

Torlon® 4XG PAI (Ext), Polyamide-imide, 30% glass reinforced, extruded

Material Service in various chemicals: Weak Acids - Acceptable. Strong Acids - Acceptable. Weak Alkali - Limited. Strong Alkali - Unacceptable. Aromatic Hydrocarbons - Acceptable. Aliphatic Hydrocarbons - Acceptable. Ketones - Acceptable. Ethers - Acceptable. Chlorinated Solvents - Acceptable. Alcohols - Acceptable. Ionic Salts - Acceptable. Sunlight - Limited. Steam - Unacceptable.

Physical Properties	Metric	English	Comments
Specific Gravity	1.60 g/cc	0.0578 lb/in ³	ASTM D792
Water Absorption	0.300 %	0.300 %	Immersion, 24hr; ASTM D570(2)
Water Absorption at Saturation	1.50 %	1.50 %	Immersion; ASTM D570(2)

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell E	90.0	90.0	ASTM D785
Tensile Strength, Ultimate	159 MPa	23000 psi	ASTM D638
Elongation at Break	4.00 %	4.00 %	ASTM D638
Tensile Modulus	6.89 GPa	1000 ksi	ASTM D638
Flexural Modulus	6.76 GPa	980 ksi	ASTM D790
Flexural Yield Strength	207 MPa	30000 psi	ASTM D790
Compressive Strength	276 MPa	40000 psi	10% Def.; ASTM D695
Compressive Modulus	4.83 GPa	700 ksi	ASTM D695
Izod Impact, Notched	0.534 J/cm	1.00 ft-lb/in	ASTM D256 Type A

Electrical Properties	Metric	English	Comments
Dielectric Strength	27.6 kV/mm	700 kV/in	Short Term; ASTM D149

Thermal Properties	Metric	English	Comments
CTE, linear 68°F	16.2 µm/m-°C	9.00 µin/in-°F	(-40°F to 300°F); ASTM E831
Thermal Conductivity	0.360 W/m-K	2.50 BTU-in/hr-ft ² -°F	ASTM F433
Maximum Service Temperature, Air	260 °C	500 °F	Long Term
Glass Temperature	275 °C	527 °F	ASTM D3418
Flammability, UL94	V-0	V-0	1/8 inch (Estimated Rating)

Descriptive Properties

Compliance - FDA	Not Compliant	
Machinability	8	1-10, 1=Easier to Machine
Service in Alcohols	Acceptable	
Service in Aliphatic Hydrocarbons	Acceptable	
Service in Aromatic Hydrocarbons	Acceptable	
Service in Chlorinated Solvents	Acceptable	
Service in Ethers	Acceptable	
Service in Ketones	Acceptable	
Service in Strong Acids	Limited	
Service in Strong Alkalies	Unacceptable	
Service in Sunlight	Acceptable	
Service in Weak Acids	Acceptable	
Service in Weak Alkalies	Limited	

The information contained herein are typical values intended for reference and comparison purposes only. They should not be used as the sole basis for design specifications or quality control.

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