

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

Material Notes: This Lay Flat (LF) grade of natural homopolymer polypropylene has been specially processed to significantly reduce the internal stress for greater tolerance control of machined components.

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
Tensile Strength, Yield	14.0 MPa @Temperature 22.8 °C	2030 psi @Temperature 73.0 °F	ASTM D638
Elongation at Break	400 %	400 %	ASTM D638
Tensile Modulus	1.31 GPa @Temperature 22.8 °C	190 ksi @Temperature 73.0 °F	ASTM D638
Flexural Strength	33.1 MPa	4800 psi	ASTM D790
Flexural Modulus	1.34 GPa	195 ksi	ASTM D790
Compressive Strength	34.5 MPa	5000 psi	10% Def.; ASTM D695
Compressive Modulus	1.38 GPa	200 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	77.4 µm/m-°C @Temperature -40.0 - 149 °C	43.0 µin/in-°F @Temperature -40.0 - 300 °F	ASTM E831
Melting Point	164 °C	327 °F	Crystalline, Peak; ASTM D3418
Maximum Service Temperature, Air	82.2 °C	180 °F	Long Term
Deflection Temperature at 0.46 MPa (66 psi)	100 °C	212 °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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