

TECHNICAL DATA SHEET

ISOFIRE



Description:	Asbestos-free non-combustible insulating panels.
Composition:	Mineral composite containing calcium sulphate, mineral fibres and special additives.
Thickness:	Variable depending on performance requirements (30, 45, 55mm).
Dimensions:	Adaptable to site requirements. Standard: 1,000x600x45 [mm] – 1,200x600x35 [mm]
Density:	+/- 1,000 kg/m ³
Mechanical properties:	Tensile strength: 2.43 MPa Compression strength: 6.34 MPa Vickers hardness: 46.61 kg/mm ²
Water absorption:	31% maximum i.e. 0.32g/cm ³ (total immersion) in accordance with NF EN 12859.
Intrinsic permeability:	5.10 ⁻¹⁴ [m ²]
Chloride permeability - Diffusion coefficient:	3.7.10 ⁻⁹ m ² /s
Expansion (maximum at 35 days):	<ul style="list-style-type: none"><input type="checkbox"/> Total immersion in water: + 450µm/m<input type="checkbox"/> Immersion in H₂SO₄ (pH=6): + 350µm/m<input type="checkbox"/> Immersion in NaOH (pH=10): + 100µm/m to + 200µm/m
Hydro and super-hydro version:	For your high or very-high hygrometry sites. (e.g. Reunion Island, Tahiti, etc.)
Water absorption (total immersion):	Hydro panel: 3.73% maximum Super-hydro panel: 1.83% maximum

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- Reaction to fire:** Non-combustible – A1.
Classification according to law of 21 November 2002 "mineral composition containing no more than 1% organic material (in weight or volume)".
- Resistance to fire:** 1H for 30mm / 2H for 45mm / 3H for 55mm.
Always the same thickness depending on the level of fire resistance required.
Tested using internal and external fire exposure in accordance with the law of 3 August 1999 and European standard 1363-1.
Our ISOFIRE ducts are tested horizontally and vertically.
Sections of 0x0 at 3,000x2,250 horizontally.
Sections of 0x0 at 2,250x2,250 vertically.
Horizontal / vertical junctions are test-approved.
Joints with fire-stop smoke-extraction shutters are test-approved (ALDES – RFT – PANOL – France AIR shutters).

THERMAL PROPERTIES

Density at 25°C	1.05
Conductivity at 25°C	0.44 W/m K
Diffusivity at 25°C	$3.89 \cdot 10^{-7}$ m ² /s
Specific heat, Cp	0.7 J/g K (calculated between 194°C and 246°C)
Latent heat, Cv	586 J/g at 124°C

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

	210°C	410°C	610°C	960°C
Conductivity (W/m K)	0.44	0.43	0.42	0.48
Diffusivity x 10^7 (m ² /s)	3.5	2.8	2.7	3.2



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