

Solvay Specialty Polymers Torlon® 5030 Polyamide-imide (PAI), 30% Glass Fiber

Category : Polymer , Thermoplastic , Polyamide-imide (PAI) , Polyamide-Imide, Glass Filled

Material Notes:

Torlon® 5030 is a 30% glass-fiber reinforced grade of polyamide-imide (PAI) resin. It offers high strength and modulus and exceptional creep resistance. It has thermal expansion characteristics similar to aluminum and therefore excellent dimensional stability. The mechanical properties of Torlon® 5030 resin make it a candidate for metal replacement in high temperature, high stress applications. In addition, it offers outstanding electrical properties, which makes it ideal for high performance parts such as connectors, switches and relays. Features: Flame Retardant; Good Chemical Resistance; Good Compressive Strength; Good Creep Resistance; Good Dimensional Stability; High Heat Resistance; High Stiffness; High Temperature Strength. Uses: Aerospace Applications; Aircraft Applications; Automotive Applications; Business Equipment; Connectors; Electrical Housing; Electrical Parts; Electrical/Electronic Applications; Housings; Industrial Applications; Industrial Parts; Machine/Mechanical Parts; Metal Replacement; Oil/Gas Applications; Sealing Devices; Switches; Valves/Valve Parts. Additional Properties: Coefficient of Linear Thermal Expansion - ASTM D696 1.6E-5 cm/cm/°C. Information provided by Solvay Specialty Polymers.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-Torlon-5030-Polyamide-imide-PAI-30-Glass-Fiber.php

Physical Properties	Metric	English	Comments
Density	1.61 g/cc	0.0582 lb/in ³	ASTM D792
Filler Content	30 %	30 %	Glass Fiber
Water Absorption	0.24 % @Time 86400 sec	0.24 % @Time 24.0 hour	ISO 62
Linear Mold Shrinkage, Flow	0.0010 - 0.0025 cm/cm	0.0010 - 0.0025 in/in	

Mechanical Properties	Metric	English	Comments
Tensile Strength	221 MPa	32100 psi	ASTM D638
Tensile Stress	205 MPa	29700 psi	ASTM D1708
Tensile Modulus	14.5 GPa	2100 ksi	ASTM D638
Flexural Strength	181 MPa @Temperature 232 °C	26300 psi @Temperature 450 °F	ASTM D790
	333 MPa @Temperature 23.0 °C	48300 psi @Temperature 73.4 °F	ASTM D790
Flexural Modulus	9.86 GPa @Temperature 232 °C	1430 ksi @Temperature 450 °F	ASTM D790

Mechanical Properties	Metric	English	Comments
	11.7 GPa	1700 ksi	
	@Temperature 23.0 Å°C	@Temperature 73.4 Å°F	ASTM D790
Compressive Strength	264 MPa	38300 psi	ASTM D695
Compressive Modulus	7.93 GPa	1150 ksi	ASTM D695
Izod Impact, Notched	0.800 J/cm	1.50 ft-lb/in	ASTM D256
Izod Impact, Unnotched	5.30 J/cm	9.93 ft-lb/in	ASTM D256

Thermal Properties	Metric	English	Comments
Thermal Conductivity	0.360 W/m-K	2.50 BTU-in/hr-ftÅ²-Å°F	ASTM C177
Deflection Temperature at 1.8 MPa (264 psi)	282 Å°C	540 Å°F	Unannealed; ASTM D648

Electrical Properties	Metric	English	Comments
Volume Resistivity	2.00e+17 ohm-cm	2.00e+17 ohm-cm	ASTM D257
Surface Resistance	1.00e+18 ohm	1.00e+18 ohm	ASTM D257
Dielectric Constant	4.2	4.2	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Strength	4.4	4.4	ASTM D150
	@Frequency 60.0 Hz	@Frequency 60.0 Hz	
Dielectric Strength	33.0 kV/mm	838 kV/in	ASTM D149
Dissipation Factor	0.022	0.022	ASTM D150
	@Frequency 60.0 Hz	@Frequency 60.0 Hz	
Dissipation Factor	0.050	0.050	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	304 Å°C	579 Å°F	
Nozzle Temperature	371 Å°C	700 Å°F	
Mold Temperature	199 - 216 Å°C	390 - 421 Å°F	

Processing Properties	177 A °C Metric	351 A °F English	Comments
	@Time 10800 sec	@Time 3.00 hour	
Moisture Content	<= 0.050 %	<= 0.050 %	
Back Pressure	6.89 MPa	999 psi	
Screw Speed	50 - 100 rpm	50 - 100 rpm	

Descriptive Properties	Value	Comments
Availability	Africa & Middle East	
	Asia Pacific	
	Europe	
	Latin America	
	North America	
Form	Pellets	
Processing Technique	Injection Molding; Machining; Profile Extrusion	
RoHS Compliance	RoHS Compliant	
Screw L/D Ratio	18.0:1.0 to 24.0:1.0	

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