

Novaclad® G2300 Halogen-Free Copper Polyimide Laminates

Description

Sheldahl Novaclad products use a proprietary deposition process to join polyimide film and copper, creating a single or double sided composite. Novaclad laminates are engineered for use in harsh environments such as temperature extremes and chemical exposure. For example, Novaclad G2300 has passed long-term heat aging tests of 1,000 hours at 150°C. Millions of cars on the road today contain circuit products fabricated on Novaclad.

Features

- **Dielectric:** High stability PI film.
- **Coppers:** Directly-deposited thin copper excellent for fine line features, dynamic flexing, or high frequency applications that require a smooth copper surface on both sides.
- **Stability:** Sheldahl's superior manufacturing process ensures consistent dimensional stability.
- **Processing:** High quality flexible circuits can be produced using standard manufacturing procedures.

Storage

Material stored in original packaging, at temperatures of 40-80°F (4-26°C), and below 70% RH will retain their properties for a minimum of 1 year.

Excessive exposure to heat and moisture may cause copper oxidation.

Quality

Sheldahl products are manufactured using quality systems that conform to ISO, QS, and TS quality standards. Key product characteristics are tested and monitored in accordance to IPC standards. Certifications are available with product shipments.

Constructions

- **Film Thickness:** 1, 2, or 5 mils (25, 50, 125 µm)
- **Copper Thickness:** 5 or 17µm
- **Width:** Standard roll width is 18" (457mm)

Specialty thickness and widths available please contact your Sheldahl representative.

Contact Information:

USA: Telephone – 507-663-8344
Europe: Telephone – 33-387-847-477
Worldwide: Telephone – 507-663-8344

Come visit us at www.Sheldahl.com

Ordering Information:

When ordering please specify:

- Film thickness
- Copper thickness
- Copper on one side or both
- Roll width

| PROPERTY TO BE TESTED AND TEST METHOD | IPC Test Requirements | Sheldahl Typical Mean Value* |
|---|--------------------------|------------------------------|
| Dimensional Stability, maximum, percentage, IPC-TM-650, 2.2.4 Method B Method C | 0.15 0.20 | 0.08 0.08 |
| Peel Strength, minimum, lb./in. - width, IPC-TM-650, 2.4.9 Method A as received Method B as received Method D After Solder Float Method F after temperature cycling | 4.0 6.0 4.0 4.0 | 7.0 6.0 |
| Low Temperature Flexibility, 5 Cycles, IPC-TM-650, 2.6.18 | Pass | Pass |
| Chemical Resistance percentage, IPC-TM-650, 2.3.2, A | 80% | 90% |
| Solder Float, IPC-TM-650, 2.4.13, Method B | Pass | Pass |
| Solderability, J-STD-003, Test A | Pass | Pass |
| Dielectric constant, maximum (at 1MHz), IPC-TM-650, 2.5.5.3 | 4.0 | 3.3 |
| Dissipation factor, maximum (at 1 MHz), IPC-TM-650, 2.5.3 | 0.012 | 0.011 |
| Volume Resistivity, minimum megohm-cm, IPC-TM-650, 2.5.17 | 10^6 | 10^7 |
| Surface resistance minimum, megohms, IPC-TM-650, 2.5.17 | 10^5 | 10^7 |
| Dielectric strength, minimum volts/mil, ASTM-D-149 | 2000 | 5000 |
| Fungus Resistance, IPC-TM-650, 2.6.1 | Non-Nutrient | Non-Nutrient |
| Moisture Absorption, maximum, percent, IPC-TM-650, 2.6.2 | 4.0 | 2.0 |
| Flammability, UL 94 | | V-0 |
| Moisture and Insulation Resistance, minimum, megohms, IPC-TM-650, 2.6.3.2 | 10^2 | 10^5 |

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