

Lightweight calcium silicate boards

## **MICROCAL® 1100**

**MICROCAL® 1100** is a lightweight, pressure-resistant calcium silicate of the new generation. Through the addition of special opacifying infra-red agents, the amount of thermal radiation is reduced and the thermal conductivity in the high temperature range significantly reduced.

**MICROCAL®** is physiologically harmless and represents the trend-setting back-up insulation for modern furnace concepts.

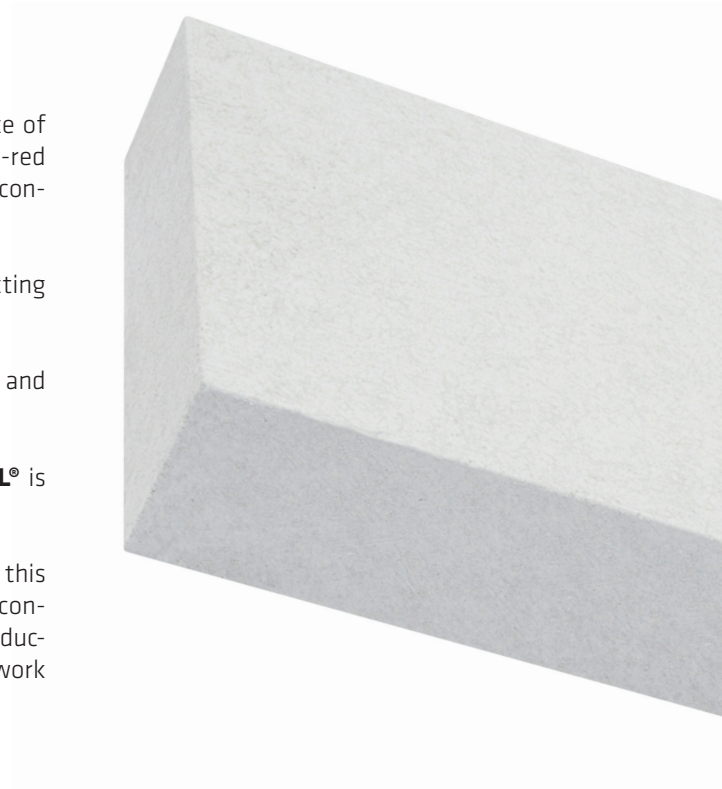
**MICROCAL®** boards are large in size and have a good thermal stability and low thermal conductivity.

In addition to its outstanding thermophysical properties, **MICROCAL®** is resistant to reducing protective gases like  $H_2$ ,  $CO$ ,  $CH_4$ ,  $NH_3$ ,  $N_2$ .

**MICROCAL®** boards are surface-active and absorb water but release this again extremely rapidly. For work in combination with refractory concretes, a hydrophobic sealing primer, which can be applied during production of the boards, is recommended. In this way time-consuming work with barrier film can be dispensed with.

### **Machining**

The elements can be machined using conventional woodworking machines. An appropriate dust extraction system should be provided. As breathing protection we recommend that a dust mask is worn. We will be pleased to produce the particular parts you require on our modern computer-controlled machining and grinding machines.



### **SPECIAL FEATURES**

- environmentally friendly
- good insulating properties
- easy to machine
- resistant to protective gases
- low bulk density
- low accumulation of heat
- large-size

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MICROCAL® 1100		Method	Unit	
Upper application limit temperature		EN 1094-6	°C	1,100
Bulk density (± 10 %)		EN 1602	kg/m <sup>3</sup>	260
Open porosity (in acc. with standard)		EN 993-1	%	90
Compression strength		EN 826	MPa	1.2
Flexural strength		EN 12089	MPa	0.4
pH-value		EN 13468		approx. 9
Shrinkage after 12 h by upper application limit temperature		EN 1094-6		
Length and width			%	< 2
Thermal conductivity $\lambda$ at $t_m$	200 °C	EN 12667	W/(m K)	0.08
	400 °C			0.09
	600 °C			0.11
	800 °C			0.15
Specific thermal capacity			kJ/(kg K)	0.8 - 1.2
Thermal expansion coefficient ⊥ perpendicular to board plane // parallel to board plane	20 °C - 750 °C	DIN 51045-5	K <sup>-1</sup> x 10 <sup>-6</sup>	⊥ 6.4
				// 6.4
Chemical composition				
Calcium silicate hydrate			%	82 - 87
Zircon				5 - 10
R <sub>x</sub> O <sub>x</sub> (R=Fe, Ti, K, Na)				1
Annealing loss				7
<b>Dimensions</b>				
Standard sizes		Tolerances		
	Length x width	± 3	mm	1,500 x 1,250
				1,250 x 1,000
				1,250 x 500 1,000 x 625
Thickness	± 1	mm	25/30/40/50/60/65/70/75/80/90/100	
Surfaces machined.				
Other dimensions are available on request.				

The properties mentioned are typical values obtained according to the listed methods. Product variations have to be taken into account. The data do not represent guaranteed properties and cannot be used for any warranty claim. Data are subject to technical modifications.