

# INDUSTRIAL SHEET LAMINATES GPO-2 GPO-3

GENERAL INFORMATION	UNIT	ASTM/UL TEST NO.	TYPICAL AVERAGE VALUES	
Polyply Grade			40	50
NEMA Grade			GPO-2	GPO-3
Color			Red	Red
U.L. Recognition File Number			E82***	E82***
<b>MECHANICAL PROPERTIES</b>				
Tensile Strength	psi	D638	9,800	10,000
Flexural Strength	psi	D790	22,000	23,200
Compressive Strength	psi	D695	32,000	32,800
Flexural Modulus	psix10 <sup>6</sup>	D790	1.2	1.23
Shear Strength	psi	D732	14,000	14,000
Izod Impact Strength(notched)	ft-lb/in	D256	8	8.2
Water Absorption	%by weight	D570	0.23	0.21
Barcol Hardness		D2583	50	50
Specific Gravity		D792	1.8	1.8
<b>ELECTRIC PROPERTIES</b>				
Dielectric Strength ( in oil)	volts/mil	D149	415	400
Dielectric Strength (parallel in oil)	KV	D149	61	57
High Voltage Arc Resistance	sec	D495	200+	200+
Dielectric Constant @ 60 Hz		D150	4.6	4.8
Dielectric Constant @ M Hz		D150	4.5	4.7
Dissipation Factor @ 60 Hz		D150	0.014	0.013
Dissipation Factor @ M Hz		D150	0.012	0.011
Comparative Tracking Index volts		D3638	500+	500+
<b>FLAME RESISTANCE PROPERTIES</b>				
U.L. Subject 94		UL94	94VO	94VO
<b>THERMAL PROPERTIES</b>				
Coefficient of Thermal Expansion	in/in/°Cx10 <sup>-5</sup>	D696	2	2
Thermal Conductivity	btu/hr/ft <sup>2</sup> /in/°F	C177	1.8	1.9
U.L. Temperature Index-Electrical	°C	UL746B	130	120
U.L. Temperature Index-Mechanical	°C	UL746B	160	140

All properties are based on 1/8" thick sheet. Unless otherwise indicated, all properties published are based on tests performed on standard ASTM test samples and according to ASTM test methods. Values shown are for test samples made from production materials and are believed to be typical. No warranty is expressed or implied.

**Plus or Minus Tolerance                      Nominal Thickness Inches**

1/32`	0.0075	3/4`	0.029
1/16`	0.0075	1/1`	0.033
3/32`	0.009	3/2`	0.041
1/8`	0.01	2`	0.049
3/16`	0.0125	At least 90 percent of the area of the sheet shall be within the tolerances given, and at no point shall the thickness vary from the nominal by a value greater than 125 percent of this specified tolerance. Huin Hardware Rubber Products Co., Ltd. (E82624)	
1/4`	0.015		
3/8`	0.02		
1/2`	0.024		
5/8`	0.027		