

Data sheet

# FireMaster<sup>®</sup> MP Board

ENGLISH

## Description

**FireMaster MP Board is a rigid and compact microporous insulation with an engineered mineral matrix designed for applications where the lowest thermal conductivity up to 1000°C (1832°F) associated with high dimensional and thermal stability and non combustibility are the main selection criteria.**

Like any other microporous insulation of our industrial range produced with our exclusive WDS<sup>®</sup> Technology process, FireMaster MP Board features extremely good handling and machining properties; the extremely low thermal conductivity coefficient provides very good insulating properties with reduced thickness, allowing to design equipment where the highest energy efficiency, space optimization and reduction of weight are premium factors to be considered.

## Environmental and Health Safety

FireMaster MP Board does not contain any hazardous or decomposition substance according to the EU Directive 2006/1907/EEC and IARC. The fibers or filaments used as reinforcement of the mineral core are also exonerated from any classification as defined by the WHO (World Health Organization) and EU Directive 97/69/EC.

## Resistance to Moisture and Water

FireMaster MP Board has a porous surface therefore it is sensitive to all liquids that can wet it; this includes substances such as water, oil and petroleum spirit, since they can destroy the pore structure. Non condensed moisture does not affect the product.

Sensitivity to liquids of FireMaster MP Board can be eliminated by using a surface treatment such as temperature resistant aluminum foil or shrink-wrapped PE Film.

## Features

- Best-in-class amongst other market solutions within the same classification temperature and similar chemistry, for the lowest thermal conductivity it provides in the entire temperature spectrum up to its classification temperature.
- Not affected by thermal shock
- Inorganic
- Non combustible
- Improved product mineral matrix core features minimal dust release and very good handling and machining abilities

## Benefits

- Dimensionally stable over time up to the maximum using temperature
- Helps to control energy efficiency and heat flow very precisely
- Easy to cut and with proven installation techniques
- Freedom in engineering at the design stage
- Increases effective volume inner capacity or reduces encumbrance in equipment and apparels of any kind.
- Largest product dimensions available
- Environmentally friendly

## Applications

FireMaster MP Board is designed for highly effective back-up insulation systems and fire rated enclosures and systems even under very high temperature exposure and features the lowest thermal conductivity amongst those products from our range classified 1000°C (1832°F).

- Elevator fire rated doors and fire doors
- Highly effective insulation in fire resistant systems and enclosures.
- Safety cabinets
- Li-ion batteries
- Fire rated enclosures in the Oil& Gas industry
- Fire rated ducting
- Exhaust systems
- Conveyer systems and fire rated cabin enclosures in the railways industry



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|   | Test Method | FireMaster MP Board |
|---|-------------|---------------------|
| <b>Classification Temperature, °C (°F)</b>                                      |             | 1000 (1832)         |
| <b>Denisty, kg/m<sup>3</sup> (pcf), nominal</b>                                 |             | 275 (17.1)          |
| <b>Cold Compressive strength, MPa (psi)</b>                                     | ASTM C 165  | 0.30 (43.5)         |
| <b>Linear Shrinkage, %</b>  |             |                     |
| Full soak, 1000°C (1832°F), 24 hours  | ASTM C365   | <3.0                |
| One side exposed soak, 1000°C (1832°F), 12 hours                                |             | <0.5                |
| <b>Thermal Conductivity, W/m•K (BTU•in/hr•ft<sup>2</sup>•°F), per ASTM C177</b> |             |                     |
| 200°C (392°F)   | ASTM C177   | 0.022 (0.152)       |
| 400°C (752°F)   |             | 0.023 (0.159)       |
| 600°C (1112°F)  |             | 0.027 (0.187)       |
| 800°C (1472°F)  |             | 0.033 (0.228)       |
| <b>Chemical Analysis, % weight basis after firing</b>                           |             |                     |
| Silica, SiO <sub>2</sub>  |             | 55-75               |
| Silicon Carbide, SiC  |             | 25-40               |
| Others  |             | 3-10                |
| Loss of Ignition, Dry condition)  |             | <2.5                |

### Shelf life

- FireMaster MP Board has unlimited shelf life if it stored properly
- FireMaster MP Board must be handled and stored in dry conditions
- FireMaster MP Board is resistant to diffusion by atmospheric humidity (water vapor) proving condnsation is avoided

### Size and Availability

| Board Size, mm (in)         | Thickness, mm (in)                                      |
|-----------------------------|---|
| 1000 x 650 (39 x 24.41)     | 10, 12, 15, 17, 20, 25, 30, 35, 40, 45, 50              |
| 1320 x 1000 (47.24 x 39.27) | (0.4, 0.5, 0.6, 0.7, 0.8, 1, 1.18, 1.37, 1.57, 1.77, 2) |

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