

Lightweight calcium silicate boards

SILCAL 900, 1000, 1100

SILCAL is an environmentally friendly, lightweight, pressure-resistant and high-temperature-resistant insulating material based on lightweight calcium silicate.

SILCAL has proved itself in the most different areas of industry as backup insulation. In particular for the construction of industrial furnaces, dryers and apparatuses but also in the cement and petrochemicals industries, **SILCAL** is the classical cost-favourable insulating material.

In addition to its outstanding thermophysical properties, SILCAL is resistant to the reducing protective gases, H₂, CO, CH₄, NH₃, N₂.

SILCAL boards are surface-active and absorb water. 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.

SILCAL is physiologically harmless and is classified by the Institut Bauen und Umwelt e.V. as an environmentally friendly construction product. In addition the product has been issued the internationally harmonized ecological label type III in accordance with ISO 14025 and EN 15804. The product is disposed of as construction rubble.

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.



Institut Bauen
und Umwelt e.V.

SILCAL 900



SILCAL 1000



SILCAL 1100



SPECIAL FEATURES

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

SILCAL 900, 1000, 1100

SILCAL		Method	Unit	900	1000	1100
Upper application limit temperature		EN 1094-6	°C	900	1,000	1,050
Bulk density ($\pm 10\%$)		EN 1602	kg/m ³	260	255	255
Open porosity (in acc. with standard)		EN 993-1	%	90	90	90
Compression strength		EN 826	MPa	1.5	1.6	1.6
Flexural strength		EN 12089	MPa	0.5	0.5	0.5
pH-value		EN 13468		approx. 9		
Shrinkage after 12 h by upper application limit temperature		EN 1094-6				
Length and width			%	0.9	1.0	1.0
Thermal conductivity λ at t_m	200 °C	EN 12667	W/(m K)	0.08		
	400 °C			0.10		
	600 °C			0.14		
	800 °C			0.18		
Specific thermal capacity			kJ/(kg K)	0.8 - 1.2		
Coefficient of thermal expansion ⊥ perpendicular to board plane // parallel to board plane	RT-750°C	DIN 51045-5	K ⁻¹ x 10 ⁻⁶	⊥ 6.4		
				// 6.4		
Chemical composition			%			
Calcium silicate				91		
R _x O _x (R=Fe, Ti, K, Na)				1		
Annealing loss				8		
Dimensions						
Standard sizes	Length x width		mm	500 (±2) x 1,250 (0/+10) 1,000 (±2) x 1,250 (0/+10) 1,500 (±2) x 1,250 (0/+10) 1,000 (±2) x 625 (±2)		
	Thickness		mm	20/25/30/40/50/60/65/70/75/80/90/100		
Tolerances standard board						
unpolished	Thickness		mm	≤ 50 ± 2; > 50 -3/+2		
ground on one side				±0.6		
ground on both sides				±0.4		

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.