



## PRODUCT BULLETIN

### G1845 – Flexbase™ Flame-Retardant Copper/Polyester Laminates

#### FEATURES

- **Dielectric:** Stabilized PET film.
- **Adhesive:** Modified polyester epoxy.
- **Available Coppers:** Rolled-Annealed (**RA**), Electro-Deposited High-Ductility (**EDHD**) or As-Rolled Untreated (**ARNT**). EDHD foils are suited for general use and flex to install applications. RA foils are suitable for dynamic flexing applications. ARNT foils are valuable for high frequency applications that require a smooth copper surface on both sides.
- **Constructions:** Contact Sheldahl Customer Support for available constructions. Custom constructions may be ordered for high volume opportunities.
- **Processing:** High quality flexible circuits can be produced using standard circuit manufacturing procedures.
- **Preferred Storage:** Material should be stored in dry, ambient temperature. Excessive exposure to heat and moisture may cause copper oxidation.
- **Shelf Life:** Typical expected shelf life is 12 months when stored as recommended.
- **G1845** laminates have been developed specifically for flexible printed circuitry, flat cable, and automotive applications that require the safety of a **flame-retardant** system.
- **U.L. certified to 94-VTM-O** for select constructions.

| PROPERTY TO BE TESTED                                | TEST METHOD<br>(IPC-TM-650 unless<br>noted) | SHELDAHL<br>TYPICAL<br>MEAN VALUE |
|--|---|-----------------------------------|
| Peel strength, minimum, lb./in. - width              | Method 2.4.9<br>Method B as received        | 10.0                              |
| Tensile strength, minimum, lb./in. <sup>2</sup>      | Method 2.4.19                               | 22,000                            |
| Elongation, minimum percent                          | Method 2.4.19                               | 90%                               |
| Flexural endurance, minimum cycles                   | Method 2.4.3                                | 1,000                             |
| Dimensional Stability, maximum, percentage           | Method 2.2.4<br>Method B<br>Method C        | 0.07<br>0.40                      |
| Flammability, minimum percent O <sub>2</sub>         | Method 2.3.8                                | 30%                               |
| Dielectric constant, maximum (at 1 MHz)              | Method 2.5.5.3                              | 3.2                               |
| Chemical Resistance percentage                       | Method 2.3.2, Method A                      | 90%                               |
| Dissipation factor, maximum (at 1 MHz)               | Method 2.5.5.3                              | 0.015                             |
| Volume Resistivity, minimum megohm-cm                | Method 2.5.17                               | 10 <sup>9</sup>                   |
| Surface resistance minimum, megohms                  | Method 2.5.17                               | 10 <sup>5</sup>                   |
| Dielectric strength, minimum volts/mil               | ASTM-D-149                                  | 3,000                             |
| Moisture and Insulation Resistance, minimum, megohms | Method 2.6.3.2                              | 10 <sup>5</sup>                   |
| Moisture Absorption, maximum, percent                | Method 2.6.2                                | 1%                                |

- Based on 3 mil film x 1 oz treated copper. Flexural Endurance data is based on 2 mil PET x 1 oz treated copper.
- Sheldahl does not guarantee, nor will it accept obligation or liability based on the use of this data. Values may vary dependent upon material construction. All data subject to change without notice.