MATERIAL DATASHEET

Meldin® 7021 HCM

Features & Benefits:

- Brown color, self-lubricating grade, proprietary custom polyimide,
- Hot Compression Molded (HCM)
- Best choice for high temperature bearings, seals, and other low wear applications
- Working Temperature Range: up to +315°C [+600°F]

Properties	Test Methods	Typical Values	Units
	PHYSICAL		
Specific Gravity	ASTM D792	1.51	-
Hardness	ASTM D785	25-40	Rockwell E
Water Absorption, 24hr / 48hr	ASTM D570	0.19/0.50	%
Limiting Oxygen Index	ASTM D2863	100	%
	MECHANICAL		
Tensile Strength – RT / 260°C [500°F]	ASTM D638	66 [9,500] / 39 [5,700]	MPa [psi]
Elongation – RT / 260°C [500°F]	ASTM D638	4.7 / 3.2	%
Compressive Stress @ 1% Strain / @ 10% Strain		30 [4,300] / 124 [18,000]	
Compressive Modulus - RT	ASTM D695	3.1 [4.5]	GPa [psi x 10^5]
Flexural Strength – RT / 260°C [500°F]	ASTM D790	109 [15,800] / 59 [8,600]	MPa [psi]
Flexural Modulus – RT / 260°C [500°F]	ASTM D790	3.7 [5.3] / 2.4 [3.5]	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	4.0 [2.2]	m/m/°C [in/in/°F] x 10^{-5}
Thermal conductivity	ASTM F433	0.72 [5.0]	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	11 [280]	kV/mm [V/mil]
Dielectric Constant - 100Hz / 10kHz / 1mHz	ASTM D150	6.49 / 6.42 / 6.28	-
Dissipation Factor - 100Hz / 10kHz / 1mHz	ASTM D150	0.003 / 0.007 / 0.011	-
Volume Resistivity	ASTM D257	NA	Ohm cm
Surface Resistivity	ASTM D257	10^8-10^9	Ohm
	GENERAL		
Resin Matrix	-	Polyimide	-
Reinforcing Materials	-	Graphite	-

SPECIFICATION QUALIFICATION:
1. ASTM D 6456-99 Standard Specification for Finished Parts Made from Polyimide Resin (Type II Class 1P)
2. SAE AMS 3644G Polyimide, Molded Rod, Bar and Tube, Plaque, and Formed Parts (Class 2 Form P)
3. MIL-R-46198 Resin, Polyimide, Hot Pressed or Pressed and Sintered (Type II Class P)

The table above represents typical values, intended for reference only. They should NOT be used as a basis for design specifications or quality control.

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