

TECHNICAL DATA SHEET

EXTHA FIREMAT TL-P1



Description:	Dual-layer, non-combustible insulating panels comprising a 10mm "shield" layer and an "insulating" layer of varying thickness.
Composition:	Mineral composite containing silicates, siliceous fillers and special additives.
Thickness:	Variable and adaptable. Standard total thickness of 35 or 45mm, including 10mm shield.
Dimensions:	Adaptable to site requirements. Standard: 1,000x600x45 [mm] – 1,200x600x35 [mm]
Density:	1,000 kg/m ³ on average Shield: 1,500 kg/m ³ Insulation: 870 kg/m ³
Tensile strength (4-point bending):	Shield down: 3.71 MPa Shield up: 3.91 MPa
Water absorption:	25% maximum (total immersion)
Intrinsic permeability:	10 ⁻¹⁴ [m ²]
Chloride permeability - Diffusion coefficient:	0,3.10 ⁻⁹ m ² /s
Expansion (maximum at 35 days):	<ul style="list-style-type: none">❑ Total immersion in water: + 350µm/m❑ Immersion in H₂SO₄ (pH=6): + 300µm/m❑ Immersion in NaOH (pH=10): + 200µm/m at – 300µm/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: 135°C on average at concrete/protection interface under HCM120 (TNO tests of 19/04/04 and 25/05/04). 35mm version: 185°C on average at concrete/protection interface under HCM120 (TNO tests of 14/06/04).

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THERMAL PROPERTIES

Shield:

Density at 18°	1.54
Conductivity at 18°C	0.85 W/m.K
Specific heat, Cp	0.8 J/g.K
Latent heat, Cv	210 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)	0.47	0.43	0.42	0.48
Diffusivity x 10^7 (m ² /s)	3.5	2.8	2.7	3.2

Insulation:

Density at 18°	0.87
Conductivity at 18°C	0.297 W/m.K
Specific heat, Cp	0.7 J/g.K
Latent heat, Cv	375 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)	0.18	0.19	0.21	0.28
Diffusivity x 10^7 (m ² /s)	1.5	1.2	1.3	1.3



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