

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.

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

Torlon® 4200 has the best impact resistance and greatest elongation of all the Torlon® grades. Torlon® PAI has the

General

Material Status	• Commercial: Active	
Availability	• Africa & Middle East • Asia Pacific • Europe	• Latin America • North 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 Molding Compounds
RoHS Compliance	• Contact Manufacturer	
Forms	• Pellets	
Processing Method	• Injection Molding • Machining	• 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
Flexural Modulus			ASTM D790
23°C	5030	MPa	
232°C	3590	MPa	

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Mechanical	Typical Value	Unit	Test method
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	Typical Value	Unit	Test method
Notched Izod Impact	140	J/m	ASTM D256
Unnotched Izod Impact	1100	J/m	ASTM D4812
Thermal	Typical Value	Unit	Test method
Deflection Temperature Under Load			ASTM D648
1.8 MPa, Unannealed	278	°C	
CLTE - Flow	3.1E-5	cm/cm/°C	ASTM E831
Thermal Conductivity	0.26	W/m/K	ASTM C177
Electrical	Typical 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		

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Injection	Typical 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	MPa
Screw Speed	50 to 100	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



Safety Data Sheets (SDS) are available by emailing us or contacting your sales representative. Always consult the appropriate SDS before using any of our products.

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