

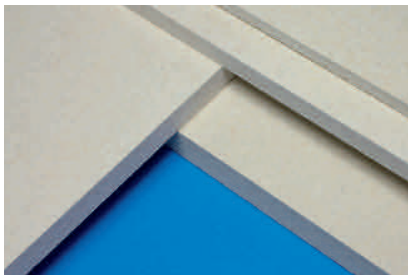
PROMATECT®-H large-sized Insulating Board 400°C

Material Description

PROMATECT®-H insulating boards are produced with a special cement technology, calcium silicate based and purely mineral, asbestos-free.

These large-sized insulating boards are easy to work and have a favourable combination of special technical properties for the production of mechanically strong, self-supporting constructions.

Their physical behaviour permits combining techniques for thermal insulating, drying technology, humidity, ventilation, fire protection, noise protection, etc.



PROMATECT®-H insulating board

Advantages and Properties

- large-sized, self-supporting
- high mechanical strength
- good thermal insulation
- shape and dimensionally stable up to 400°C
- A1, non-combustible according to DIN 4102
- simple working and processing
- secure fixing and connecting technique
- unaffected by humidity
- good chemical resistance
- scratch resistant surface

Working and Processing

Woodworking machinery with hard-metal-tipped tools must be used for producing and processing cut sections.

To reduce moisture absorbency, PROMATECT®-H boards must be primed.

For information on coloured paints, water-repellent surface treatment and fluid steam brakes, please contact Application Technology Division t3.

Technical Data

Product Name	PROMATECT®-H Insulating Board	
Colour	grey	
Building material class according to DIN 4102	A1, non-combustible	
Classification temperature	400°C	
Bulk density ρ	870 kg/m ³	
Thermal conductivity λ	20°C	0.17 W/m K
	100°C	0.19 W/m K
	200°C	0.21 W/m K
Shrinkage at 400°C, 24 h	0.25% in longitudinal and lateral direction	
Specific heat capacity c	0.92 kJ/kg K	
Linear change in length (20–600°C)	-6.4 · 10 ⁻⁶ m/m K	
Alkalinity (pH-value)	approx. 12	
Water-vapour diffusion value μ	20	
Humidity contents (air dry)	5-10%	
Surface property of standard boards	visible side smooth, reverse honeycombed	

Static Values

Elasticity module E	in longitudinal board direction	4200 N/mm ²
	in lateral board direction	2900 N/mm ²
Bending strength σ	in longitudinal board direction	7.6 N/mm ²
	in lateral board direction	4.8 N/mm ²
Tensile strength	in longitudinal board direction	4.8 N/mm ²
	in lateral board direction	2.6 N/mm ²
Compressive strength	perpendicular to surface of board	9.3 N/mm ²

Remarks

The longitudinal board direction is identical to the production direction for PROMATECT®-H.

To determine the permissible load the use of the following values is recommended:

Bending $f \leq l/250$, load ratio $v \geq 3$



Cutting to Size

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

Surface Treatment

The technological properties and the surface structure of PROMATECT®-H boards are adaptable to receive decorative surfaces. PROMATECT®-H boards are alkaline, therefore they must be treated using alkali-resistant paints, bonding agents and decorative systems.



Areas of Application

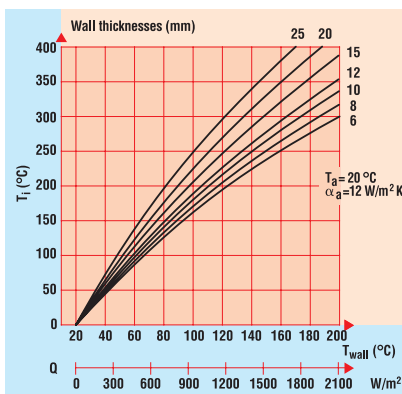
Dryer, Industrial Furnaces, Apparatus Construction, Wet and Damp Rooms

The physical and technological construction properties of the large-sized self-supporting PROMATECT®-H insulating board offer efficient solutions for highly technical demands.

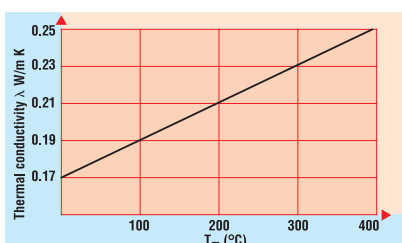
The composition of the insulating board is designed to meet requirements such as low weight, mechanical strength, thermal insulation and thermal dimensional stability.

PROMATECT®-H is hygroscopic and vapour-permeable. Humidity is therefore regulated according to building physics. Water and vapour are absorbed and emitted without impairing the strength values.

Heat transfer diagram



Thermal conductivity curve for PROMATECT®-H



Accessories

Promat® Bonding Agent K84

Material description: water-glass-based bonding agent, modified with additional and inorganic filling compounds. Promat® bonding agent K84 has a viscous consistency. Building material class A1 according to DIN 4102, non-combustible.

Delivery form: ready-to-use in 7.5 or 15 kg bucket.

Technical information sheet on request.

Promat®-SR Impregnation

Material description: impregnation for PROMATECT®-H boards for protection against aggressive media. Promat®-SR impregnation is fluid and can be applied by spraying, rolling or painting.

Delivery form: 10 l canister

Resistance list and technical information sheet on request.

→ 500°C

Delivery Sizes

Dimensions and Weights

Board thickness (mm)	Standard dimensions (mm)	Board weights (kg/m ²) at +20°C, 65% rel. humidity
6	2500 x 1250	approx. 5.6
8	2500 x 1250	approx. 7.4
10	2500 x 1250	approx. 9.2
10	3000 x 1250	approx. 9.2
12	2500 x 1250	approx. 11.1
12	3000 x 1250	approx. 11.1
15	2500 x 1250	approx. 13.9
15	3000 x 1250	approx. 13.9
20	2500 x 1250	approx. 18.5
20	3000 x 1250	approx. 18.5
25	2500 x 1250	approx. 23.1
25	3000 x 1250	approx. 23.1

Tolerances

Dimensional tolerances of standard boards:

Lengths and Widths:	± 3.0 mm
Thicknesses 6-12 mm:	± 0.5 mm
15-20 mm:	± 1.0 mm
25 mm:	± 1.5 mm

Cut Sections

Shaped parts and cut sections are available on request.

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