

PBI Performance Products Celazole® TL-60 Self Lubricating Melt Processable Polybenzimidazole

Category : Polymer , Thermoplastic , Polybenzimidazole (PBI)

Material Notes:

Celazole® polybenzimidazole (PBI) resin is a unique and highly stable linear hetrocyclic polymer. PBI is characterized by high strength; excellent thermal stability, and broad chemical resistance. Celazole® T-Series products combine the superior mechanical properties and thermal resistance of PBI with the melt process ability of polyaryletherketones. Designed for injection molding and extrusion Celazole TL-60 is a lube grade blend offering superior wear resistance, low friction, chemical resistance and high load bearing capability. Well-suited for rotor vanes, thrust bearings, plane bearings, bushings and other friction management applications – particularly under load. Information provided by PBI Performance Products

Order this product through the following link:

http://www.lookpolymers.com/polymer_PBI-Performance-Products-Celazole-TL-60-Self-Lubricating-Melt-Processable-Polybenzimidazole.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.43 g/cc	1.43 g/cc	
Loss On Ignition	5.0 %	5.0 %	Air; ASTM TGA
	@Temperature 602 °C	@Temperature 1120 °F	
	5.0 %	5.0 %	Nitrogen; ASTM TGA
	@Temperature 606 °C	@Temperature 1120 °F	

Mechanical Properties	Metric	English	Comments
Tensile Strength	110 MPa	16000 psi	ASTM D638
Elongation at Break	0.90 %	0.90 %	
Tensile Modulus	18.0 GPa	2610 ksi	
Flexural Strength	158 MPa	22900 psi	ASTM D790
Flexural Modulus	13.0 GPa	1890 ksi	
Compressive Strength	123 MPa	17800 psi	ASTM D695
Compressive Modulus	5.10 GPa	740 ksi	
Coefficient of Friction, Dynamic	0.050	0.050	
Coefficient of Friction, Static	0.30	0.30	

Thermal Properties	Metric	English	Comments
	26.0 µm/m-°C	14.4 µin/in-°F	

CTE linear Thermal Properties	Metric @ Temperature 25.0 - 150 °C	English @ Temperature 77.0 - 302 °F	ASTM TMA Comments
Specific Heat Capacity	1.17 J/g-°C @Temperature 70.0 °C	0.280 BTU/lb-°F @Temperature 158 °F	ASTM D648
Thermal Conductivity	0.764 W/m-K @Temperature 21.1 °C	5.30 BTU-in/hr-ft²-°F @Temperature 70.0 °F	ASTM F-433
Deflection Temperature at 1.8 MPa (264 psi)	310 °C	590 °F	ASTM D648

Descriptive Properties	Value	Comments
Wear Rate	0.02 in/1000 hrs	on 1018 steel at 125 psi, 800 ft/min, 350°F

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