

Technical Datasheet

Bostik, Inc.



PLIOBOND™ HT 30 Thermosetting Adhesive

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|------------------|---|
| Description | <p>PLIOBOND HT 30 thermosetting adhesive is designed as a one part, fast curing adhesive exhibiting good shelf life at ambient temperatures. PLIOBOND HT 30 adhesive will not cure below 300°F (149°C). PLIOBOND HT 30 adhesive cannot be used in applications requiring contact or solvent activation adhesives. At the hot-bonding temperature of 300°F suggested for PLIOBOND HT 30 adhesive becomes thermoplastic, creating an initial bond. To fully cure PLIOBOND HT 30 adhesive, continue exposure to temperatures of 300°F to 400°F (149°C to 204°C) for 15 minutes under a pressure of 50 psi for relatively soft substrates and higher pressures for good contact with harder substrates. Once cured, PLIOBOND HT 30 adhesive forms a resilient, thermo-set bond exhibiting excellent chemical and environmental resistance. The heat resistance of PLIOBOND HT 30 adhesive is demonstrated by its ability to withstand creep under a sustained load of 10 psi indefinitely at 500°F (260°C). In comparison, PLIOBOND 20, 30, 40 adhesives cured at ambient temperatures will exhibit creep under a shear load of 10 psi at 160°F (71°C).</p> |
| Product Benefits | <p>Table 2 shows examples of substrates and typical bond strengths. Table 3 demonstrates the heat resistance versus operating temperature of PLIOBOND HT 30 adhesive bonds measuring shear strength of cold rolled steel lap shears.</p> |
| Suggested Uses | <p>Since PLIOBOND HT 30 adhesive is thermally cured, the bond to a variety of substrates. Only a few substrates, such as polyethylene, MYLAR¹ film, and nylon, exhibited unacceptable bonds using PLIOBOND HT 30 adhesive.</p> |

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Typical Liquid
Properties at 77°F
(25°C)*

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|--|---------------------|
| Base | Nitrile/Phenolic |
| Color | Tan |
| Solids by Weight, % | 30 ± 2 |
| Solvents | MEK |
| Viscosity, Brookfield, cps, Spindle No. 3 @ 10 rpm | 5150 ± 1400 |
| Specific Gravity | 0.89 |
| Pounds per gallon | 7.41 |
| Flash point (Seta Flash) | 25°F (-4°C) |
| Estimated coverage rate | 150 – 200 sq ft/gal |

*Typical values should not be construed as a guaranteed analysis or as a specific item

¹ Registered trademark of E.I. DuPont Nemours and Company

PLIOBOND HT 30 MEETS LOS ANGELES COUNTY SCAQMD RULE 1168.

Table 2

TYPICAL ADHESION PROPERTIES

A. Lap Shear Adhesion (ASTM D-1002) - Cured at 300°F (149°C), 500 psi for 30 minutes

| SUBSTRATE | PSI |
|-------------------------------|-------|
| Cold rolled steel | 1450 |
| Galvanized iron | 1300 |
| Copper | 750 |
| Aluminum | 1300 |
| Magnesium | 600 |
| Black iron | 1000 |
| Fiberglass-Polyester laminate | 1.300 |

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B. 180° Peel at Room Temperature - Material Bonded to Cold Rolled Steel

| MATERIAL | LBS/IN | RESULT |
|-----------------------------|--------|---|
| SBR/Reclaim Compound | 17.5 | Rubber tore |
| SBR/Natural Rubber | 17.0 | Rubber tore |
| SBR | 14.5 | The adhesive pulled away from the rubber |
| Vinyl-Nitrile Rubber | 7.5 | The adhesive pulled away from the rubber |
| Nitrile Rubber | 28.0 | Rubber tore |
| NEOPRENE WHV | 23.5 | Rubber tore |
| HYPALON ¹ Resins | 14.0 | Small segments of elastomer tore |
| Butyl Rubber | 9.0 | The adhesive pulled away from the rubber |
| Vinyl Sheet | 8.5 | In general, the adhesive pulled free from the metal, but small segments of adhesive and plastic remained in the metal |
| Nylon Fabric | 5.5 | The adhesive film pulled away from the metal |
| Cotton Duck | 25.0 | The adhesive film pulled away from the metal |

¹ Registered trademark of E.I. DuPont Nemours and Company

Table 3

Table 3 shows the resistance of PLIOBOND HT 30 adhesive to shear at various temperatures on cold rolled steel bonded to itself. The temperatures were taken on the surface of the steel at the point of contact.

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SHEAR RESISTANCE OF PLIOBOND HT 30 ADHESIVE

| TEMPERATURE | Number of Pieces | PSI Average |
|------------------|------------------|-------------|
| Room Temperature | 6 | 1450 |
| 112°F (44°C) | 6 | 1007 |
| 122°F (50°C) | 5 | 708 |
| 195°F (91°C) | 4 | 288 |
| 254°F (123°C) | 5 | 228 |
| 300°F (149°C) | 3 | 101 |
| 400°F (204°C) | 3 | 67 |

*Material chars somewhat at a temperature below 500°F (260°C)

| | |
|------------------------|--|
| Handling and Safety | PLIOBOND HT 30 adhesive contains ingredients which could be harmful if mishandled. Contact with skin and eyes should be avoided and the recommended personal protective equipment should be used. Bostik maintains Safety Data Sheets on all of its products. Safety Data Sheets contain health and safety information for your development of appropriate product handling procedures to protect your employees and customers. Our Safety Data Sheets should be read and understood by all of your supervisory personnel and employees before using Bostik products in your facilities. |
| Storage and Shelf Life | When PLIOBOND HT 30 adhesive is stored indoors, out of direct sunlight, and in the original, unopened container between 60°F and 80°F (16°C and 27°C), the shelf life is six months. Always rotate stock. |
| DOT Label Requirements | Flammable Liquid, UN1133 |
| Notice | All information presented herein is believed to be accurate and reliable, and is solely for the user's consideration, investigation and verification. The information is not to be taken as an express or implied representation or warranty for which Bostik, Inc. assumes legal responsibility. Any warranties, including warranties of merchantability, fitness for use or non-infringement of |

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intellectual property rights of third parties, are herewith expressly excluded.

Since the user's product formulations, specific use applications and conditions of use are beyond the control of Bostik. Bostik makes no warranty or representation regarding the results which may be obtained by the user. It shall be the sole responsibility of the user to determine the suitability of any of the products mentioned for the user's specific application.

Bostik requests that the user reads, understands and complies with the information contained herein and the current Safety Data Sheet.