# Current Industrial Composites

Sheeting · Tubes · Rods · Fabricated Parts · Epoxy · Phenolic

## MATERIAL DATA SHEET

**Material:** Grade XXX Paper Phenolic Laminate Sheet

**Description:** XXX sheet has excellent machining characteristics, low moisture absorption and excellent dimensional stability over large changes in temperature and humidity. Chemical resistance is good when exposed to organic solvents and oils. Grade XXX is frequently specified for use in switchgear, oil filled transformers and power distribution products, tooling stock and test panel applications

**Standards:** NEMA LI-1 Grade XXX

MIL-I-24768 / 10 - PBE

| Physical Properties | Test Condition | | ASTM | Typical Values |
|---|---|---|---|---|
| For Thickness | | | | .125" |
| Specific Gravity | | | D792 | 1.38 |
| Rockwell Hardness (M Scale) | | | D785 | 101 |
| Water Absorption (maximum) | | | D229 | .95 % |
| Flexural Strength | Condition A: | Lengthwise<br>Crosswise | D229 | 20,000 psi<br>15,000 psi |
| Tensile Strength | Condition A: | Lengthwise<br>Crosswise | | 14,000 psi<br>12,000 psi |
| Compressive Strength | Condition A: | Flatwise | D695 | 30,000 psi |
| Izod Impact Strength (.500" thick) | E48/40: | Lengthwise<br>Crosswise | D229 | 0.55 ft-lb/in.(notch)<br>0.45 ft-lb/in.(notch) |
| Bond Strength (.500" thick) | Condition A<br>D 48/50 | | D229 | 1000 lbs<br>700 lbs |

| Thermal & Electrical Properties | Test Condition | ASTM | Typical Values |
|---|---|---|---|
| Temperature Index Electrical / Mechanical | | | 140° C |
| Volume resistivity | | | $6x10^7$ megohms-cm |
| Surface resistivity | | | $6x10^6$ megohms |
| Dielectric Breakdown Voltage (step x step) | Condition A / D 48/50 | D229 | 50 kV |
| Maximum Permittivity @ 1 MHz | Condition A / D 24/23 | D229 | 5.3 |
| Maximum Dissipation @ 1 MHz | Condition A / D 24/23 / D48 / 50 | D229 | .038 |
| Dielectric Strength (short time) | Condition A | D229 | 320 Vpm |
| Arc Resistance | Condition A | D 495 | 199 seconds |