



Product Data Sheet

C_f-ZrOC_m UHT CMC

Test	Condition		Value	Units
Tensile (SoRI)	73°F (23°C)		124 (18)	MPa (ksi)
	2192°F (1200°C)		131 (19)	
	2912°F (1600°C)		89.6 (13)	
Compressive (SoRI)	73°F (23°C)		124 (18)	MPa (ksi)
	2192°F (1200°C)		117 (17)	
	2912°F (1600°C)		86.2 (12.5)	
LHMEL Erosion (WPAFB)	Heat Flux	276 w/cm ²	0.001	inch
	Air Impingement	Mach 0.9		
	Test Duration	240 seconds		
	Heat Flux	400 w/cm ²	0.002	inch
	Air Impingement	Mach 0.9		
	Test Duration	60 seconds		
H2 ARC Heater Erosion (AEDC)	Surface temp	3800°F (2093°C)	0	inch
	Test duration	20 seconds		
Rain Erosion (AMRDEC)	Drop size	3mm bead	No erosion No cracking	inch
	Velocity	3546 ft/sec (2417 mph)		
	Drop size	4mm bead	0.001 erosion No cracking	inch
	Velocity	3436 ft/sec (2342 mph)		
Specific Heat (SoRI)	2000°F (1076°C)		1.005	kJ/kg°C
CTE (SoRI)	1000°F (538°C)		0	in./in.
	2000°F (1076°C)		0.0005	
	3000°F (1613°C)		0.0017	
Diffusivity (SoRI)	1292°F (700°C)		1.5	mm ² /sec
	2282°F (1250°C)		1.7	
Conductivity (SoRI)	1472°F (800°C)		1.5	w/m°C
Density (MATECH)	RT		1.8 - 2.0	g/cc

Distribution A: Approved for Public Release; Distribution is unlimited. (Rev 09MAY12)

MATECH

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UHT Propulsion & Aerothermal Materials Applications

Propulsion Nozzles,
Insulators and Components



Leading Edge



Wire Harness Cover

