

Techtron® 1000 PPS

Polymer; Thermoplastic; Polyphenylene Sulfide (PPS); Unreinforced, Extruded

Physical Properties	Metric	English	Comments
Specific Gravity	1.35 g/cc	1.35 g/cc	ASTM D792
Water Absorption	0.010 %	0.010 %	Immersion, 24 hr; ASTM D570(2)
Water Absorption at Saturation	0.030%	0.030%	Immersion; ASTM D570(2)
Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	95	95	ASTM D785
Hardness, Rockwell R	125	125	ASTM D785
Hardness, Shore D	85	85	ASTM D2240
Tensile Strength	93.1 MPa	13,500 psi	ASTM D638
Tensile Strength at 150°C (300°C)	3.45 MPa	500 psi	ASTM D638
Tensile Strength at 65°C (150°C)	55.2 MPa	8,000 psi	ASTM D638
Elongation at Break	15 %	15 %	ASTM D638
Tensile Modulus	3.45 GPa	500 ksi	ASTM D638
Flexural Strength	145 MPa	21,000 psi	ASTM D790
Flexural Modulus	3.96 GPa	575 ksi	ASTM D790
Compressive Strength	148 MPa	21,500 psi	10% Def.; ASTM D695
Compressive Modulus	2.96 GPa	430 ksi	ASTM D695
Shear Strength	62.1 MPa	9,000 psi	ASTM D732
Izod Impact, Notched	0.320 J/cm	0.600 ft-lb/in	ASTM D256 Type A
Coefficient of Friction, Dynamic	0.40	0.40	Dry vs Steel; QTM 55007
K (wear) Factor	4830 x 10 ⁻⁸ mm ³ /N-M	2400 x 10 ⁻¹⁰ in ³ -min/ft-lb-hr	QTM 55010
Limiting Pressure Velocity	0.105 MPa-m/sec	3,000 psi-ft/min	4:1 Safety Factor; QTM 55007
Electrical Properties	Metric	English	Comments
Surface Resistivity per Square	>= 1.00e +13 ohm	>= 1.00e +13 ohm	EOS/ESD S11.11
Dielectric Constant	3.0 <small>@Frequency 1e+6 Hz</small>	3.0 <small>@Frequency 1e+6 Hz</small>	ASTM D150
Dielectric Strength	21.3 kV/mm	540 kV/inch	Short Term; ASTM D149
Dissipation Factor	0.0013 <small>@Frequency 1e+6 Hz</small>	0.0013 <small>@Frequency 1e+6 Hz</small>	ASTM D150
Thermal Properties	Metric	English	Comments
CTE, Linear	50.4 µm/m-°C <small>@Temperature -40.0 - 149 oC</small>	28.0 µin/in-°F <small>@Temperature -40.0 - 300 oF</small>	ASTM E831
Thermal Conductivity	0.288 W/m-K	2.00 BTU-in/hr-ft ² -°F	ASTM F433
Melting Point	282 °C	540 °F	Crystalline, Peak; ASTM D3418
Max Service Temperature, Air	218 °C	425 °F	Long Term
Deflection Temperature at 1.8 MPa (264 psi)	121 °C	250 °F	ASTM D648
Flammability, UL94	V-0	V-0	1/8 inch (Estimated Rating)
Compliance Properties	Metric	English	Comments
3-A Dairy	Yes	Yes	
Canada AG	No	No	
FDA	Yes	Yes	
NSF	No	No	
USDA	No	No	
USP Class VI	No	No	

Some of the values displayed above may have been converted from their original units and/or rounded in order to display the information in a consistent format. Users requiring more precise data for scientific or engineering calculations should contact Alro Plastics and/or Quadrant EPP directly. This data sheet is for reference only in helping if a material may be suitable for an application. Proper material testing is the only way to know for sure and is the recommended way to go when implementing a new material for an application. Material samples may also be available for testing, please contact Alro Plastics for samples.

