

Pressure-resistant calcium silicate for the steel industry

## SILCASTEEL

**SILCASTEEL** is a technical ceramic on the basis of calcium silicate. The bulk density is 1,050 kg/m<sup>3</sup>, maximum application temperature 1,000 °C. **SILCASTEEL** has a good compression strength, low thermal conductivity and is dimensionally stable. The material is insensitive to moisture. **SILCASTEEL** is an ideal material for the insulating of steel ladles. **SILCASTEEL** can be precisely machined to close tolerances. With our 5-axis processing machines we can produce the most complicated geometries.

### SPECIAL FEATURES

- high compression strength
- large board sizes
- good machinability

SILCASTEEL		Method	Unit				
Upper temperature limit of application		EN 1094-6	°C	1,000			
Bulk density (± 10 %)		EN 1602	kg/m <sup>3</sup>	1,050			
Open porosity (in acc. with standard)		EN 993-1	%	68			
Compression strength		EN 826	MPa	26			
Flexural strength		EN 12089	MPa	13			
Hardness		DIN 53505	Shore D	64			
Shrinkage after 12 h		EN 1094-6	%				
Length and width	750 °C					0.2	
Thickness	750 °C					1.0	
Length and width	1,000 °C					0.4	
Thickness	1,000 °C					2.5	
Thermal conductivity $\lambda$ at $t_m$		EN 12667	W/(m K)				
200 °C						0.27	
400 °C						0.28	
600 °C						0.31	
800 °C			0.35				
Specific heat capacity			kJ/(kg K)	0.8 - 1.2			
Thermal expansion coefficient		DIN 51045-5	K <sup>-1</sup> x 10 <sup>-6</sup>				
⊥ transverse to the panel direction	RT-750 °C					⊥	//
// parallel to the panel direction						4.4	5.3
Chemical composition			%				
(CaO-, MgO-, Al <sub>2</sub> O <sub>3</sub> -) silicate						90	
R <sub>x</sub> O <sub>y</sub> (R = Fe, Ti, K, Na)						1	
Annealing loss				9			
Dimensions							
Standard sizes		Tolerances					
Length		±2; *0/+50		mm	1,000/1,500/3,000*		
Width		0/+20		mm	1,250		
Thickness		0/+0.8		mm	10/12/15/20/25/50/75		
Surfaces ground on both sides, without trimming.							
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.

### SILCA Service- und Vertriebsgesellschaft für Dämmstoffe mbH

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