



南興積層板有限公司
NAM HING INDUSTRIAL LAMINATE LIMITED



PRODUCTS

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Copper-Clad Glass-Epoxy Laminates :

Conditions

NHL-4806

Type

FR4

ANSI (NEMA)

Grade

UL File No.

E74035

Colour

Natural

Nominal Thickness and Tolerance

0.4mm (0.016 in) +/- 0.063mm (0.0025 in)
 0.6mm (0.023 in) +/- 0.063mm (0.0025 in)
 0.8mm (0.031 in) +/- 0.089mm (0.0035 in)
 1.2mm (0.047 in) +/- 0.130mm (0.0051 in)
 1.6mm (0.062 in) +/- 0.130mm (0.0051 in)
 (for nominal thickness not shown, the tolerance for the next greater thickness shall apply)

Standard Sheet Size

1,020mm x 1,220mm +/- 5mm

Copper Cladding

135 g/m² (1/2 oz/ft²), 18 µm ;
 305 g/m² (1 oz/ft²), 35 µm ;
 610 g/m² (2 oz/ft²), 70 µm ;
 one- or two-sided electrolytic copper cladding

Max. Operating Temp (Tg)

140 °C (Electrical) +/- 5 °C
 110 °C (Mechanical) +/- 5 °C

Flame Class

94-VO

Specific Gravity

1.185

Water Absorption

0.10% (For 1.6mm)

Solder Float

Over 12 sec (260 °C)

Peel Strength

1.8 N/mm (Normal state)
 1.7 N/mm (Thermal shock, 550 °F 10s)
 1.6 N/mm (Post exposure to process solution)

Flexural Strength

618.3 N/mm² For 0.8mm
 735.1 N/mm² For 1.6mm

Insulation Resistivity

8.47 x 10¹¹ Ω (Normal state)

IPC-TM-650

IPC-TM-650

ASTM D 790

IPC-TM-650 (For 1/2 oz Cu)

| | | |
|----------------------------------|---|------------|
| Volume Resistivity | 7.5 x 10 ¹⁰ Ω m (Normal state, 500Vdc) | |
| | 5.2 x 10 ¹⁰ Ω m (Damp resistance test) | |
| Dielectric Constant | 4.3 (Damp heat, steady state 96h, 1Mhz) | IPC-TM-650 |
| Dielectric Strength | 29.4kV/mm (Normal state) | ASTM D |
| | 24.0kV/mm (Moist state) | 149 |
| Dissipation Factors | 0.0265 (Damp heat, steady state 96h, 1Mhz) | IPC-TM-650 |
| Bow & Twist | 0.31% Bowed and No Twist | IPC-TM-650 |
| High Current Arc Resistance Test | 17 arc for 0.8mm | UL 746 |
| | 18 arc for 1.6mm | |
| Hot Wire Ignition | 120+ sec to ignition for 0.8mm | UL 746 |
| | 120+ sec to ignition for 1.6mm | |
| Arc Resistance | 93 sec | ASTM D |
| | | 495 |
| High Voltage Arc Resistance | 300+ sec | UL 746 |
| Arc Tracking Rate | 368mm/min for 0.8mm | UL 746 |
| | 267mm/min for 1.6mm | |
| Comparative Tracking Index | 175 | IEC 112 |

The properties described herein are based upon test data generated at independent laboratories and is believed to be accurate. However, the final determination regarding the suitability of the material described herein for any contemplated use is the sole responsibility of the end user. There is no warranty, expressed or implied.

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