

Quadrant EPP Semitron® MPR-1000 (ASTM Product Data Sheet)

Category : Polymer , Thermoplastic

Material Notes:

Order this product through the following link:

http://www.lookpolymers.com/polymer_Quadrant-EPP-Semitron-MPR-1000-ASTM-Product-Data-Sheet.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.48 g/cc	1.48 g/cc	ASTM D792
Water Absorption	0.28 %	0.28 %	Immersion, 24hr; ASTM D570(2)
Water Absorption at Saturation	3.4 %	3.4 %	ASTM D 570(2)

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	106	106	ASTM D785
Tensile Strength	103 MPa	15000 psi	ASTM D638
Elongation at Break	5.0 %	5.0 %	ASTM D638
Tensile Modulus	6.89 GPa	1000 ksi	ASTM D638
Flexural Strength	172 MPa	25000 psi	ASTM D790
Flexural Modulus	7.58 GPa	1100 ksi	ASTM D790
Compressive Strength	165 MPa	24000 psi	10% Def.; ASTM D695
Compressive Modulus	3.28 GPa	475 ksi	ASTM D695
Shear Strength	83 MPa	12000 psi	ASTM D732
Izod Impact, Notched	0.69 J/cm	1.3 ft-lb/in	ASTM D256 Type A
Limiting Pressure Velocity	0.210 MPa-m/sec	6000 psi-ft/min	4:1 safety factor; QTM 55007

Thermal Properties	Metric	English	Comments
CTE, linear	27.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	15.0 $\mu\text{in}/\text{in}\cdot\text{°F}$	ASTM E831
	@Temperature -40.0 - 150 °C	@Temperature -40.0 - 302 °F	
Thermal Conductivity	0.510 W/m-K	3.54 BTU-in/hr-ft ² -°F	
Maximum Service Temperature, Air	260 °C	500 °F	Long Term
Deflection Temperature at 1.8 MPa (264 psi)	279 °C	534 °F	ASTM D648

Thermal Properties	275 °C Metric	527 °F English	ASTM D2418 Comments
Flammability, UL94	V-0	V-0	1/8 inch (Estimated Rating)

Electrical Properties	Metric	English	Comments
Surface Resistivity per Square	$\geq 1e+13$ ohm	$\geq 1e+13$ ohm	ASTM D257
Dielectric Constant	3.68 @Frequency 1e+6 Hz	3.68 @Frequency 1e+6 Hz	ASTM D150
Dielectric Strength	22.4 kV/mm	570 kV/in	Short Term; ASTM D149
Dissipation Factor	0.008 @Frequency 1e+6 Hz	0.008 @Frequency 1e+6 Hz	ASTM D150

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