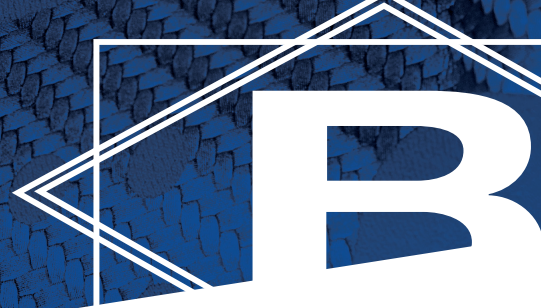


PRODUCT DATA INFORMATION



THERMOSET (X3001)

CONSTRUCTION / SEWFREE ADHESIVE

PRODUCT BENEFITS

Our lowest viscosity heat activated thermosetting polyurethane adhesive film designed to flow well at low application pressures similar to liquid adhesives. Advanced alternative to hot melt or liquid adhesive that achieves high flow and wet out at very low pressure in a clean and easy form.

- Low temperature activation, soft hand and low modulus to preserve natural look and feel of heat sensitive textiles such as delicate stretchy materials, leather, polar plastics (Nylons, PVC, Polycarbonate, ABS, Polyurethane) and glass fibers
- Crosslinking initiated during the bonding process eliminating the need for additional post-bonding cure
- Super high-temperature creep and heat resistance after bonding due to crosslinking network that is tough as well as flexible
- No surface tack at room temperature
- Can be die cut to different shapes or slit to required width
- RoHS compliant, halogen free with no VOCs

Hand Feel: Very soft with low modulus of 70A durometer

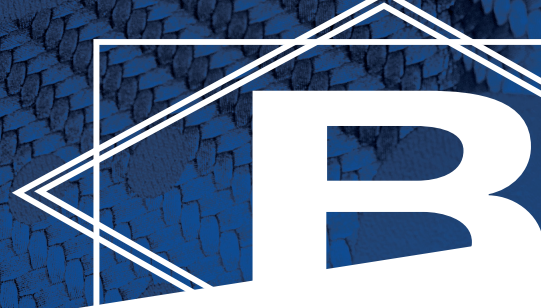
COMPOSITION

Thermosetting Polyurethane

THERMAL & PHYSICAL PROPERTIES

STOCKED COLOR	Clear
STOCKED WIDTH	1470mm (58") – product can be slit to requested widths, no less than 4 mm (.16")
RELEASE LINER	Release Paper
NOMINAL THICKNESS	25 µm (.001"), 50 µm (.002")
DENSITY	29 g/m ² per 1 mil of thickness
HARDNESS	70A post crosslink (90A pre-crosslink)
SOFTENING POINT	45°C - 60°C (113°F - 140°F) TMA onset

PRODUCT DATA INFORMATION



DURABILITY TESTING

Wash/Dry: Excellent up to 60°C

RECOMMENDED BONDING CONDITIONS¹

PRE-LAMINATION – HEAT SEAL PRESS:

TEMPERATURE	50°C to 65°C
TIME	5 to 15 seconds
PRESSURE	14.5 psi (1.0 bar)

FINAL BONDING:

GLUE LINE TEMPERATURE	75°C minimum
DWELL TIME	30 to 120 seconds
PRESSURE	14.5 psi (1.0 bar) minimum

PROCESSING NOTES²

Additional Process Techniques: X3001 has a polar chemistry, it can be activated using High Frequency also known as Radio Frequency and Ultrasonic energy. Processing parameters for HF or Ultrasonic depend on equipment and substrates – please contact your Bemis representative for more details.

Bond Strength After Heat Sealing: X3001 is a crystalline polyurethane adhesive that undergoes a heat-activated thermosetting reaction during bonding. This product needs some aging at room temperature to achieve full cure. Our testing indicates that the adhesive achieves its effective peel strength in less than **20 minutes** after bonding when stored at room temperature.

Storage Conditions: Rotate stock, using the oldest material first. X3001 has an expected shelf life of at least 24 months (from the manufactured date) when stored at temperatures below 25°C (when stored at temperatures up to 30°C, the shelf life is no less than 12 months). Product should remain in its supplied packaging until ready for use. X3001 films are not affected by humidity; however, they are supplied on a release paper that is affected by humidity. For this reason, when product is removed from its original packaging for extend periods of time, store in humidity ranges below 80%. Product should not be stored in direct sunlight or next to a heat source.

¹ Recommended bonding conditions will vary between machinery, fabrics and applications. Optimal bonding conditions should be established by Bemis and the customer for each application prior to production.

² Seller hereby excludes any express warranties and the implied warranties of merchantability and fitness for a particular purpose. The following is made in lieu of any such warranties. Bemis Associates, Inc. believes the information and specifications are reliable, but does not guarantee that any results shown or claimed will be obtained. Before using, the user shall determine the suitability and fitness of the product for its intended use. The user assumes all risks and liability whatever in connection with its own tests and use. Neither seller nor manufacturer shall be liable for any injury, loss or damage, direct or consequential, arising out of the use, misuse or inability to use the product.