

Mitsubishi Chemical Advanced Materials Semitron® PP Polypropylene Natural Homo-Polymer (ASTM Product Data Sheet)
Categories: Polymer; Thermoplastic; Polypropylene (PP)

Material Notes: This natural grade of compression molded homo-polymer polypropylene has been specially processed to yield the high purity requirements for use in the semiconductor industry.

Quadrant Engineering Plastic Products is now Mitsubishi Chemical Advanced Materials.

Physical Properties	Metric	English	Comments
Specific Gravity	0.910 g/cc	0.910 g/cc	ASTM D792
Water Absorption at Saturation	<= 0.010 %	<= 0.010 %	ASTM D570

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	78	78	ASTM D2240
Tensile Strength	33.1 MPa	4800 psi	ASTM D638
Elongation at Break	20 %	20 %	ASTM D638
Tensile Modulus	2.07 GPa @Temperature 22.8 °C	300 ksi @Temperature 73.0 °F	ASTM D638
Flexural Strength	48.3 MPa	7000 psi	ASTM D790
Flexural Modulus	2.07 GPa	300 ksi	ASTM D790
Compressive Strength	55.2 MPa	8000 psi	10% Def.; ASTM D695
Compressive Modulus	1.45 GPa	210 ksi	ASTM D695
Izod Impact, Notched	0.641 J/cm	1.20 ft-lb/in	ASTM D256 Type A

Electrical Properties	Metric	English	Comments
Surface Resistivity per Square	>= 1.00e+15 ohm	>= 1.00e+15 ohm	ASTM D257

Thermal Properties	Metric	English	Comments
CTE, linear	14 µm/m-°C @Temperature -40.0 - 149 °C	7.5 µin/in-°F @Temperature -40.0 - 300 °F	ASTM E-831 (TMA)
Melting Point	162 °C	324 °F	Crystalline, Peak; ASTM D3418
Maximum Service Temperature, Air	82.2 °C	180 °F	Long Term
Deflection Temperature at 0.46 MPa (66 psi)	104 °C	220 °F	ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	82.2 °C	180 °F	ASTM D648
Flammability, UL94	HB @Thickness 3.17 mm	HB @Thickness 0.125 in	Estimated Rating; UL-94

Descriptive Properties			
Color		Natural	
Machinability		3	1-10, 1=Easier to Machine


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