

TYPICAL PROPERTIES OF THERMOPLASTIC POLYESTERS			
ASTM or UL Test	Property	Unreinforced Resin	20 to 30% Glass Reinforced
PHYSICAL			
D792	<b>Specific gravity</b>	1.31-1.43	1.49-1.56
D792	<b>Specific volume</b> (in <sup>3</sup> /lb)	21.1-19.4	17.1-16.4
D570	<b>Water absorption</b> , 24 h, 1/8-in thk (%)	0.07-0.09	0.07
MECHANICAL			
D638	<b>Tensile strength</b> (psi)	12,400	16,500-23,000
D638	<b>Elongation</b> (%)	5-300	1-3
D638	<b>Tensile modulus</b> (10 <sup>5</sup> psi)	4.6	12-17
D790	<b>Flexural strength</b> (psi)	12,000-18,000	24,000-33,000
D790	<b>Flexural modulus</b> (10 <sup>5</sup> psi)	2.8-4.9	11-14
D256	<b>Impact strength</b> , Izod (ft-lb/in of notch)	0.5	1.0-2.6
D671	<b>Fatigue endurance limit</b> , 10 <sup>7</sup> cycles (psi)	2,850-3,500	4,000-5,000
D785	<b>Hardness</b> , Rockwell M	65-93	90-100
THERMAL			
C177	<b>Thermal conductivity</b> (Btu-in/hr-ft <sup>2</sup> -°F)	1.1-2.0	1.3-9.0
D696	<b>Coefficient of thermal expansion</b> (10 <sup>-5</sup> in/in-°F)	3.3-8	1.3-5.4
D648	<b>Deflection temperature</b> (°F)		
	At 264 psi	122-240	395-435
	At 66 psi	302-354	435-475
UL 94	<b>Flammability rating</b>	HB to V-O	HB to V-O and 5 V
ELECTRICAL			
D149	<b>Dielectric strength</b> (V/mil)		
	Short time, 1/8-in thk	385-4	480-560
D150	<b>Dielectric constant</b>		
	At 1 kHz	3.2-3.4	3.6-3.7
D150	<b>Dissipation factor</b>		
	At 1 kHz		0.002-0.003
D257	<b>Volume resistivity</b> (ohm-cm)		
	At 73°F, 50% RH		5-10x10 <sup>15</sup>
D495	<b>Arc resistance</b> (s)		80-130
FRICTIONAL			
—	<b>Coefficient of friction</b>		
	Self	0.12-0.20	0.12-0.22
	Against steel	0.10-0.23	0.12-0.13

Ref: Machine Design – 1985

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