# PROMASIL®–1000, –1000P, –1100

## High performance calcium silicates

PROMASIL®–1000, –1000P and –1100 are lightweight calcium silicate insulating boards.

In combination with dense and light-weight refractory bricks or concrete, they are the ideal back-up lining. Due to the low thermal shock resistance the boards are not suitable for front sided use.

PROMASIL® materials are produced as boards, pipe sections, segments and cut sections.

| Technical data | | | | |
|---|---|---|---|---|
| **Grade** | | **-1000** | **-1000P** | **-1100** |
| **Colour** | | white | white | white |
| **Classification temperature** | °C | 1000 | 1000 | 1050 |
| **Bulk density** | kg/m³ | 245 | 285 | 285 |
| **Cold compressive strength** | N/mm² | > 1.5 | > 2 | > 2.5 |
| **Linear Shrinkage** | | | | |
| 1000 °C – 12h | % | 1.3 | 1.3 | – |
| 1050 °C – 12h | % | – | – | < 2 |
| **Thermal conductivity** | | | | |
| 200 °C | W/m K | 0.075 | 0.085 | 0.085 |
| 400 °C | W/m K | 0.105 | 0.105 | 0.105 |
| 600 °C | W/m K | 0.145 | 0.145 | 0.145 |
| 800 °C | W/m K | 0.175 | 0.185 | 0.185 |
| **Specific heat capacity** | kJ/kg K | 1.03 | 1.03 | 1.05 |
| **Reversible thermal expansion** | $K^{-1}$ | $5.4x10^{-6}$ | $5.4x10^{-6}$ | $5.5x10^{-6}$ |
| **Protective gas-resistance** | | CO, $NH_3$, $H_2$, $CH_4$, $N_2$ atmosphere | | |
| **Moisture content** (air-dry) | % | ca. 3–8 | | |

| Delivery sizes | | |
|---|---|---|
| **Length*** | mm | 1000 |
| **Width*** | mm | 500 |
| **Thickness*** | mm | 25 / 30 / 40 / 50 / 60 / 65 / 70 / 75 / 80 / 90 / 100 |

* Other sizes are available on request. Maximum: 2500mm x 1000mm, up to 150mm thickness.
Segments in all diameters, shaped parts and cut sections are available on request. Shaped parts and cut sections are available on request.

| Production tolerances | | |
|---|---|---|
| **Length and width** | mm | ± 2 |
| **Thickness** | mm | ± 1 |

| PROMASIL®-1000 pipe sections | | |
|---|---|---|
| **Inner diameter (min.)** | mm | 10 |
| **Outer diameter (max.)** | mm | 330 |
| **Pipe length** | mm | 500 |

# PROMASIL®–1000, –1000P, –1100

## Properties & advantages

- low thermal conductivity
- low shrinkage
- low bulk density, low heat storage
- good mechanical strength
- excellent resistance to corrosion under insulation (according to ASTM C795 and ASTM C1617)
- resisitant to reduction gases CO, $NH_3$, $H_2$ and $CH_4$
- free of sulphur, low iron
- good workability
- flexible size format, thickness up to 150 mm
- shaped parts available including pipe sections and segments
- product quality meets the ASTM and EN standards (CE mark)
- low assembly costs
- water repellent surface treatments
- antidust treatment
- chemical resistance improvement

## Application areas

PROMASIL® materials are used in various industrial applications as thermal back-up insulation in a refractory lining.

### HEAVY INDUSTRY

- **Aluminium industry:** anode baking furnace and electrolysis cells
- **Steel industry:** smelting and heat treatment furnaces
- **Glass industry:** melting furnaces, heat treatment and foming furnaces
- **Ceramics industry:** bogie hearth furnaces, kiln cars
- **Cement industry:** heat exchangers and cyclone separators

### OIL AND GAS INDUSTRY

- fired heaters
- pipe insulation, pipe support (suitable according to ASTM 1617 and 795)

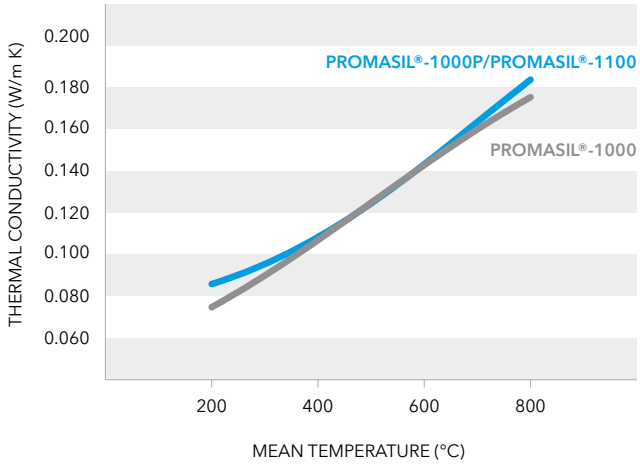
## Working & processing

This PROMASIL® range of products can be easily worked and machined with woodworking tools.

To avoid water absorbtion and to protect against aggressive atmospheres, Promat®–Impregnations are available.

When cutting to size, the maximum workplace concentration values for inhalable dust must be observed. Dust extraction is recommended. See product safety information sheet.

## Thermal conductivity



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