns	beams	board thickness depending on
R 30			design temperature +
R 60	500 ° C	600 ° C	factor $[m^{-1}]$ + no. of exposed sides
R 90	ctc 1200mm	ctc 600mm	see tables [1]
R 120			at www.firetect.eu/download
R 180			

acc. EN 1995-1-2+C2   **fire rated ceilings [2]**

30 minutes	1 layer Firetect A15
60 minutes	1 layer Firetect A20
90 minutes	2 layer Firetect A15 or 1 layer Firetect A20 + 1 layer Firetect P12,5
120 minutes	2 layer Firetect A20

acc. NEN 6068+C1   **flame barriers for adjacent joint wall [3] / roof [4] / facade**

30 minutes	1 layer Firetect A20 495x1200mm on 1 side
60 minutes	1 layer Firetect A20 495x1200mm on 2 sides

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

[2] Ceilings under structural timber floors or steel roofs [4].

[3] Rigid walls ≥ 150mm, density ≥ 650 kg/m^3.

[4] Trapezoidal corrugated steel roofs with mineral wool roof insulation. For EPS / PIR / PUR insulation, additional measurements are required.

directions for use

Firetect® A as board cladding for structural steel

important   installation must follow DoP No. CPR-14/0402-A

equipment - tacker, air / gas / powder operated gun
- sawing equipment

   sawing machine: use exhaust equipment, type self-cleaning < 10 mg/m^3 particle absorption
   use saw blades with hardened metal teeth
   on site: cut board with Stanley knife, hand or power saw

installation   **BOARD CLADDING** for structural steel

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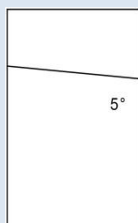
mounting on noggings:
- use Firetect P or C noggings (5° wedge + base parts), min. 95x20mm (width x thickness)
   for beams > IPE400, use proportionally larger noggings
- fit noggings between steel flanges at ctc 1200mm (columns) + ctc 600mm (beams)
- upright boards are shot stapled on noggings with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

   staple crown 10.6mm, staple steel thickness 1.60mm

1 layer or 1st layer: staple leg: 38mm between boards, 38mm on noggings

≥ 2 layers: staple leg: 38mm between boards, 50mm on noggings

5°

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)
- use washers for improved clamp strength

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® A for fire rated ceilings

important   installation must follow DoP No. CPR-14/0402-A

equipment - electric screwdriver
  - sawing equipment

   sawing machine: use exhaust equipment, type self-cleaning < 10 mg/m^3 particle absorption
   use saw blades with hardened metal teeth
   on site: cut board with Stanley knife, hand or power saw

installation   **FIRE RATED CEILINGS** [1]

- Firetect A boards, butt joint
   no limitations for ceiling heigth or width
- board thickness + no. of layers, depending on required fire resistance   see also page 1

installation method 1   **mounting directly onto constructive element**:
- for timber beams: use self-tapping screws 35mm, coarse thread, ctc 200mm
- for steel roofs: use phosphated drylining screws, fine thread;
   screw length= board thickness + 10mm, ctc 300mm per corrugation

acc. EN 1995-1-2+C2   *joint specs*

30 minutes	1 layer Firetect A15	butt joint
60 minutes	1 layer Firetect A20	butt joint
90 minutes	2 layer Firetect A15	staggered at min. 300mm
120 minutes	2 layer Firetect A20	staggered at min. 300mm

installation method 2   **mounting onto supportive construction (metal stud)**:
C60/27 profiles acc. EN 14195, ctc 400mm

acc. EN 1995-1-2+C2
60 minutes   1 layer Firetect A20
- use phosphated drylining screws, fine thread;
   screw length = 35mm, ctc 200mm
- ensure that joints are supported, either by metal stud profiles or cover strips
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
- 1 layer: NONE if butt joint; if board-to-board joint >3mm: use Firetect Acrylic sealant
   ceilings under timber with 1 layer Firetect A20: support joints (see above)
- 2 layers: NONE if butt joint + joints staggered at min. 300mm

[1] Ceilings under structural timber or trapezoidal corrugated steel roofs with mineral wool roof insulation.

directions for use

	Firetect® A for flame barrierrs

important   installation must follow DoP No. CPR-14/0402-A

equipment - electric screwdriver
- sawing equipment
    use saw blades with hardened metal teeth
    use exhaust equipment, type self-cleaning < 10 mg/m^3 particle absorption
    on site: cut board with Stanley knife, hand or power saw

installation   **FLAME BARRIERS for adjacent joint wall** [1] **/ roof** [2] **/ facade**

Note: all constructive elements in the fire propagation / flash over 'zone'
(thus also wall, roof, steelwork) must have the same fire resistance.
- Firetect A20 strips 495x1200mm, butt joint; directly onto steel roof
    no limitations for ceiling heigth or width
- 1 or 2 sides, depending on required fire resistance: see also page 1

acc. NEN 6068+C1
30 minutes   1 layer Firetect A20 on 1 side
60 minutes   1 layer Firetect A20 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/m^3 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/m^3 in cannelures of roofing sheets (top + bottom) at wall position
- interrupt roof insulation at wall position
  + replace by mineral wool roof insulation ≥ 115 kg/m^3 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] Rigid walls ≥ 150mm, density ≥ 650 kg/m^3.

[2] Trapezoidal corrugated steel roofs with roof insulation.

specifications

Firetect® A - general product specifications

material	light-weight hard-pressed mineral fireboard with organic components
colour	white primered on upper surface, slightly sanded
fire resistance	R 30 up to R 180, EN; depending on application and configuration
	EI 30 up to EI 120, EN; depending on application and configuration
	30 up to 60 minutes, NEN; depending on application and configuration
tested acc.	EN 13381-4 + EN 1995-1-2+C2 + NEN 6068+C1
classified acc.	EN 13501-1: Class A2; EN 13501-2
environmental performance	
release of dangerous substances	none: non-formaldehyde, non-asbestos
use category	Z_2 internal use
application conditions	between +5 ℃ and +30 ℃, max. 70% RH
packaging	on pallets 1200x1500mm, 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	0,054 W/mk
density	see below; nominal ± 20 kgs, subject to variable (humid) environmental conditions

available sizes

standard size	1200x1500mm	other sizes upon request; tolerance ± 0,5mm/m[1]
standard thickness	15 + 20mm	other sizes upon request; tolerance ± 1.0mm

limitations

- use Firetect C or P 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: 68069000

W x L x Th	boards / pallet	m^2 / pallet	kgs / pallet	density kg/m^2	density kg/m^3
Firetect **A15** 1200 x **1500** x 15mm	55	99	± 675	± 7.0	± 450
Firetect **A20** 1200 x **150**0 x 20mm	40	72	± 660	± 9.0	± 450

health & safety

- no specific restrictions
- work according to health & safety Directive and use appropriate PPE (dust mask)
- this product is classfied 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