

Data Sheet Dexnyl® PAI SF Torlon 4203

Product Description

Dexnyl® PAI SF Torlon 4203 is non reinforced polyamide-imide. It is the toughest and most impact resistant of the Torlon grades. It has excellent dielectric properties and is also the best thermal insulator, making it ideal for:

- Valve components requiring high strength and dimensional stability
- Rollers, wheels and balls
- Aerospace electrical components requiring high strength, heat resistance and low flammability
- Thermal insulators and insulators

Material Notes: Resin grades used to produce Dexnyl® PAI SF Torlon 4203 shapes are not identified using the “4203L” designation that injection molded grades are identified. The high viscosity extrusion grade resins generally yield tougher, more impact resistant parts.

Physical Properties	Metric	English	Methods
Specific Gravity	1.41 g/cc	.051 lb/in ³	ASTM D792
Water Absorption	0.4%	0.4%	Immersion, 24hr; ASTM D570(2)
Water Absorption at Saturation	1.7%	1.7%	Immersion; ASTM D570(2)
Mechanical Properties*			
Hardness, Rockwell M		M120	ASTM D785
Hardness, Rockwell		E80	ASTM D785
Hardness, Shore D		90	ASTM D2240
Tensile Strength, Ultimate	138 MPa	20,000 psi	ASTM D638
Elongation at Break	15%	15%	ASTM D638
Tensile Modulus	4136 MPa	600,000 psi	ASTM D638
Flexural Modulus	4136 MPa	600,000 psi	ASTM D790
Flexural Yield Strength	165 MPa	24,000 psi	ASTM D790
Compressive Strength	165 MPa	24,000 psi	10% Def.; ASTM D695
Compressive Modulus	3296 MPa	478,000 psi	ASTM D695
Izod Impact (notched)	105 J/M	2.0	ASTM D256 Type A
Thermal Properties			
Glass Transition Temperature (Tg)	275 °C	527°F	ASTM D3418
Heat Deflection Temperature (264 psi)	278°C	532°F	ASTM TMA
Coefficient of Linear Thermal Expansion	3.1 x 10 ⁻⁵ C ⁻¹	1.7 x 10 ⁻⁵ C ⁻¹	E831 TMA

*The mechanical properties of extruded shapes may differ from the values published by resin producers. Published resin data is always generated off injection molded test specimens run under near perfect conditions. Dexnyl® PAI SF Torlon 4203 extruded shape values are generated using specimens machined from actual shapes and may reflect surface imperfections from machining, enhanced crystallinity resulting from processing and fiber alignment inherent in all reinforced plastic shapes, regardless of process.