



## 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.

#### PROPERTIES

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

#### TYPICAL

#### APPLICATIONS

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

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

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

Contact [calcarb@mersen.com](mailto:calcarb@mersen.com) for further information.

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