

INDUSTRIAL SHEET LAMINATES

All grades of Polyply Industrial Sheet are produced using polyester resin and fiberglass reinforcement. They are U.L. recognized and are available in 36"x72" and 48"x96" sheets. Sheets are manufactured in thicknesses ranging from 1/32" to 2" with most sizes in stock for immediate shipment.

Polyply L-40. Low-cost, general purpose flame retardant electrical laminate which meets or exceeds NEMA GPO-2 requirements.
Polyply L-50. Track resistant, flame retardant laminate which meets or exceeds NEMA GPO-3 requirements.

TYPICAL PROPERTIES

| GENERAL INFORMATION | UNIT | ASTM/UL TEST NO. | TYPICAL AVERAGE VALUES | |
|---------------------------------------|-------------------------------|------------------|------------------------|--------|
| Polyply Grade | | | L40 | L50 |
| NEMA Grade | | | GPO-2 | GPO-3 |
| Color | | | Red | Red |
| U.L. Recognition File Number | | | E82624 | E82624 |
| MECHANICAL PROPERTIES | | | | |
| 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 | psi x 10 ⁶ | D790 | 1.20 | 1.23 |
| Shear Strength | psi | D732 | 14,000 | 14,000 |
| Izod Impact Strength (notched) | ft-lb/in | D256 | 8.0 | 8.2 |
| Water Absorption | % by weight | D570 | 0.23 | 0.21 |
| Barcol Hardness | | D2583 | 50 | 50 |
| Specific Gravity | | D792 | 1.8 | 1.8 |
| ELECTRIC PROPERTIES | | | | |
| 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 | .014 | .013 |
| Dissipation Factor @ M Hz | | D150 | .012 | .011 |
| Comparative Tracking Index | volts | D3638 | 500+ | 500+ |
| FLAME RESISTANCE PROPERTIES | | | | |
| U.L. Subject 94 | | UL94 | 94VO | 94VO |
| THERMAL PROPERTIES | | | | |
| Coefficient of Thermal Expansion | in/in/°C x 10 ⁻⁵ | D696 | 2.0 | 2.0 |
| Thermal Conductivity | btu/hr/ft ² /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.



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SHEET THICKNESS TOLERANCES (ALL GRADES)

| Nominal Thickness, Inches | Plus or Minus Tolerance, Inches | Nominal Thickness, Inches | Plus or Minus Tolerance, Inches |
|---------------------------|---------------------------------|---------------------------|---------------------------------|
| 1/32 | 0.0075 | 1/2 | 0.024 |
| 1/16 | 0.0075 | 5/8 | 0.027 |
| 3/32 | 0.0090 | 3/4 | 0.029 |
| 1/8 | 0.0100 | 1 | 0.033 |
| 3/16 | 0.0125 | 1-1/2 | 0.041 |
| 1/4 | 0.0150 | 2 | 0.049 |
| 3/8 | 0.0200 | | |

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.