TECHNICAL DATA SHEET

EXTHA FIREMAT TL-P2

Description: Dual-layer, non-combustible insulating panels comprising a 10mm "shield" layer and an "insulating" layer of varying thickness.
High mechanical performance.

Composition: Mineral composite containing silicates, special cements and additives.

Thickness: Variable and adaptable.
Standard total thickness of 35 or 45mm, including 10mm shield.

Dimensions: Adaptable to site requirements.
Standard: 1,200x600 [mm²], 600x600 [mm²]

Density: 1,300 kg/m^3 on average
Shield: 1,600 kg/m^3
Insulation: 1,100 kg/m^3

Tensile strength (4-point bending): > 5 MPa

Water absorption: 25% maximum (total immersion)

Intrinsic permeability: 3.10^{-14} [m²]

Chloride permeability - Diffusion coefficient: *c.a.* 10^{-10} m²/s

Expansion (maximum at 60 days):

- Immersion in water: + 300 µm/m
- Immersion in H_2SO_4 (pH=3): < 500 µm/m
- Immersion in NaOH (pH=10): + 200 µm/m

Reaction to fire: Non-combustible – A1
Classification according to the law of 21 November 2002 "mineral composition containing no more than 1% organic material (in weight or volume)".

Resistance to fire: 45mm version: 90°C on average at concrete/protection interface under HCM120.

35 mm version: 143°C on average at concrete/protection interface under HCM120. 508°C on average at concrete/protection interface under HCM180.

25 mm version: 275°C on average at concrete/protection interface under HCM120.

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THERMAL PROPERTIES

Shield:

Density at 25°C	1.65
Conductivity at 25°C	0.85 W/m.K
Specific heat, Cp	0.8 J/g.K
Latent heat, Cv	300 J/g at 124 °C

Conductivity (λ) and diffusivity ($\lambda / \rho C$) as a function of temperature:

	210°C	410°C	610°C	1000°C
Conductivity (W/m.K)	0.51	0.53	0.46	0.46
Diffusivity x 10^7 (m^2/s)	3.3	3.6	3.6	4.3

Insulation:

Density at 25°C	1.1
Conductivity at 25°C	0.52 W/m.K
Specific heat, Cp	0.7 J/g.K
Latent heat, Cv	900 J/g à 124 °C

Conductivity (λ) and diffusivity ($\lambda / \rho C$) as a function of temperature:

	210°C	410°C	610°C	1000°C
Conductivity (W/m.k)	0.38	0.18	0.19	0.20
Diffusivity x 10^7 (m^2/s)	2.6	1.8	2.1	1.6

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