

## PROMATECT®-H



### Structural calcium silicates

PROMATECT®-H is a cement bonded calcium silicate based insulation board and is asbestos free. This large-sized multi-purpose board is easy to handle and offers a superior combination of enhanced mechanical properties for self-supporting constructions.

PROMATECT®-H is hygroscopic and vapour-permeable. Moisture content is therefore automatically regulated by the application environment.

### Technical data

Colour		grey
Building material class	DIN 4102 EN 13501	A1, non-combustible
Classification temperature	°C	400
Bulk density	kg/m <sup>3</sup>	870
Shrinkage 400 °C - 12h	%	0.25
Thermal conductivity		
20 °C	W/m K	0.17
100 °C	W/m K	0.19
200 °C	W/m K	0.21
Specific heat capacity 400 °C	kJ/kg K	0.92
Linear change in length 20-600 °C	K <sup>-1</sup>	6.4x10 <sup>-6</sup>
Alkalinity	pH value	approx. 12
Water vapour diffusion value	μ	20
Humidity contents (air dry)	%	5-10
Modulus of elasticity E Long./Lat.	MPa	4200 / 2900
Bending strength Long./Lat.	N/mm <sup>2</sup>	7.6 / 4.8
Tensile strength Long./Lat.	N/mm <sup>2</sup>	4.8 / 2.6
Cold compressive strength	N/mm <sup>2</sup>	9.3

### Delivery sizes

Length	mm	2500	3000
Width	mm	1250	1250
Thickness	mm	6 / 8 / 10 / 12 / 15 / 20 / 25	10 / 12 / 15 / 20 / 25

Other sizes are available on request. Shaped parts and cut sections are available on request.

### Production tolerances

Length and width	mm	± 3.0
Thickness	mm	6-12: ± 0.5
	mm	15-20: ± 1.0
	mm	25: ± 1.5

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### Properties & advantages

- Large-sized, self-supporting
- High mechanical strength
- Good thermal insulation
- Good noise-proofing
- A1, non-combustible according to DIN 4102 and EN 13501
- Easy to shape and work
- Good chemical resistance
- Hygroscopic and vapour-permeable
- Unaffected by humidity
- Retains shape stability and load capacity in humid conditions

### Application areas

#### HEAVY INDUSTRY

- Dryers
- Apparatus construction
- Wet and damp rooms
- Industrial furnaces
- Heat and moisture protection in industrial plants
- Replacement for asbestos containing boards



### Working & processing

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

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

### Surface treatment

The physical properties and the surface structure of PROMATECT®-H boards make them ideally suited to the application of decorative finishes.

The boards are alkaline, therefore they must be treated using alkali-resistant paints, bonding agents and decorative systems.

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

### Heat transmission

#### Example:

Dryer temperature  $T_i$ : 200 °C  
Wall thickness: 20 mm

#### Result:

Outs. wall temp.  $T_{wall}$ : 117 °C  
Heat loss  $Q$ : 779 W/m<sup>2</sup>

