Dense calcium silicate boards

SILCAPAN 750, 845, 850

SILCAPAN are technical ceramics on the basis of calcium silicate.

SILCAPAN 750, 845 and **SILCAPAN 850** have bulk densities of 750 and 1,050 kg/m³, respectively and are usable up to temperatures of 1,000 °C.

SILCAPAN products are used in the mechanical engineering and apparatus construction sector as structural components when high temperature resistance as well as thermal and electrical insulation are required. These products are used, for example, as spacers, flanges, insulation housings for electronic components or for hot press insulation.

Machining
SILCAPAN can be precisely machined to close tolerances. With our 5-axis processing machines we can produce the most complicated geometries.

SILCAPAN 845

SILCAPAN 850

SPECIAL FEATURES

- good insulation
- high strength
- dimensionally stable
- self-supporting
- good machinability

SILCAPAN 750, 845, 850

SILCAPAN		Method	Unit	750		845		850	
Upper application limit temperature		EN 1094-6	°C	1,000		1,000		1,000	
Bulk density (± 10 %)		EN 1602	kg/m³	750		1,050		900	
Open porosity (in acc. with standard)		EN 993-1	%	69		60		68	
Compression strength		EN 826	MPa	12		26		17	
Flexural strength		EN 12089	MPa	7		13		8	
Hardness		DIN 53505	Shore D	62		60		55	
Shrinkage after 12 h		EN 1094-6							
Length and width	750 °C		%	0.4		0.2		0.05	
Thickness	750 °C			1.0		0.60		0.20	
Thermal conductivity λ at t_m	200 °C	EN 12667	W/(m K)	0.22		0.27		0.24	
	400 °C			0.24		0.28		0.26	
	600 °C			0.27		0.31		0.29	
	800 °C			0.31		0.35		0.32	
Specific thermal capacity			kJ/kg K	0.8 - 1.2		0.8 - 1.2		0.8 - 1.2	
Thermal expansion coefficient	20 °C - 750 °C	DIN 51045-5		⊥	//	⊥	//	⊥	//
⊥ perpendicular to board plane									
// parallel to board plane			$K^{-1} \times 10^{-6}$	5.2	5.9	4.3	5.3	7.2	6.2
Chemical composition									
Calcium silicate hydrate			%	-		91		-	
(CaO-; MgO-; Al_2O_3-) silicate hydrate				92		-		94	
R_xO_x (R=Fe, Ti, K, Na)				1		1		1	
Annealing loss				7		8		5	
Dimensions									
		Tolerances							
Standard sizes	Length	± 3	mm	1,250					
	Width	± 3	mm	1,000					
	Thickness	0/+0.8	mm	10/15/20/25/30/40/50/75/100					
	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.

silca
refractory solutions

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