

## Solvay Specialty Polymers Torlon® 4203L Polyamide-imide (PAI)

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. 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; Ultra High Impact Resistance. 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. Automotive Specifications ASTM D4000 PAI000 R03 A56316 GA140 Z1Z2Z3Z4Z5Z6, Dwg YC3P-7E195-AA; CHRYSLER MS-DB-405 CPN3373 Color: Natural. 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.php](http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-Torlon-4203L-Polyamide-imide-PAI.php)

Physical Properties	Metric	English	Comments
Density	1.42 g/cc	0.0513 lb/in <sup>3</sup>	ASTM D792
Water Absorption	0.33 % @Time 86400 sec	0.33 % @Time 24.0 hour	ISO 62
Linear Mold Shrinkage, Flow	0.0060 - 0.0085 cm/cm	0.0060 - 0.0085 in/in	

Mechanical Properties	Metric	English	Comments
Tensile Strength	152 MPa	22000 psi	ASTM D638
Tensile Stress	192 MPa	27800 psi	ASTM D1708
Elongation at Break	15 %	15 %	ASTM D638
Tensile Modulus	4.48 GPa	650 ksi	Type I; ASTM D638
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
	5.03 GPa @Temperature 23.0	730 ksi	ASTM D790

Mechanical Properties	Metric °C	English @Temperature 73.4 °F	Comments
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
Izod Impact, Notched	1.40 J/cm	2.62 ft-lb/in	ASTM D256
Izod Impact, Unnotched	11.0 J/cm	20.6 ft-lb/in	ASTM D256

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	31.0 µm/m-°C	17.2 µin/in-°F	
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	

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	
Dielectric Strength	23.0 kV/mm	584 kV/in	ASTM D149
Dissipation Factor	0.026	0.026	ASTM D150
	@Frequency 60.0 Hz	@Frequency 60.0 Hz	
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	304 °C	579 °F	
Nozzle Temperature	371 °C	700 °F	

Mold Temperature Processing Properties	199 - 216 Å°C Metric	390 - 421 Å°F English	Comments
Drying Temperature	177 Å°C @Time 10800 sec	351 Å°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	PTFE Lubricant	
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	

## Contact Songhan Plastic Technology Co.,Ltd.

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