

MATERIAL DATASHEET

Meldin[®] 7001 HCM

Features: Brown, Popular choice for aerospace structural parts, Proprietary custom polyimide, Hot Compression Molded (HCM)

Benefits: Strong thermal and electrical insulation, resistance to high heat and purity

Working Temperature Range: -253° to +315°C [-423F° to +600°F]

Properties	Test Methods	Typical Values	Units
PHYSICAL			
Specific Gravity	ASTM D792	1.43	--
Hardness	ASTM D785	40-55	Rockwell E
Water Absorption, 24hr/48hr	ASTM D570	0.23/0.64	%
Limiting Oxygen Index	ASTM D2863	100	--
MECHANICAL			
Tensile Strength – RT / 260°C [500°F]	ASTM D638	86.2 [12,500] / 43.1 [6,250]	MPa [psi]
Elongation – RT / 260°C [500°F]	ASTM D638	8.0/5.0	%
Compressive Stress @ 1% Strain/@10% Strain	ASTM D695	26 [3,800] / 128 [18,500]	MPa [psi]
Compressive Modulus-RT	ASTM D695	2.6 [3.8]	GPa [psi x 10 ⁵]
Flexural Strength – RT/260°C [500°F]	ASTM D790	109 [15,800] / 63 [9,100]	MPa [psi]
Flexural Modulus – RT/260°C [500°F]	ASTM D790	3.2 [4.6] / 1.7 [2.5]	GPa [psi x 10 ⁵]
Deformation Under Load @ 2,000 psi	ASTM D621	0.1	%
THERMAL			
Coefficient of Thermal Expansion 23° to 260°C [73° to 500°F]	ASTM E831	4.9 [2.7]	m/m/°C [in/in/°F] x 10 ⁻⁵
Thermal conductivity	ASTM F433	0.34 [2.4]	GPa [psi x 10 ⁵]
Flammability	UL94	V-0, 5VA	--
ELECTRICAL			
Dielectric Strength, Short time 2.0 mm [0.08"] thick	ASTM D149	22.9 [580]	MV/m [V/mil]
Dielectric Constant 100Hz / 10kHz / 1mHz	ASTM D150	3.18/3.16/3.14	GPa [psi x 10 ⁵]
Surface Resistivity	ASTM D257	10 ¹⁵ -10 ¹⁶	Ohm·sq

1.ASTM D6456-10 Standard Specification for Finished Parts Made from Polyimide Resin (Type I P)

2.SAE AMS 3644G Polyimide, Molded Rod, Bar and Tube, Plaque, and Formed Parts (Class 1 Form P)

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