TECHNICAL DATA SHEET

WOVEN CARBON-CARBON COMPOSITE GRADE PROPERTIES

Benefits

- High strength and modulus
- Fire resistant and dimensionally stable
- Fatigue and fracture resistant. Cracks will not propagate as with molded graphite fixtures
- Lightweight
- Low Thermal Mass
- Thermal Deformation resistant

Typical Applications

- Aerospace and military
- Heat treating and furnace fixtures
- Primary and secondary structures
- Windmill blades
- Brake linings, automotive, and tooling
- Solid rocket nozzles
- Heating elements
- Hearth rails

Technical Specifications

Typical Physical Properties								
Type	Unit	Fiber Axis	CM-147-12	CM-157-12	CM-158-12	CM-257-6	CM-258-12	CM-160-HW
Density	g/cm³	-	1.47	1.55	1.50	1.57	1.55	1.63
Flexural Strength	psi MPa	⊥	18,130 125	21,755 150	20,305 140	26,832 185	23,206 160	26,107 180
Flexural Modulus	ksi GPa	⊥	5,801 40	7,252 50	6,527 45	9,428 65	7,252 50	6,527 45
Interlaminar Sheer Strength	psi MPa		1,310 9	1,310 7.1	1,160 8	1,310 9.0	1,160 8	2,031 14.0
Compressive Strength	psi MPa	∥	14,504 100	19,580 135	14,504 100	19,870 137	14,504 100	11,300 115
Thermal Conductivity	W/mK W/mK	∥ ⊥	31 6	32 7	31 6	33 7	31 6	34 10
CTE (20 - 1000°C)	x 10^{-6}/K x 10^{-6}/K	∥ ⊥	0.5 7.0	0.5 7.0	0.5 7.0	0.5 7.0	0.5 7.0	0.9 9.5
Electrical Resistivity (25°C)	µΩm	∥	34	31	35	30	35	N/A

KEY - ∥ Parallel to Fiber Axis, ⊥ Perpendicular to Fiber Axis.

Grade Usage	
Grade	Usage
CM-147-12	General Purpose
CM-157-12	High stiffness -- Tray application
CM-158-12	High Performance -- Grid/Fixture application
CM-257-6	Ultra High stiffness and strength -- Tray application at thin thickness
CM-258-12	Ultra High performance -- Grid/Fixture application
CM-160-HW	Hardware/Fixture

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