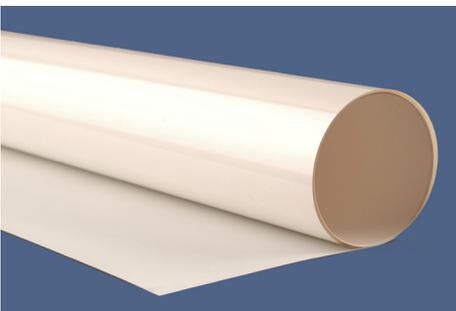


2929 Bondply Data Sheet

2929 bondply is an unreinforced, hydrocarbon based thin film adhesive system intended for use in high performance, high reliability multi-layer constructions. A low dielectric constant (2.9) and loss tangent (<0.003) at microwave frequencies makes it ideal for bonding multi-layer boards (MLB's) made using PTFE composite materials such as RT/duroid® 6000, RO4000® and RO3000® series laminates. The proprietary cross-linking resin system makes this thin film adhesive system compatible with sequential bond processing while controlled flow characteristics offer blind via fill capability and potentially predictable cutback ratios for designs requiring blind cavities.

2929 bondply is compatible with traditional flat press and autoclave bonding. The film is currently available in 0.0015", 0.002" and 0.003" sheet thicknesses (0.038mm, 0.051mm, and 0.076mm). Individual sheets can be stacked to yield thicker adhesive layers. The unreinforced thin film can be tack bonded to inner-layers to ease simultaneous machining of cut-outs through core and adhesive layers. An easy-to-release carrier film protects the adhesive layer from contamination during the machining and MLB booking processes.



Data Sheet

Features and Benefits:

- Low Dielectric constant and loss tangent
- Ideal for multi-layer bonding
- Compatible with traditional processing methods
- Compatible with a broad range of material types including PTFE composites
- Reliable through sequential bonding
- Can be tack bonded to inner-layer surfaces prior to machining cut-outs
- Excellent blind via fill capability
- Predictable control of post-bond thickness

Typical applications:

- Radar and Sensors
- Point-to-point Microwave
- Base Station Antennas
- Power Amplifiers
- Phased Array Radar
- RF Components
- Patch Antennas
- Power Backplanes

| Property | Typical Value[1] 2929 Bondply | Direction | Units | Condition | Test Method |
|--|----------------------------------|-----------|--------------------|--------------------------|-------------------------|
| Dielectric Constant, ϵ_r , Process | 2.94 ± 0.05 | Z | | 10 GHz/23°C | IPC-TM-650 2.5.5.5.1 |
| Dissipation Factor | 0.003 | Z | | 10 GHz/23°C | IPC-TM-650, 2.5.5.5 |
| Thermal Coefficient of Dielectric Constant, ϵ_r | -6 | Z | ppm/°C | -50°C - 150°C | IPC-TM-650, 2.5.5.5 |
| Volume Resistivity | 7.4 X 10 ⁹ | | MΩ·cm | 125C/24 Hours | IPC-TM-650 2.5.17.1 |
| | 5.1 X 10 ⁸ | | | 35C/90%RH/96 Hours | |
| Surface Resistivity | 8.2 X 10 ⁸ | | MΩ | 125C/24 Hours | IPC-TM-650 2.5.17.1 |
| | 1.5 X 10 ⁵ | | | 35C/90%RH/96 Hours | |
| Dielectric Strength | 2500 | Z | V/mil | 23°C/50%RH | IPC-TM-650, 2.5.6.2 |
| Coefficient of Thermal Expansion | 50 | X | ppm/°C | 0-150°C | IPC-TM-650, 2.4.41 |
| | 50 | Y | | | |
| | 50 | Z | | | |
| Thermal Conductivity | 0.4 | Z | W/m/°K | 80°C | ASTM C518 |
| Moisture Absorption | 0.1 | | % | D24/23 | ASTM D570 |
| Tg | 170 | | °C | DMA Method | IPC-TM-650 2.4.24 |
| T-288 | >30 | Z | Min | TMA | |
| Td | 400 | | °C | TGA 5% WT | ASTM D3850 |
| Specific Gravity | 1.5 | | gm/cm ³ | 23°C | ASTM D792 |
| Copper Peel Strength | 5.0 | X,Y | pli | ½ oz. EDC Post Solder | IPC-TM-650 2.4.8 |
| Flammability | N/A | | | | UL94 |
| Lead-Free Process Compatible | YES | | | | |
| Outgassing | TML | 0.42 | % | | ASTM E-595 |
| | CVCM | 0.02 | | | |
| | WVR | 0.03 | | | |

NOTES:
[1] Typical values are a representation of an average value for the population of the property. For specification values contact Rogers Corporation.

| Standard Thicknesses | Standard Panel Sizes |
|---|--|
| 0.0015" (0.038mm) +/- 10% 0.0020" (0.051mm) +/- 10% 0.0030" (0.076mm) +/- 10% | 18"X12" (457mm X 305mm) 18"X24" (457mm X 610mm) |
| *Contact Customer Service or Sales Engineering to inquire about additional available product configurations | *Additional panel sizes available |

The information in this data sheet is intended to assist you in designing with Rogers' circuit materials. It is not intended to and does not create any warranties express or implied, including any warranty of merchantability or fitness for a particular purpose or that the results shown on this data sheet will be achieved by a user for a particular purpose. The user should determine the suitability of Rogers' circuit materials for each application. Prolonged exposure in an oxidative environment may cause changes to the dielectric properties of hydrocarbon based materials. The rate of change increases at higher temperatures and is highly dependent on the circuit design. Although Rogers' high frequency materials have been used successfully in innumerable applications and reports of oxidation resulting in performance problems are extremely rare, Rogers recommends that the customer evaluate each material and design combination to determine fitness for use over the entire life of the end product.

These commodities, technology and software are exported from the United States in accordance with the Export Administration regulations. Diversion contrary to U.S. law prohibited.
RT/duroid, RO4000, RO3000, Helping power, protect, connect and the Rogers' logo are trademarks of Rogers Corporation or one of its subsidiaries.

©2022 Rogers Corporation, Printed in U.S.A. All rights reserved. Revised 1584 072822 Publication #92-159