Torlon® 4200

Polyamide-imide

Solvay Specialty Polymers

Message:

Torlon [®] 4200 is an unreinforced, unpigmented grade of polyamide-imide (PAI) resin for extrusion. This grade is designed for applications in the semiconductor industry which cannot tolerate particulates such as metals or inorganic particles migrating from the polymer. Torlon [®] 4200 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. High Flow: Torlon [®] 4200 EXT

General Information				
Features	Ductile	Ductile		
	Flame Retardant			
	Good Chemical Resistance			
	Good Creep Resistance			
	Good Electrical Properties			
	Good Wear Resistance			
	High Heat Resistance			
	High Temperature Strength			
	Ultra High Impact Resistance			
Uses	Electrical/Electronic Applications			
	Machine/Mechanical Parts			
	Semiconductor Molding Compound	ds		
RoHS Compliance	Contact Manufacturer			
Forms	Pellets			
Processing Method	Injection Molding			
	Machining			
	Profile Extrusion			
Physical	Nominal Value	Unit	Test Method	
Specific Gravity	1.42	g/cm³	ASTM D792	
Molding Shrinkage - Flow	0.60 to 0.85	%	ASTM D955	
Water Absorption (24 hr)	0.33	%	ASTM D570	
Mechanical	Nominal Value	Unit	Test Method	
Tensile Modulus				
	4900	MPa	ASTM D1708	
1	4480	MPa	ASTM D638	
Tensile Strength ²	152	MPa	ASTM D638	
Tensile Stress	192	MPa	ASTM D1708	

Tensile Elongation			
Break	15	%	ASTM D1708
Break ³	7.6	%	ASTM D638
Flexural Modulus			ASTM D790
23°C	5030	MPa	
232°C	3590	MPa	
Flexural Strength			ASTM D790
23°C	241	MPa	
232°C	118	MPa	
Compressive Modulus	4000	MPa	ASTM D695
Compressive Strength	221	MPa	ASTM D695
Poisson's Ratio	0.45		ASTM E132
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact	140	J/m	ASTM D256
Unnotched Izod Impact	1100	J/m	ASTM D4812
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (1.8			
MPa, Unannealed)	278	°C	ASTM D648
CLIE - Flow	3.1E-5	cm/cm/°C	ASIM E831
	0.26	W/m/K	ASIM C177
	Nominal Value	Unit	Test Method
Surface Resistivity	5.0E+18	ohms	ASTM D257
Volume Resistivity	2.0E+17	ohms·cm	ASTM D257
Dielectric Strength	23	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
60 Hz	4.20		
1 MHz	3.90		
Dissipation Factor			ASTM D150
60 Hz	0.026		
1 MHz	0.031		
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 to 216	°C	
Back Pressure	6.89	МРа	
Screw Speed	50 to 100	rpm	
Screw L/D Ratio	18.0:1.0 to 24.0:1.0		
NOTE			
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