



REACTION BONDED SiC CERAMIC GRADE SSC-702

M Cubed Technologies, a subsidiary of II-VI Corp., is a leading provider of advanced metal matrix composites (MMCs) and reaction bonded ceramics to the semiconductor equipment, LCD equipment, wear, refractory, optics, defense, and thermal management markets. Development and manufacturing facilities are located in Connecticut and Delaware, and sales offices are based in the US, Korea, and Japan. M Cubed provides its customers with optimized turn-key solutions, starting with product design and analysis support, followed by material selection, fabrication and finishing. Key strengths of M Cubed include significant size and shape capability, large manufacturing scale, and tailorable material properties to meet application need.

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Materials Property

	Test Temperature	Typical Properties
Nominal SiC Content (vol. %)	-	70
Nominal Si Content (vol. %)	-	30
Bulk Density - kg/m ³ (lb/in ³)	21°C (70°F)	2,950 (0.11)
Young's Modulus - GPa (Msi)	21°C (70°F)	350 (51)
Poisson's Ratio	21°C (70°F)	0.18
Hardness - kg/mm ² (Vickers with 1 kg load)	21°C (70°F)	1670
Flexural Strength - MPa (ksi)	21°C (70°F)	270 (39)
Fracture Toughness MPa.m ^{1/2} (ksi.in ^{1/2})	21°C (70°F)	4 (4)
Coefficient of Thermal Expansion - ppm/°C (ppm/°F)	21-100°C (70-212°F)	2.9 (1.6)
Thermal Conductivity W/m.K (BTU/hr.ft.°F)	21°C (70°F)	170 (98)
Electrical Resistivity - ohm-cm	21°C (70°F)	0.2
Specific Heat - J/kg.K	21°C (70°F)	680

All of the above information on M Cubed Technologies' material is based on experimental results. Although we believe these results to be reliable, we expressly do not represent, warrant, or guarantee their accuracy, completeness, or reliability.

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