

PROMASIL -1000, -1000 P and -1100 lightweight Calcium Silicate Insulating Boards 1000 C to 1100 C

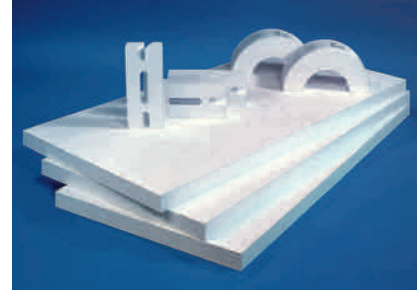
Material Description

PROMASIL -1000, -1000P, -1100 are lightweight calcium silicate insulating boards, asbestos-free. In combination with lightweight refractory bricks or refractory concrete, they are the ideal construction material as rear lining. As is generally known, the low thermal shock resistance of calcium silicate excludes its use on the front side.

Advantages and Properties

low thermal conductivity
high thermal resistance
low thermal shrinkage
low bulk density
protective gas-resistant
(CO, NH₃, H₂, N₂ and CH₄)
free of sulphur and low in iron

In modern production plants, the patented manufacturing process guarantees constant PROMASIL quality above the requirements of ASTM and DIN standards.



PROMASIL calcium silicate boards and half-pipe sections

Technical Data			
Product Name	PROMASIL Calcium Silicate Insulating Boards		
	-1000	-1000P	-1100
Colour	white	white	white
Classification temperature	1000 C	1000 C	1100 C
Bulk density ρ	245 kg/m ³	285 kg/m ³	285 kg/m ³
Cold crushing strength	1.4 N/mm ²	2.0 N/mm ²	2.0 N/mm ²
Shrinkage at	1000 C, 12h	1.3%	
	1050 C, 12h		1.5%
Reversible thermal expansion	5.4 10 ⁻⁶ m/mK	5.4 10 ⁻⁶ m/mK	5.5 10 ⁻⁶ m/mK
Specific heat capacity c	1.03 kJ/kg K	1.03 kJ/kg K	1.05 kJ/kg K
Thermal conductivity λ	W/m K	W/m K	W/m K
	200 C	0.07	0.08
	400 C	0.10	0.10
	600 C	0.14	0.14
	800 C	0.17	0.17
Protective gas-resistance	CO, NH ₃ , H ₂ , CH ₄ , N ₂ atmosphere		



Working and Processing

PROMASIL can be easily worked with woodworking tools. Generated dust is not absorbable by the lungs and is harmless with regard to working hygiene.

Cutting to Size

When cutting to size, the maximum workplace concentration values for dust generation must be observed. In general dust suction is recommended.

Selection Criteria

PROMASIL as compression-proof rear lining
high insulating effect
low wall thicknesses
low bulk density
low heat storage
large-sized
low assembly costs
operating safety
high quality standard

The low thermal aftershrinkage and the high compressive strength after thermal burning are the quality criteria for operating safety.



Areas of Application

PROMASIL insulating boards and pipe sections are used in all industrial branches of refractory building for ambitious mechanical and thermal rear linings.

Steel industry: smelting, heat distortion and heat-treatment plants

Ceramic industry: chamber and tunnel furnaces

Glass industry: melting furnaces and cooling channels

Cement industry: heat exchangers and cyclone separators

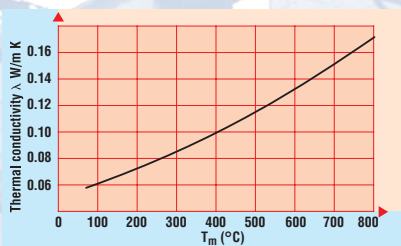
Chemical and petrochemical industry:

Thermal cracking reactors and processing plants



Chamber lining of an anode baking furnace with PROMASIL and PROMATON

Thermal conductivity curve for PROMASIL



PROMASIL -1000

Half-pipe sections

Inner diameter min. 10 mm

Outer diameter max. 220 mm

Pipe length 500 mm

Segments

All diameters are producible on request.

Delivery Sizes

Standard dimensions PROMASIL -1000, -1000 P, -1100

Length x width 1000 x 500 mm

Board thickness 25, 30, 40, 50, 60, 65, 70, 75, 80, 90, 100 mm

→ 1260 C

Tolerances

Dimensional tolerances of standard boards:

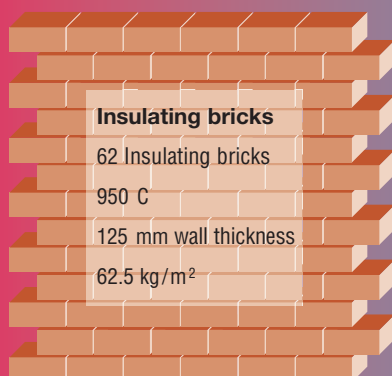
Lengths and widths: 1.5 mm

Thicknesses: 1.3 mm

Cut Sections

Shaped parts and cut sections are available on request.

Technical comparison insulating bricks PROMASIL -1100



Insulating bricks

62 Insulating bricks

950 C

125 mm wall thickness

62.5 kg/m²



PROMASIL

2 PROMASIL boards

1100 C

90 mm wall thickness

21.6 kg/m²

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