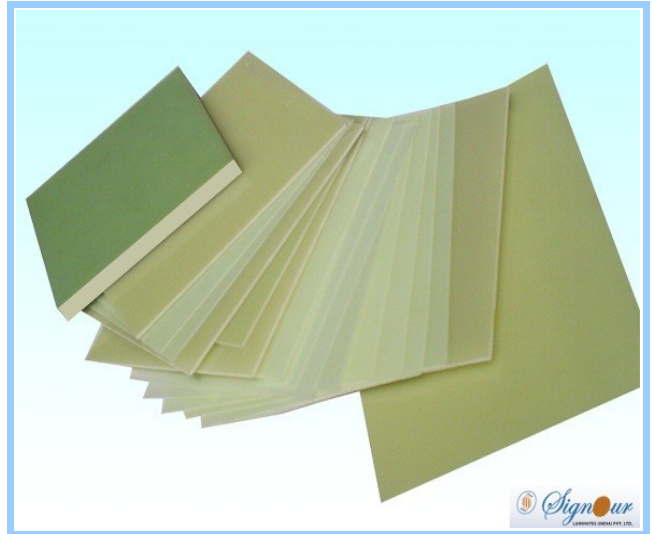
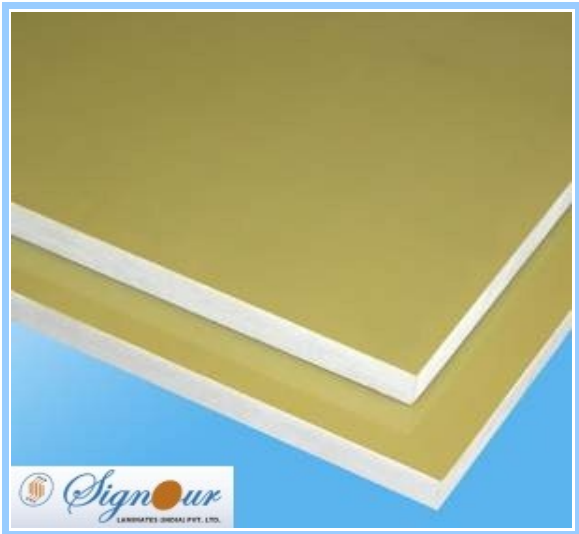
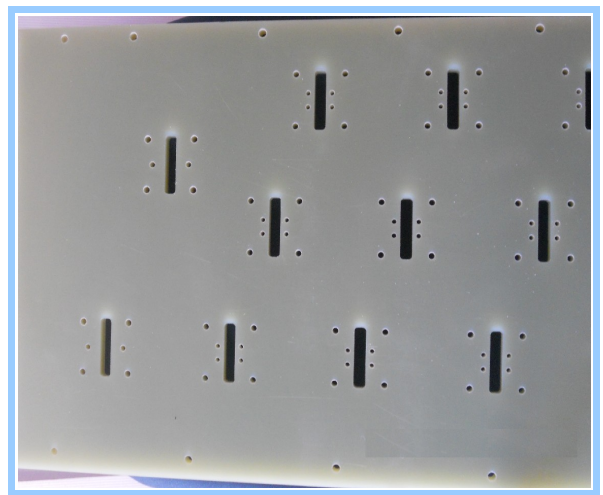
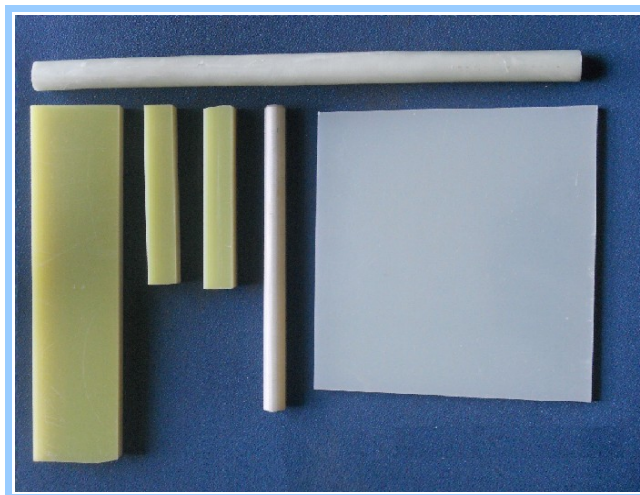


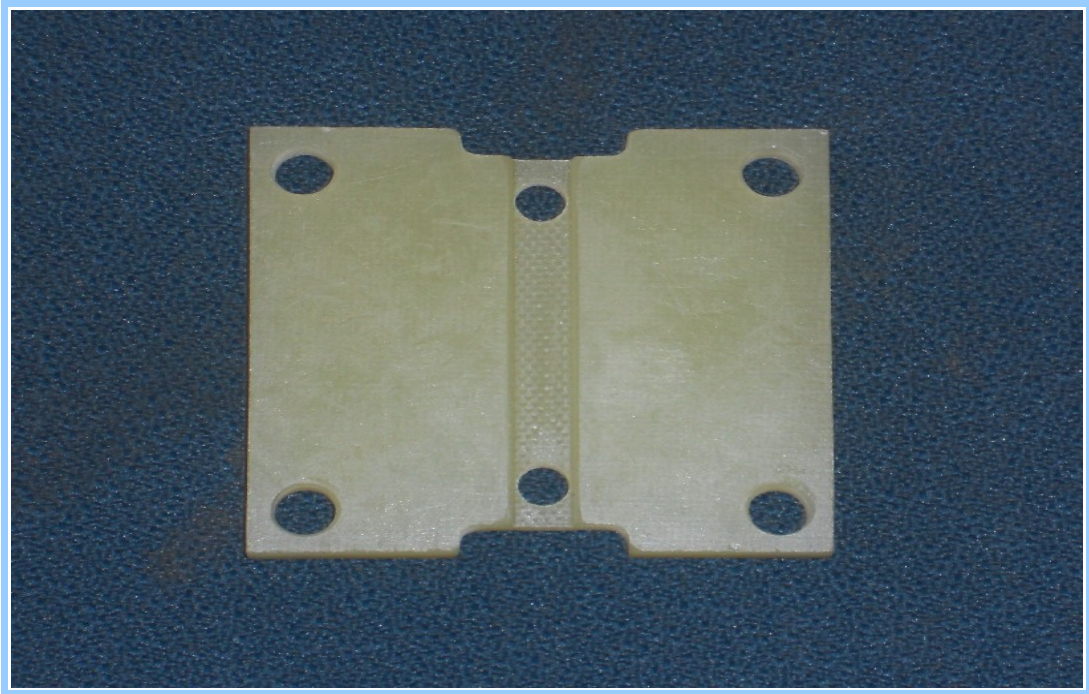
FR4/G10 grades of Glass Epoxy Laminates IPC&NEMA standards



FR4/G10 grades of Glass epoxy laminates ranging from 0.2mm to 55mm thickness. These laminates have very good electrical, mechanical and insulation properties and have wide range of application in electrical insulation purposes, transformers. Due to high mechanical properties and strength these laminates are used for fabrication of various electrical and mechanical components.

Signour also undertakes fabrication work on Glass Epoxy Laminates as per Customer's drawings.





General Specification

Thickness tolerance and standard Size for FR4 laminate

| Thickness and tolerance | | Size and tolerance | | Copper |
|-------------------------|-----------------|--------------------|------------------|-----------------|
| Nominal Thickness (mm) | Tolerance (mm) | Standard Size | Tolerance | |
| 0.165 - 0.299 | ± 0.038 | 48" x 42" | + 3 mm - 0 mm | 18 μ (1/2 OZ) |
| 0.300 - 0.499 | ± 0.05 | | | 35 μ (1 OZ) |
| 0.500 - 0.785 | ± 0.064 | | | |
| 0.786 - 1.039 | ± 0.10 | 1220mm x 1067mm | | 70 μ (2 OZ) |
| 1.040 - 1.674 | ± 0.13 | | | |
| 1.675 - 2.564 | ± 0.18 | | | |
| 2.565 - 3.579 | ± 0.23 | | | |

Note:

This dimension are general guideline only

GLASS EPOXY UNCLAD LAMINATE FR4/G10

INSPECTION IN ACCORDANCE WITH :

NEEMA
>130°
C.

GLASS TRANSITION TEMPERATURE (Tg)

EXCELLENT MECHANICAL AND ELECTRICAL
PROPERTY

GOOD DIMENSIONAL STABILITY AND THERMAL RESISTANCE

| SR.NO | PROPERTY | CONDITIONING | UNIT | SPECIFICATIO N | TYPICAL VALUE FOR 0.125" |
|-------|--|-----------------------|-----------------|----------------------|-----------------------------------|
| | ELECTRICAL PROPERTY | | | | |
| 1 | DI ELECTRIC BREAK DOWN | D-48/50 +D- 0.5/23 | kV | > 40 | > 40 |
| 2 | DIELECTRIC CONSTANT *AT 1 Mhz | D-24/23 | - | < 5.4 | 4.5 |
| | DESSIPATION FACTOR | D-24/23 | | <0.035 | 0.018 |
| 3 | VOLUME RESISTIVITY *AT ELEVATED TEMP. | E-24/125 | Mohm cm | > 10 ³ | 2x 10 ⁶ |
| | *AFT. MOISTURE RESISTANCE | C-96/35/90 | Mohm cm | > 10 ⁶ | 3x 10 ⁸ |
| 4 | SURFACE RESISTANCE *AT ELEVATED TEMP. | E-24/125 | Mohm | > 10 ³ | 2x 10 ⁶ |
| | *AFT. MOISTURE RESISTANCE | C-96/35/90 | Mohm | > 10 ⁴ | 2 x 10 ⁷ |
| | MECHANICAL PROPERTY | | | | |
| 1 | FLEXURAL STRENGTH *LENGTHWISE *CROSS WISE | A A | psi psi | > 60,000 > 50,000 | 73000 64000 |
| 2 | IMPACT STRENGTH *LENGTHWISE *CROSS WISE | E 48/50 | ft - lb/inch | >7 > 5.5 | 10 7 |
| | GENERAL PROPERTY | | | | |

| | | | | | |
|----|--|------------------|-------|--------|-------|
| 9 | MOISTURE ABSORPTION | E-1/105 +D-24/23 | % | < 0.15 | 0.065 |
| 1 | THERMAL STRESS (ETCHED & UNETCHED) | 10S @288 DEG.C | SEC. | > 10 | > 40 |
| 11 | FLAMMABILITY (FOR FR4) | A (UL-94) V-O | CLASS | V1 | V1 |
| | INSPECTION : Visual Inspection - 100 % of the Cut Sheets | | | | |