

Solvay Specialty Polymers Torlon® 4275 Polyamide-imide (PAI)

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

Material Notes:

Torlon® 4275 is a wear-resistant grade of polyamide-imide (PAI). This grade offers an excellent balance of mechanical properties and wear resistance. It offers high tensile strength and modulus with a low coefficient of friction and outstanding wear resistance at both high velocity and high pressure conditions. Features: Flame Retardant; Good Chemical Resistance; Good Creep Resistance; Good Wear Resistance; High Heat Resistance; High Temperature Strength; Low Friction; Self Lubricating; Semi Conductive Uses: Aerospace Applications; Aircraft Applications; Automotive Applications; Bearings; Bushings; Gears; Industrial Applications; Industrial Parts; Machine/Mechanical Parts; Metal Replacement; Rollers; Sealing Devices; Seals; Thrust Washer; Transmission Applications; Washer Additional Properties: Coefficient of Linear Thermal Expansion - ASTM D696 2.5E-5 cm/cm/°CAutomotive Specifications ASTM D4000 PAI000 L23 A22334 GA15 DZ1Z2Z3Z4Z5, Dwg 3C3P-7D019-BA; CHRYSLER MS-DB-405 CPN3373 Information provided by Solvay Specialty Polymers.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-Torlon-4275-Polyamide-imide-PAI.php

Physical Properties	Metric	English	Comments
Density	1.51 g/cc	0.0546 lb/in ³	ASTM D792
Water Absorption	0.33 % @Time 86400 sec	0.33 % @Time 24.0 hour	ISO 62
Linear Mold Shrinkage, Flow	0.0025 - 0.0045 cm/cm	0.0025 - 0.0045 in/in	

Mechanical Properties	Metric	English	Comments
Tensile Strength	117 MPa	17000 psi	ASTM D638
Tensile Stress	131 MPa	19000 psi	ASTM D1708
Tensile Modulus	7.79 GPa	1130 ksi	ASTM D638
Flexural Strength	110 MPa @Temperature 232 °C	16000 psi @Temperature 450 °F	ASTM D790
	208 MPa @Temperature 23.0 °C	30200 psi @Temperature 73.4 °F	ASTM D790
Flexural Modulus	5.10 GPa @Temperature 232 °C	740 ksi @Temperature 450 °F	ASTM D790
	7.31 GPa @Temperature 23.0 °C	1060 ksi @Temperature 73.4 °F	ASTM D790

Mechanical Properties	MetricPa	Englishpsi	Comments
Compressive Modulus	4.00 GPa	580 ksi	ASTM D695
Izod Impact, Notched	0.850 J/cm	1.59 ft-lb/in	ASTM D256
Izod Impact, Unnotched	2.70 J/cm	5.06 ft-lb/in	ASTM D256
K (wear) Factor	1.40 x 10 ⁻⁸ mm ³ /N-M	0.695 x 10 ⁻¹⁰ in ³ -min/ft-lb-hr	5.2 MPa, 0.38 m/sec; ASTM D3702
	14.0 x 10 ⁻⁸ mm ³ /N-M	6.95 x 10 ⁻¹⁰ in ³ -min/ft-lb-hr	6.9 MPa, 0.38 m/sec; ASTM D3702
	26.0 x 10 ⁻⁸ mm ³ /N-M	12.9 x 10 ⁻¹⁰ in ³ -min/ft-lb-hr	3.4 MPa, 0.25 m/sec; ASTM D3702
	35.0 x 10 ⁻⁸ mm ³ /N-M	17.4 x 10 ⁻¹⁰ in ³ -min/ft-lb-hr	0.22 MPa, 4.1 m/sec; ASTM D3702

Thermal Properties	Metric	English	Comments
Thermal Conductivity	0.650 W/m-K	4.51 BTU-in/hr-ft ² - °F	ASTM C177
Deflection Temperature at 1.8 MPa (264 psi)	280 °C	536 °F	Unannealed; ASTM D648

Electrical Properties	Metric	English	Comments
Volume Resistivity	8.00e+15 ohm-cm	8.00e+15 ohm-cm	ASTM D257
Surface Resistance	4.00e+17 ohm	4.00e+17 ohm	ASTM D257

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	304 °C	579 °F	
Nozzle Temperature	371 °C	700 °F	
Mold Temperature	199 - 216 °C	390 - 421 °F	
Drying Temperature	177 °C	351 °F	
	@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
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Additive Descriptive Properties	PTFE + Graphite Lubricant 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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