

Solvay Specialty Polymers Torlon® 4203L Polyamide-imide (PAI) (Unverified Data**)

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

Material Notes:

Torlon 4203L is an unreinforced, lubricated, pigmented grade of polyamide-imide (PAI) resin. It has the best impact resistance and greatest elongation of all the Torlon grades. Torlon PAI has the highest strength and stiffness of any thermoplastic up to 275°C (525°F). It has outstanding resistance to wear, creep, and chemicals. Torlon 4203L resin offers outstanding electrical properties, which makes it ideal for high performance parts such as connectors, switches and relays. In addition Torlon 4203L polyamide-imide can be used in applications such as thrust washers, spline liners, valve seats, bushings, bearings, wear rings, cams and other applications requiring strength at high temperature and resistance to wear. - High Flow: Torlon 4203L-HF - Low Flow: Torlon 4203L-LF Information provided by Solvay Specialty Polymers.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-Torlon-4203L-Polyamide-imide-PAI-nbspUnverified-Data.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.42 g/cc	1.42 g/cc	ASTM D792
Water Absorption	0.33 % @Time 86400 sec	0.33 % @Time 24.0 hour	ASTM D570
Linear Mold Shrinkage, Flow	0.0060 - 0.0085 cm/cm	0.0060 - 0.0085 in/in	ASTM D955

Mechanical Properties	Metric	English	Comments
Tensile Strength	152 MPa	22000 psi	Type I; ASTM D638
Tensile Stress	192 MPa	27800 psi	ASTM D1708
Elongation at Break	7.6 %	7.6 %	Type I; ASTM D638
	15 %	15 %	ASTM D1708
Tensile Modulus	4.48 GPa	650 ksi	Type I; ASTM D638
	4.90 GPa	711 ksi	ASTM D1708
Flexural Strength	118 MPa @Temperature 232 °C	17100 psi @Temperature 450 °F	ASTM D790
	241 MPa @Temperature 23.0 °C	35000 psi @Temperature 73.4 °F	ASTM D790
Flexural Modulus	3.59 GPa @Temperature 232 °C	521 ksi @Temperature 450 °F	ASTM D790

Mechanical Properties	5.03 GPa Metric	730 ksi English	Comments ASTM D150
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Compressive Strength	221 MPa	32100 psi	ASTM D695
Compressive Modulus	4.00 GPa	580 ksi	ASTM D695
Poissons Ratio	0.45	0.45	ASTM E132
Shear Modulus	1.54 - 1.69 GPa	223 - 245 ksi	Calculated
Izod Impact, Notched	1.40 J/cm	2.62 ft-lb/in	ASTM D256
	11.0 J/cm	20.6 ft-lb/in	ASTM D4812

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	31.0 µm/m-°C	17.2 µin/in-°F	TMA; ASTM E831
Thermal Conductivity	0.260 W/m-K	1.80 BTU-in/hr-ft²-°F	ASTM C177
Deflection Temperature at 1.8 MPa (264 psi)	278 °C	532 °F	Unannealed; ASTM D648
Glass Transition Temp, Tg	277 °C	531 °F	Tg, onset, Method is equivalent to ISO 11357-2.; DSC

Electrical Properties	Metric	English	Comments
Volume Resistivity	2.00e+17 ohm-cm	2.00e+17 ohm-cm	ASTM D257
Surface Resistance	5.00e+18 ohm	5.00e+18 ohm	ASTM D257
Dielectric Constant	3.9	3.9	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Strength	4.2	4.2	ASTM D150
	@Frequency 60.0 Hz	@Frequency 60.0 Hz	
Dissipation Factor	0.026	0.026	ASTM D150
	@Frequency 60.0 Hz	@Frequency 60.0 Hz	
Dielectric Strength	23.0 kV/mm	584 kV/in	ASTM D149
Dissipation Factor	0.031	0.031	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	

Processing Properties	Metric	English	Comments

Rear Barrel Temperature Processing Properties	304 °C Metric	579 °F English	Comments
Nozzle Temperature	371 °C	700 °F	
Mold Temperature	199 - 216 °C	390 - 421 °F	
Drying Temperature	177 °C	351 °F	
Dry Time	3.00 hour	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	PTFE Lubricant	
Automotive Specifications	ASTM D4000 PAI000 R03 A56316 GA140 Z1Z2Z3Z4Z5Z6, Dwg YC3P-7E195-AA	
	CHRYSLER MS-DB405 CPN3373 Color: Natural	
Availability	Africa & Middle East	
	Asia Pacific	
	Europe	
	North America	
	South America	
Features	Ductile	
	Fatigue Resistant	
	Flame Retardant	
	Good Chemical Resistance	
	Good Creep Resistance	
	Good Electrical Properties	
	Good Wear Resistance	
	High Heat Resistance	
	High Temperature Strength	
	Low Temperature Toughness	

Descriptive Properties	Ultra High Impact Resistance Value	Comments
Forms	Pellets	
Generic	PAI	
Processing Method	Injection Molding	
	Machining	
	Profile Extrusion	
RoHS Compliance	RoHS Compliant	
Screw L/D Ratio	18.0:1.0 to 24.0:1.0	
Uses	Aircraft Applications	
	Automotive Applications	
	Bushings	
	Connectors	
	Electrical Parts	
	Electrical/Electronic Applications	
	Fasteners	
	Film	
	Machine/Mechanical Parts	
	Oil/Gas Applications	
	Semiconductor Molding Compounds	
	Thrust Washer	

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