

Torlon[®] 4200 polyamide-imide

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		
Material Status	Commercial: Active	
Availability	 Africa & Middle East Asia Pacific Europe 	Latin AmericaNorth America
Features	 Chemical Resistant Creep Resistant Ductile Flame Retardant Good Electrical Properties 	 High Heat Resistance High Temperature Strength Ultra High Impact Resistance Wear Resistant
Uses	 Electrical/Electronic Applications Machine/Mechanical Parts 	Semiconductor Applications
RoHS Compliance	 Contact Manufacturer 	
Forms	Pellets	
Processing Method	Injection MoldingMachining	Profile Extrusion

Physical	Typical Value Unit	Test method
Density / Specific Gravity	1.42	ASTM D792
Molding Shrinkage - Flow	0.60 to 0.85 %	ASTM D955
Water Absorption (24 hr)	0.33 %	ASTM D570
Mechanical	Typical Value Unit	Test method
Tensile Modulus		
1	4480 MPa	ASTM D638
	4900 MPa	ASTM D1708
Tensile Strength ¹	152 MPa	ASTM D638
Tensile Stress	192 MPa	ASTM D1708
Tensile Elongation		
Break ¹	7.6 %	ASTM D638
Break	15 %	ASTM D1708

Mechanical	Typical Value (Unit	Test method
Flexural Modulus			ASTM D790
23°C	5030	MPa	
232°C	3590	MPa	
Flexural Strength			ASTM D790
23°C	241	MPa	
232°C	118 1	MPa	
Compressive Modulus	4000	MPa	ASTM D695
Compressive Strength	221	MPa	ASTM D695
Poisson's Ratio	0.45		ASTM E132
Impact	Typical Value U	Unit	Test method
Notched Izod Impact	140 、	J/m	ASTM D256
Unnotched Izod Impact	1100 、	J/m	ASTM D4812
Thermal	Typical Value 1	Unit	Test method
Deflection Temperature Under Load	/		ASTM D648
1.8 MPa, Unannealed	278 9	°C	
CLTE - Flow	3.1E-5 d	cm/cm/ºC	ASTM E831
Thermal Conductivity	0.26	W/m/K	ASTM C177
Electrical	Typical Value U	Unit	Test method
Surface Resistivity	5.0E+18 d	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	Typical Value I	Unit	
Drving Temperature	177 °	°C	
Drying Time	3.0	hr	
Suggested Max Moisture	0.050	%	
Rear Temperature	304 9	°C	
Nozzle Temperature	371 9	°C	
Mold Temperature	199 to 216	°C	
Back Pressure	6.89 1	MPa	
Screw Speed	50 to 100 ı	rpm	
Screw L/D Ratio	18.0:1.0 to 24.0:1.0	-	

Notes

Typical properties: these are not to be construed as specifications. ¹ Type I

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