

Techtron® PPS HPV

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

Physical Properties	Metric	English	Comments
Specific Gravity	1.43 g/cc	1.43 g/cc	ASTM D792
Water Absorption	0.010 %	0.010 %	Immersion, 24 hr; ASTM D570(2)
Water Absorption at Saturation	0.090%	0.090%	Immersion; ASTM D570(2)
Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	84	84	ASTM D785
Tensile Strength	75.2 MPa	10,900 psi	ASTM D638
Tensile Strength at 150°C (300°F)	3.45 MPa	500 psi	ASTM D638
Tensile Strength at 65°C (150°F)	55.2 MPa	8,000 psi	ASTM D638
Elongation at Break	4.0 %	4.0 %	ASTM D638
Tensile Modulus	3.72 GPa	540 ksi	ASTM D638
Flexural Strength	72.4 MPa	10,500 psi	ASTM D790
Flexural Modulus	3.69 GPa	535 ksi	ASTM D790
Compressive Strength	107 MPa	15,500 psi	10% Def.; ASTM D695
Compressive Modulus	2.36 GPa	342 ksi	ASTM D695
Izod Impact, Notched	0.747 J/cm	1.40 ft-lb/in	ASTM D256 Type A
Coefficient of Friction, Dynamic	0.20	0.20	Dry vs Steel; QTM 55007
K (wear) Factor	125 x 10 ⁻⁸ mm ³ /N-M	62.0 x 10 ⁻¹⁰ in ³ -min/ft-lb-hr	QTM 55010
Limiting Pressure Velocity	0.307 MPa-m/sec	8,750 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 Strength	19.7 kV/mm	500 kV/inch	Short Term; ASTM D149
Thermal Properties	Metric	English	Comments
CTE, Linear	59.4 µm/m-°C <small>@Temperature -40.0 - 149 oC</small>	33.0 µin/in-°F <small>@Temperature -40.0 - 300 oF</small>	ASTM E831
Thermal Conductivity	0.303 W/m-K	2.10 BTU-in/hr-ft ² -°F	ASTM F433
Melting Point	280 °C	536 °F	Crystalline, Peak; ASTM D3418
Max Service Temperature, Air	221 °C	430 °F	Long Term
Deflection Temperature at 1.8 MPa (264 psi)	116 °C	240 °F	ASTM D648
Flammability, UL94	V-0	V-0	1/8 inch (Estimated Rating)
Compliance Properties	Metric	English	Comments
3-A Dairy	No	No	
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.

