



## 5MS.005

### Rigid Insulation

### SIZAL®BOARD

#### Applications

- Insulation panels for industrial or laboratory installations
- Furnace linings (electric and gas)
- Furnace, burner or turbine components.
- Mechanical parts, part supports, and more.
- Repairs

Physical variables included in this documentation are provided by way of indication only and do not, under any circumstances, constitute a contractual undertaking. Please contact our technical service if you require any additional information.

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#### Overview

Our SIZAL® range is a complete line of thermal insulators that open the way to many industrial or laboratory applications up to 1,800 °C. The mechanical and thermal performance of SIZAL® products guarantee substantial savings in terms of energy and costs.

SIZAL®BOARD is a range of rigid high-temperature insulation composed of polycrystalline alumina wool (PCW) fibres. offers an alternative to aluminium silicate fibre-based materials. These are referred to as Refractory Ceramic Fibres (RCF).

Thanks to its structure, this product has excellent resistance to ruptures and/or cracking during rapid temperature rises. SIZAL®BOARD offers not only a very homogeneous structure, but also has virtually no non-fibrous particles (shots) during its manufacture. This means is it safe to use and compliant with occupational health and safety.

#### Pre-calcination

All SIZAL®BOARD products can be delivered pre-calcined. Cooking parts at more than 350 °C eliminates all traces of organic binders that may be present in the materials. This operation avoids gas emissions and potential pollution during more sensitive applications.

#### Main Characteristics

- Guaranteed use up to 1,800 °C
- Density up to 700 kg/m<sup>3</sup>
- Low thermal conductivity
- Low shrinkage
- Easy to set up (homogeneous structure)
- Very light, dust-free
- Effective in all atmospheres
- Excellent thermal shock resistance
- No carcinogenic classification

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## Available Products

### Available Products

- Boards or semi-boards
- Customised cuts

| Product   | Type  | Thickness         | Dimension           |
|-----------|-------|-------------------|---------------------|
| 1500-300  | Board | 25, 40, 50,       | 900 mm<br>x 600 mm* |
| 1600-400  |       | 100 mm            |                     |
| 1650-400  |       | 20, 25, 40, 50,   |                     |
| 1850-400P |       | 100 mm            |                     |
| 1850-500  |       | 20, 25, 40, 50 mm |                     |

**Customized designs are available on request.**

### Insulation panels

SIZAL® is a high-end insulation solution for the thermal management of your industrial installations or laboratories.

### Furnace linings and components

The quality of SIZAL® products is compatible with the construction and renovation of gas and electric furnaces. The use of this material permits greater compactness, with a resulting improvement in efficiency and energy saving.

Mechanical strength tests executed in electric furnaces of various designs, under both reducing and oxidizing atmospheres, have confirmed the exceptional resistance of SIZAL®BOARD, particularly in response to high-amplitude hot and cold cycles, from 100 to 800 °C in less than an hour.

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| SIZAL®BOARD                 |                                |                                    |          |          |           |           |          |          |
|-----------------------------|--------------------------------|------------------------------------|----------|----------|-----------|-----------|----------|----------|
| Property                    |                                | Unit                               | 1500/300 | 1600/400 | 1650/400* | 1750/400* | 1850/400 | 1850/500 |
| Item N°                     |                                |                                    | 057-1500 | 057-1600 | 057-1650  | 057-1750  | 057-1800 | 057-1850 |
| Chemical Composition        | SiO <sub>2</sub>               | %                                  | 37       | 35       | 28        | 28        | 20       | 15       |
|                             | Al <sub>2</sub> O <sub>3</sub> |                                    | 63       | 65       | 72        | 72        | 80       | 85       |
| Density                     |                                | kg/m <sup>3</sup>                  | 300      | 400      | 400       | 400       | 400      | 500      |
| Classification Temperature  |                                | °C                                 | 1,500    | 1,600    | 1,650     | 1,750     | 1,850    | 1,850    |
| Max. Operating Temperature  |                                | °C                                 | 1,420    | 1,480    | 1,600     | 1,700     | 1,800    | 1,800    |
| Linear Expansion after 24 h | 1,400 °C                       | %                                  | -0.4     | -        | -         | -         | -        | -        |
|                             | 1,500 °C                       |                                    | -1.2     | 0        | +0.1      | 0         | -        | -        |
|                             | 1,600 °C                       |                                    | -        | -0.5     | -0.2      | +0.5      | +0.3     | 0        |
|                             | 1,700 °C                       |                                    | -        | -        | -         | -0.2      | +0.5     | +0.2     |
|                             | 1,800 °C                       |                                    | -        | -        | -         | -         | -0.7     | -0.4     |
| Thermal Conductivity        | 800 °C                         | W.m <sup>-1</sup> .K <sup>-1</sup> | 0.14     | 0.15     | 0.16      | 0.14      | 0.18     | 0.25     |
|                             | 1,200 °C                       |                                    | 0.20     | 0.22     | 0.23      | 0.23      | 0.28     | 0.33     |
|                             | 1,400 °C                       |                                    | -        | -        | 0.28      | 0.29      | 0.34     | 0.38     |
| Ignition Loss               |                                | %                                  | 3        | 3        | 5.1       | 4         | 6        | 4        |

\*contains refractory ceramic fibres

