

Density calcium silicate boards (annealed)

## CALCAST® CC 500

**CALCAST® CC 500** is a ceramical insulation material based on calcium silicate with a bulk density of 1,200 kg/m<sup>3</sup>.

The temperature limit for application is 1,200 °C . The limit is 200 °C higher in comparison to the other **CALCAST®** grades.

**CALCAST® CC 500** has a good thermal shock resistance and alternating thermal stress load. This is generated by the low shrinkage of the material at elevated temperatures.

The material is not wetted by liquid aluminium. Ideal is the use as cover for launders during preheating and transport of NF-metal. Further areas of application are e. g. the insulation of furnace lids, walls of continuous furnaces etc.

### Machining

**CALCAST® CC 500** can be precisely machined to close tolerances. With our 5-axis processing machines we can produce the most complicated geometrics.

### SPECIAL FEATURES

- thermal fatigue resistance
- temperature limit of 1200 °C
- dimensionally stable
- no wetting with liquid non-ferrous metals
- machinable in close tolerances



**CALCAST® CC 500**

CALCAST® CC 500		Method	Unit				
Upper application limit temperature		EN 1094-6	°C	1,200			
Bulk density ( $\pm 10\%$ )		EN 1602	kg/m <sup>3</sup>	1,200			
Open porosity (in acc. with standard)		EN 993-1	%	60			
Compression strength		EN 826	MPa	11			
Flexural strength		EN 12089	MPa	7			
Shrinkage after 12 h		EN 1094-6	%				
Length and width	750 °C					0.05	
Thickness	750 °C					0.40	
Length and width	1,000 °C					0.10	
Thickness	1,000 °C					0.70	
Thermal conductivity $\lambda$ at $t_m$		EN 12667	W/(m K)				
	200 °C					0.22	
	400 °C					0.24	
	600 °C					0.26	
	800 °C	0.30					
Specific thermal capacity			kJ/(kg K)	0.8 - 1.2			
Thermal expansion coefficient		DIN 51045-5					
$\perp$ perpendicular to board plane	20 °C - 750 °C					$\perp$	//
// parallel to board plane						K <sup>-1</sup> x 10 <sup>-6</sup>	3.7
Chemical composition			%				
Calcium silicate hydrate			%	96 - 97			
R <sub>x</sub> O <sub>x</sub> (R=Fe, Ti, K, Na)			%	0.5			
Annealing loss			%	3			
Dimensions							
Standard sizes		Tolerances					
		Length	$\pm 3$	mm	1,250		
		Width	$\pm 3$	mm	1,000		
		Thickness	0/+0.8	mm	12.7/19.1/25.4/31.8/38.1/50.8/76.2/101.6		
		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.