

Solvay Specialty Polymers Torlon® 4645 Polyamide-imide (PAI)

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

Material Notes:

Torlon® 4645, an injection-moldable, wear-resistant grade of polyamide-imide (PAI), has been formulated to give outstanding wear resistance in lubricated wear applications. Features: Flame Retardant; Good Chemical Resistance; Good Creep Resistance; Good Wear Resistance; High Heat Resistance; High Stiffness; High Temperature Strength; Low Friction; Self Lubricating; Semi Conductive Uses: Automotive Applications; Bearings; Bobbins; Bushings; Seals; Thrust Washer Additional Properties: Coefficient of Linear Thermal Expansion - ASTM D696 1.4E-5 cm/cm/°C; Wear Factor - ASTM D3702 1.60 in³·Å·min⁻¹·10/ft·lb·Å·hr; Wear Factor - ASTM D3702 0.300 in³·Å·min⁻¹·10/ft·lb·Å·hr Information provided by Solvay Specialty Polymers.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-Torlon-4645-Polyamide-imide-PAI.php

Physical Properties	Metric	English	Comments
Density	1.57 g/cc	0.0567 lb/in³	ASTM D792
Water Absorption	0.25 % @Time 86400 sec	0.25 % @Time 24.0 hour	ISO 62

Mechanical Properties	Metric	English	Comments
Tensile Strength	114 MPa	16500 psi	ASTM D638
Elongation at Break	0.80 %	0.80 %	ASTM D638
Tensile Modulus	18.6 GPa	2700 ksi	ASTM D638
Flexural Strength	154 MPa	22300 psi	ASTM D790
Flexural Modulus	12.4 GPa	1800 ksi	ASTM D790
Compressive Strength	157 MPa	22800 psi	ASTM D695
Shear Strength	60.7 MPa @Temperature 150 °C	8800 psi @Temperature 302 °F	ASTM D732
	85.5 MPa @Temperature 23.0 °C	12400 psi @Temperature 73.4 °F	ASTM D732
Izod Impact, Notched	0.370 J/cm	0.693 ft-lb/in	ASTM D256
Izod Impact, Unnotched	1.10 J/cm	2.06 ft-lb/in	ASTM D256
Coefficient of Friction	0.070 - 0.090	0.070 - 0.090	ASTM D1894

Thermal Properties	Metric	English	Comments
Deflection Temperature at 1.8 MPa (264 psi)	281 Â°C	538 Â°F	Unannealed; ASTM D648

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	304 Â°C	579 Â°F	
Nozzle Temperature	371 Â°C	700 Â°F	
Mold Temperature	199 - 216 Â°C	390 - 421 Â°F	
Drying Temperature	177 Â°C @Time 10800 sec	351 Â°F @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
Additive	Carbon Fiber + PTFE Lubricant	
Availability	Africa & Middle East	
	Asia Pacific	
	Europe	
	Latin America	
	North America	
Form	Pellets	
Processing Technique	Injection Molding; Machining; Profile Extrusion	
Screw L/D Ratio	18.0:1.0 to 24.0:1.0	

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