

Mitsubishi Chemical Advanced Materials PPSU LSG R5500 Extruded, Unfilled, Polyphenylsulfone (ASTM Product Data Sheet)
Categories: Polymer; Thermoplastic; Polyphenylsulfone (PPSU)

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

Physical Properties	Metric	English	Comments
Specific Gravity	1.29 g/cc	1.29 g/cc	ASTM D792
Water Absorption	0.37 %	0.37 %	24 hour immersion; ASTM D570
	1.1 %	1.1 %	saturation; ASTM D570

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	80	80	ASTM D785
Hardness, Rockwell R	120	120	ASTM D785
Hardness, Shore D	80	80	ASTM D2240
Tensile Strength	75.8 MPa	11000 psi	ASTM D638
Tensile Strength at 150°C (300°F)	34.5 MPa	5000 psi	ASTM D638
Tensile Strength at 65°C (150°F)	55.2 MPa	8000 psi	ASTM D638
Elongation at Break	30 %	30 %	ASTM D638
Tensile Modulus	2.34 GPa	339 ksi	ASTM D638
Flexural Strength	107 MPa	15500 psi	ASTM D790
Flexural Modulus	2.38 GPa	345 ksi	ASTM D790
Compressive Yield Strength	92.4 MPa	13400 psi	10% deformation; ASTM D695
Compressive Modulus	1.93 GPa	280 ksi	ASTM D695
Shear Strength	62.1 MPa	9000 psi	ASTM D732
Izod Impact, Notched	1.33 J/cm	2.50 ft-lb/in	ASTM D256
K (wear) Factor	>= 2010 x 10 ⁻⁸ mm ³ /N-M	>= 1000 x 10 ⁻¹⁰ in ³ -min/ft-lb-hr	QTM 55010

Electrical Properties	Metric	English	Comments
Surface Resistivity per Square	>= 1.00e+13 ohm	>= 1.00e+13 ohm	EOS/ESD S11.11
Dielectric Constant	3.44 @Frequency 1e+6 Hz	3.44 @Frequency 1e+6 Hz	ASTM D150
Dielectric Strength	14.2 kV/mm	360 kV/in	ASTM D149
Dissipation Factor	0.0017 @Frequency 1e+6 Hz	0.0017 @Frequency 1e+6 Hz	ASTM D150

Thermal Properties	Metric	English	Comments
CTE, linear	55.8 µm/m-°C @Temperature -40.0 - 149 °C	31.0 µin/in-°F @Temperature -40.0 - 300 °F	ASTM E831
Thermal Conductivity	0.349 W/m-K	2.42 BTU-in/hr-ft ² -°F	
Maximum Service Temperature, Air	171 °C	340 °F	
Deflection Temperature at 1.8 MPa (264 psi)	207 °C	405 °F	ASTM D648
Glass Transition Temp, Tg	220 °C	428 °F	ASTM D3418
Flammability, UL94	V-0 @Thickness 3.10 mm	V-0 @Thickness 0.122 in	

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	Yes	Yes	

Chemical Resistance Properties	Metric	English	Comments
Acids, Strong (pH 1-3)	Limited	Limited	
Acids, Weak	Acceptable	Acceptable	
Alcohols	Limited	Limited	
Alkalies, Strong (pH 11-14)	Acceptable	Acceptable	
Alkalies, Weak	Acceptable	Acceptable	
Chlorinated Solvents	Unacceptable	Unacceptable	
Conductive / Static Dissipative	No	No	
Continuous Sunlight	Limited	Limited	
Hot Water / Steam	Acceptable	Acceptable	

Hydrocarbons - Aliphatic	Acceptable	Acceptable
Hydrocarbons - Aromatic	Limited	Limited
Inorganic Salt Solutions	Acceptable	Acceptable
Ketones, Esters	Unacceptable	Unacceptable

Descriptive Properties

Color		various
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