Torlon® 4601

Polyamide-imide

Solvay Specialty Polymers

Message:

Torlon® 4601 is a specialty wear-resistant grade of polyamide-imide (PAI). Most Torlon® PAI grades cannot be molded successfully in molds with undercuts. Torlon® 4601 has been formulated to be moldable in tools with minor undercuts and give very good performance in lubricated wear applications.
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. Potential applications for Torlon® 4601 polyamide-imide include ball bearing cages and other molded articles that require undercut tooling.

General Information	
Features	High temperature strength Good creep resistance Good chemical resistance Good wear resistance Heat resistance, high Flame retardancy
Uses	Industrial application Bearing
RoHS Compliance	Contact manufacturer
Forms	Particle
Processing Method	Machining Profile extrusion molding Injection molding

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.39	g/cm³	ASTM D792
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	4210	MPa	ASTM D638
Tensile Strength	121	MPa	ASTM D638
Tensile Elongation (Break)	4.1	%	ASTM D638
Flexural Modulus	4480	MPa	ASTM D790
Flexural Strength	182	MPa	ASTM D790
Shear Strength	108	MPa	ASTM D732
Impact	**Nominal Value**	**Unit**	**Test Method**
Notched Izod Impact	230	J/m	ASTM D256
Unnotched Izod Impact	370	J/m	ASTM D256
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load (1.8 MPa, Unannealed)	284	°C	ASTM D648

Injection	Nominal Value	Unit
Drying Temperature	177	°C
Drying Time	3.0	hr
Suggested Max Moisture	0.050	%
Rear Temperature	304	°C
Nozzle Temperature	371	°C
Mold Temperature	199 - 216	°C
Back Pressure	6.89	MPa
Screw Speed	50 - 100	rpm
Screw L/D Ratio	18.0:1.0 - 24.0:1.0	

Injection instructions

Minimum drying times are: 3 hours at 350°F, 4 hours at 300°F, or 16 hours at 250°F.Compression Ratio: 1:1 to 1.5:1Begin hold pressure at a high setting 6,000-8,000 psi (41.37-55.16 MPa), for several seconds, then drop off to 3,000-5,000 psi (20.69-34.48 MPa), for the duration of the hold pressure sequence.Molded parts must be cured.

Recommended distributors for this material

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