

MATERIAL DATASHEET

Meldin® 7001 HCM

Features & Benefits:

- Brown color, proprietary custom polyimide, Hot Compression Molded (HCM)
- Strong thermal and electrical insulation, resistance to high heat and purity
- Popular choice for aviation structural parts
- Working Temperature Range: up to +315°C [+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 - RT - @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]	W/m·°C [BTU·in/hr·ft ² ·°F]
Flammability	UL94	V-0, 5VA	-
ELECTRICAL			
Dielectric Strength, Short time 2.0 mm [0.08"] thick	ASTM D149	22.9 [580]	kV/mm [V/mil]
Dielectric Constant - 100Hz / 10kHz / 1mHz	ASTM D150	3.18 / 3.16 / 3.14	-
Surface Resistivity	ASTM D257	10 ¹⁵ -10 ¹⁶	Ohm
GENERAL			
Resin Matrix	-	Polyimide	-
Reinforcing Materials	-	-	-

SPECIFICATION QUALIFICATION:

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)
3. MIL-R-46198 Resin, Polyimide, Hot Pressed or Pressed and Sintered (Type I P)

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