PROPERTIES OF CALCARB®

RIGID CARBON INSULATION CBCF 15-2000

GENERAL

Homogeneous carbon rigid insulation made from carbonised short rayon fibres and designed as high temperature insulation.

TYPICAL APPLICATIONS

Industrial, photovoltaic and CZ furnaces working under vacuum or inert gas up to 3000℃, dependent on system pressure.

Standard Cylinder CBCF product used in most heat-treatment and crysytal growing applications.

CBCF 15-2000 can be provided in a purified form.

Contact calcarb@mersen.com for further information.

PROPERTIES

	Typical Values	
	English Units	***SI Units***
Bulk Density	9.3 +/- 1.87 lbs/ft³	0,15 +/- 0,03 g/cm³
Electrical Resistivity	0.70 ohm.in	250,000 µohm.cm
Flexural Strength	217.6 psi	1,50 MPa
Compressive Strength		
// to fiber orientation	116.0 psi	0,80 Mpa
⊥ to fiber orientation	29.0 psi	0,20 Mpa
Coefficient of Thermal		
Expansion (0 to 1000 ºC)	1.7 +/-0.2 x 10E-6/ºF	3,0 +/-0,3 x 10E-6/ºC
Expansion (1000 to 2000 ºC)	1.5 +/-0.2 x 10E-6/ºF	2,6 +/-0,3 x 10E-6/ºC
Water absorption after 6 months		
in standard conditions	< 0.1%	< 0,1%
Thermal Conductivity	BTU-Ft/Ft2HrºF	W/mºK
	Nitrogen / Vacuum	Nitrogen / Vacuum
400℃ (750℉)	0.19 / 0.07	0,33 / 0,12
800℃ (1470℉)	0.28 / 0.10	0,48 / 0,18
1200℃ (2190℉)	0.39 / 0.18	0,68 / 0,32
1600℃ (2910℉)	0.62 / 0.30	1,07 / 0,52
2000℃ (3630℉)	0.72 / 0.48	1,24 / 0,83
Porosity	91%	91%
Carbon content	> 99%	> 99%
Residual metallic content:		
Standard	< 500 ppm	< 500 ppm
Purified	< 20 ppm	< 20 ppm
Temperature treatment	3630℉	2000℃
Standard sizes:	Cylinders up to 1100 mm OD	

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