

M Cubed Technologies SSC-702 Reaction-Bonded Silicon Carbide

Category : Ceramic , Carbide , Ceramic Matrix Composite

Material Notes:

Medium-grained reaction-bonded SiC for high wear applications. Bullnoses, fan liners, hydrocyclone liners, etc. Can be cast into very large shapes (greater than 4 ft. square, 5-6 inches thick) Information provided by M Cubed Technologies, Inc.

Order this product through the following link:

http://www.lookpolymers.com/polymer_M-Cubed-Technologies-SSC-702-Reaction-Bonded-Silicon-Carbide.php

| Physical Properties | Metric | English | Comments |
|---------------------|-----------|--------------------------|-----------|
| Density | 3.00 g/cc | 0.108 lb/in ³ | ASTM C135 |

| Mechanical Properties | Metric | English | Comments |
|-----------------------|---------------------------|----------------------------|---------------------------------|
| Knoop Microhardness | 1100 | 1100 | kg/mm ² ; ASTM C1326 |
| | @Load 2.00 kg | @Load 4.41 lb | |
| Modulus of Elasticity | 350 GPa | 50800 ksi | ASTM E494 |
| Flexural Strength | 270 MPa | 39200 psi | ASTM C1161 |
| Poissons Ratio | 0.18 | 0.18 | ASTM E494 |
| Fracture Toughness | 4.00 MPa-m ^{1/2} | 3.64 ksi-in ^{1/2} | ASTM C1421 |
| Shear Modulus | 148 GPa | 21500 ksi | Calculated |

| Thermal Properties | Metric | English | Comments |
|----------------------|----------------------------|------------------------------------|------------|
| CTE, linear | 2.90 μm/m-°C | 1.61 μin/in-°F | ASTM E831 |
| | @Temperature 25.0 - 100 °C | @Temperature 77.0 - 212 °F | |
| Thermal Conductivity | 170 W/m-K | 1180 BTU-in/hr-ft ² -°F | ASTM E1461 |

| Descriptive Properties | Value | Comments |
|------------------------|-------|----------|
| Matrix | Si | |
| Particle Reinforcement | SiC | |
| Vol. % Reinforcement | 70 | |

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