

# 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	1100
Bulk density	kg/m <sup>3</sup>	245	285	285
Cold compressive strength	N/mm <sup>2</sup>	> 1.5	> 2	> 2.5
<b>Linear Shrinkage</b>				
1000 °C - 12h	%	1.3	1.3	-
1050 °C - 12h	%	-	-	< 2
<b>Thermal conductivity</b>				
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 <sup>-1</sup>	5.4x10 <sup>-6</sup>	5.4x10 <sup>-6</sup>	5.5x10 <sup>-6</sup>
Protective gas-resistance		CO, NH <sub>3</sub> , H <sub>2</sub> , CH <sub>4</sub> , N <sub>2</sub> atmosphere		
Moisture content (air-dry)	%	ca. 3-5		

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

Segments in all diameters can be produced on request. Shaped parts and cut sections are available on request.

### PROMASIL®-1000 pipe sections

Inner diameter (min.)	mm	10
Outer diameter (max.)	mm	330
Pipe length	mm	500

Production tolerances		
Length and width	mm	± 1.5
Thickness	mm	± 1.3

# PROMASIL<sup>®</sup>-1000, -1000P, -1100

### Properties & advantages

- low thermal conductivity
- low shrinkage
- low bulk density, low heat storage
- good mechanical strength
- qualified for use on austenitic steel (ASTM 795)
- resistant to reduction gases CO, NH<sub>3</sub>, H<sub>2</sub> and CH<sub>4</sub>
- free of sulphur, low iron
- good workability
- flexible size format, thickness up to 170 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
- chemical resistance improvement

### Application areas

PROMASIL<sup>®</sup> 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 fuming 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)



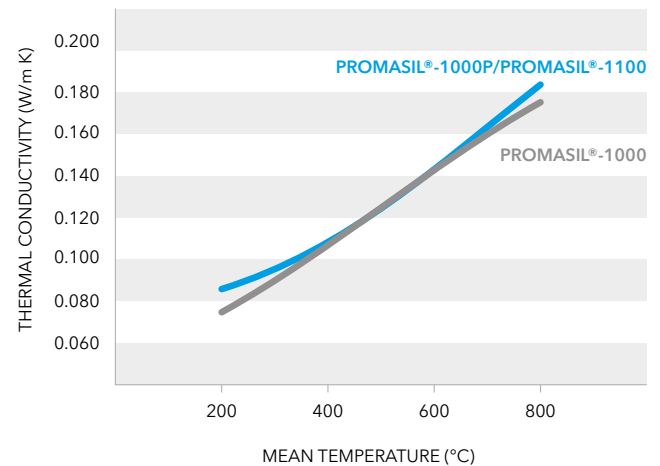
### Working & processing

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

To avoid water absorption and to protect against aggressive atmospheres, Promat<sup>®</sup>-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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