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TECHNICAL DATA SHEET
Polypropylene

(PP)

Polypropylene offers a good balance of chemical, thermal and electrical properties with moderate strength. It has a good strength to weight ratio and due to its hard, high gloss surface, polypropylene is ideally suited to environments where there is concern for bacteria build up that can interfere with flow. Polypropylene can be heat formed, shaped and welded to fabricate ducts, hoods and much more. Polypropylene has excellent corrosion resistance to a wide range of items. Polypropylene is not UV stabilized but is USDA approved and meets FDA standards.

TYPICAL PROPERTIES of POLYPROPYLENE

ASTM or UL test	Property	Homopolymer	Co-Polymer	Flame Retardant
	PHYSICAL			
D792	Density (lb/in³) (g/cm³)	0.033 0.905	0.033 0.897	0.035 0.988
D570	Water Absorption, 24 hrs (%)	<0.01	0.01	0.02
	MECHANICAL			
D638	Tensile Strength (psi)	4,800	4,800	4,300
D638	Tensile Modulus (psi)	195,000	-	-
D638	Tensile Elongation at Yield (%)	12	23	28
D790	Flexural Strength (psi)	7,000	5,400	-
D790	Flexural Modulus (psi)	180,000	160,000	145,000
D695	Compressive Strength (psi)	7,000	6,000	-
D695	Compressive Modulus (psi)	-	-	-
D785	Hardness, Rockwell R	92	80	-
D256	IZOD Notched Impact (ft-lb/in)	1.9	7.5	0.65
	THERMAL			
D696	Coefficient of Linear Thermal Expansion (x 10^{-5} in./in./°F)	6.2	6.6	-
D648	Heat Deflection Temp (°F / °C) at 66 psi at 264 psi	 210 / 99 125 / 52	 173 / 78 110 / 43	 106 / 41 57 / 14
D3418	Melting Temperature (°F / °C)	327 / 164	327 / 164	327 / 164
-	Max Operating Temp (°F / °C)	180 / 82	170 / 77	180 / 82
C177	Thermal Conductivity (BTU-in/ft²-hr-°F) (x 10^{-4} cal/cm-sec-°C)	 0.76-0.81 2.6-2.8	 - -	 - -
UL94	Flammability Rating	HB	n.r.	V-O
	ELECTRICAL			
D149	Dielectric Strength (V/mil) short time, 1/8" thick	500-660	475	500-650
D150	Dielectric Constant at 1 kHz	2.25	2.2-2.36	2.3
D150	Dissipation Factor at 1 kHz	0.0005-0.0018	0.0017	-
D257	Volume Resistivity (ohm-cm) at 50% RH	8.5 x 10^{14}	2 x 10^{16}	10^{15}
D495	Arc Resistance (sec)	160	100	-

Benefits
Abrasion resistant
Chemical resistant
Impact resistant
Moisture resistant
Stress crack resistant
Excellent dielectric properties
Able to retain stiffness and flexibility
High tensile

Applications
Food handling
Aircraft
Aerospace
Defense
Alternative energy
Medical
Industrial