

Mitsubishi Chemical Advanced Materials Techtron® HPV PPS (ASTM Product Data Sheet)
Categories: Polymer; Thermoplastic; Polyphenylene Sulfide (PPS); Polyphenylene Sulfide (PPS), Unreinforced, Extruded

Material Notes: Quadrant Engineering Plastic Products is now Mitsubishi Chemical Advanced Materials.

Physical Properties	Metric	English	Comments
Specific Gravity	1.43 g/cc	1.43 g/cc	ASTM D792
Water Absorption	0.010 %	0.010 %	Immersion, 24hr; 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	10900 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	8000 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	10500 psi	ASTM D790
Flexural Modulus	3.69 GPa	535 ksi	ASTM D790
Compressive Strength	107 MPa	15500 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; QTM55007
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	8750 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/in	Short Term; ASTM D149

Thermal Properties	Metric	English	Comments
CTE, linear	59.4 µm/m-°C @Temperature -40.0 - 149 °C	33.0 µin/in-°F @Temperature -40.0 - 300 °F	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
Maximum 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 @Thickness 3.17 mm	V-0 @Thickness 0.125 in	Estimated Rating

Compliance Properties	Metric	English	Comments
3A-Dairy	No	No	
Canada AG	No	No	
FDA	Yes	Yes	
NSF	No	No	
USDA	No	No	
USP Class VI	No	No	

Chemical Resistance Properties	Metric	English	Comments
Acids, Strong (pH 1-3)	Limited	Limited	
Acids, Weak	Acceptable	Acceptable	
Alcohols	Acceptable	Acceptable	
Alkalies, Strong (pH 11-14)	Acceptable	Acceptable	
Alkalies, Weak	Acceptable	Acceptable	
Chlorinated Solvents	Acceptable	Acceptable	
Conductive / Static Dissipative	No	No	
Continuous Sunlight	Limited	Limited	
Hot Water / Steam	Acceptable	Acceptable	
Hydrocarbons - Aliphatic	Acceptable	Acceptable	
Hydrocarbons - Aromatic	Acceptable	Acceptable	
Inorganic Salt Solutions	Acceptable	Acceptable	
Ketones, Esters	Acceptable	Acceptable	



Email: info@polymershapes.com

Call: 1 (866) 437-7427

www.polymershapes.com