

Rigid Carbon Insulation CBCF 15-2000

GENERAL

Homogeneous carbon rigid insulation made from carbonised short rayon fibres and designed as high temperature insulation. Carbon Bonded Carbon Fibre (CBCF)

TYPICAL APPLICATIONS

Industrial, photovoltaic and CZ furnaces working under vacuum or inert gas upto 3000°C, dependant 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 sales.hlt@mersen.com for further information.

PROPERTIES

| | TYPICAL CHARACTERISTICS | |
|--|------------------------------------|------------------------------------|
| | English Units | SI Units |
| Bulk Density | 9.3 +/- 1.87 lbs/ft ³ | 0.15 +/- 0.03 g/cm ³ |
| 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 |
| Electrical Resistivity | 0.70 Ω.in | 250,000 μΩ.cm |
| Coefficient of Thermal Expansion (0 to 1000°C) | 1.7+/- 0.2 x 10 ⁻⁶ /°F | 3.0 +/- 0.3 x 10 ⁻⁶ /°C |
| Expansion (1000 to 2000°C) | 1.5 +/- 0.2 x 10 ⁻⁶ /°F | 2.6 +/- 0.3 x 10 ⁻⁶ /°C |
| Water absorption after 6 months in standard conditions | <0.1% | <0.1% |
| Thermal Conductivity | BTU-Ft/Ft ² Hr°F | W/mK |
| | Nitrogen / Vacuum | Nitrogen / Vacuum |
| 400°C (750°F) | 0.19 / 0.07 | 0.33 / 0.12 |
| 800°C (1470°F) | 0.28 / 0.10 | 0.48 / 0.18 |
| 1200°C (2190°F) | 0.39 / 0.18 | 0.68 / 0.32 |
| 1600°C (2910°F) | 0.62 / 0.30 | 1.07 / 0.52 |
| 2000°C (3630°F) | 0.72 / 0.48 | 1.24 / 0.83 |
| Porosity | 91% | 91% |
| Carbon content | >99% | >99% |
| Standard purity on 34 elements | <150ppm | <150ppm |
| Purified on 34 elements | <20 ppm | <20 ppm |
| Standard purity on Al, Cu, Fe, Cr, Ni | <5ppm | <5ppm |
| Temperature treatment | 3630°F | 2000°C |
| Standard sizes: | Cylinders up to 1100 mm OD | |

Data herein contained are provided for general information purpose only and are not binding. Mersen shall have no liability whatsoever with respect to information contained herein. Duplication, reproduction or translation of any information contained herein, in whole or in part, is strictly prohibited without prior written consent of Mersen.

Our materials are in conformity with the RoHS-Directive (Restriction of the use of certain Hazardous Substances in electrical and electronic equipment). Besides Mersen guarantees the application of the European Community REACH-Regulation (Registration, Evaluation, Authorization and Restriction of Chemical substances) to all its plants located in Europe.

Calcarb® is a registered trade mark of Mersen Scotland Holytown Ltd.

Contact: Mersen Scotland Holytown Ltd
11 Woodside
Eurocentral
Holytown ML1 4XL - UK
Tel.: +44 (0) 1698 838710
Fax: +44 (0) 1698 838711
sales.hlt@mersen.com

Edition: January 2013