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PRODUCT

3245

Version: 1

PRODUCT DESCRIPTION

3245 is a heat activated mono layer adhesive film coated on a silicone release paper. 3245 is available in several different thicknesses.

PRODUCT BENEFITS

- Low activation temperature
- Excellent adhesion to most polar plastics including Nylons, PVC, Polycarbonate, ABS, Polyurethane and various fabrics, leather, glass fiber and PU coated fabrics
- Excellent heat resistance
- No surface tack at room temperature
- Can be die cut to different shapes or slit to required width

COMPOSITION

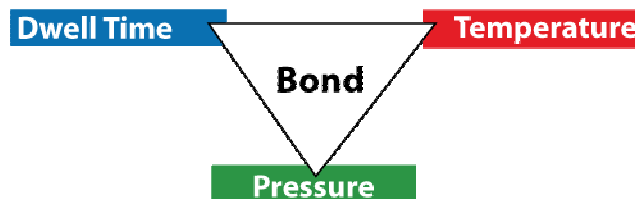
- Thermoplastic polyurethane

THERMAL & PHYSICAL PROPERTIES

- Color: Translucent
- Density: 30 g/m² per 1 mil of thickness
- Nominal Thickness: 2, 3 mils (custom gauges available)
- Substrate: Silicone Release Paper (87 g/m², nominal thickness is 3 mil)
- Hardness: 87A
- Softening Range: 70°C to 90°C TMA Onset
- Melt Flow Index: 13 dg/min *Condition: 175°C / 2.16 Kg Load*

RECOMMENDED BONDING CONDITIONS

3245 requires heat to bond. Heated press, heated roll or heated belt laminator can be used to activate the adhesive. There are three critical factors in achieving good bond strength between substrates, these are:



The ideal bonding condition (temperature, dwell time and pressure combination) depends on the substrates and type of equipment used. Bemis recommends following conditions as a general guidelines to evaluate D-3245 for an application.

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Soft Goods

Product Data Sheet

**BEMIS**

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Adhesives, Specialty Films & Seam Tape

Glue Line Temperature ¹ :	85°C – 130°C
Dwell Time:	20 – 60 seconds
Pressure:	2.8 – 5.0 Bar

¹ Glue Line Temperature (GLT) refers to the temperature of the adhesive in the bonding process. Glue line temperature must be measured to receive accurate machine settings

Note: Recommended bonding conditions will vary between different machinery and fabrics. The recommended conditions stated are a starting point only. Optimal bonding conditions should be established by the factory for the specific application

OTHER PROCESSING TECHNIQUES

3245 has a polar chemistry; it can be activated using High Frequency – HF (Also known as Radio Frequency-RF) and Ultrasonic energy. Processing parameter for HF or Ultrasonic depend on equipment and substrates.

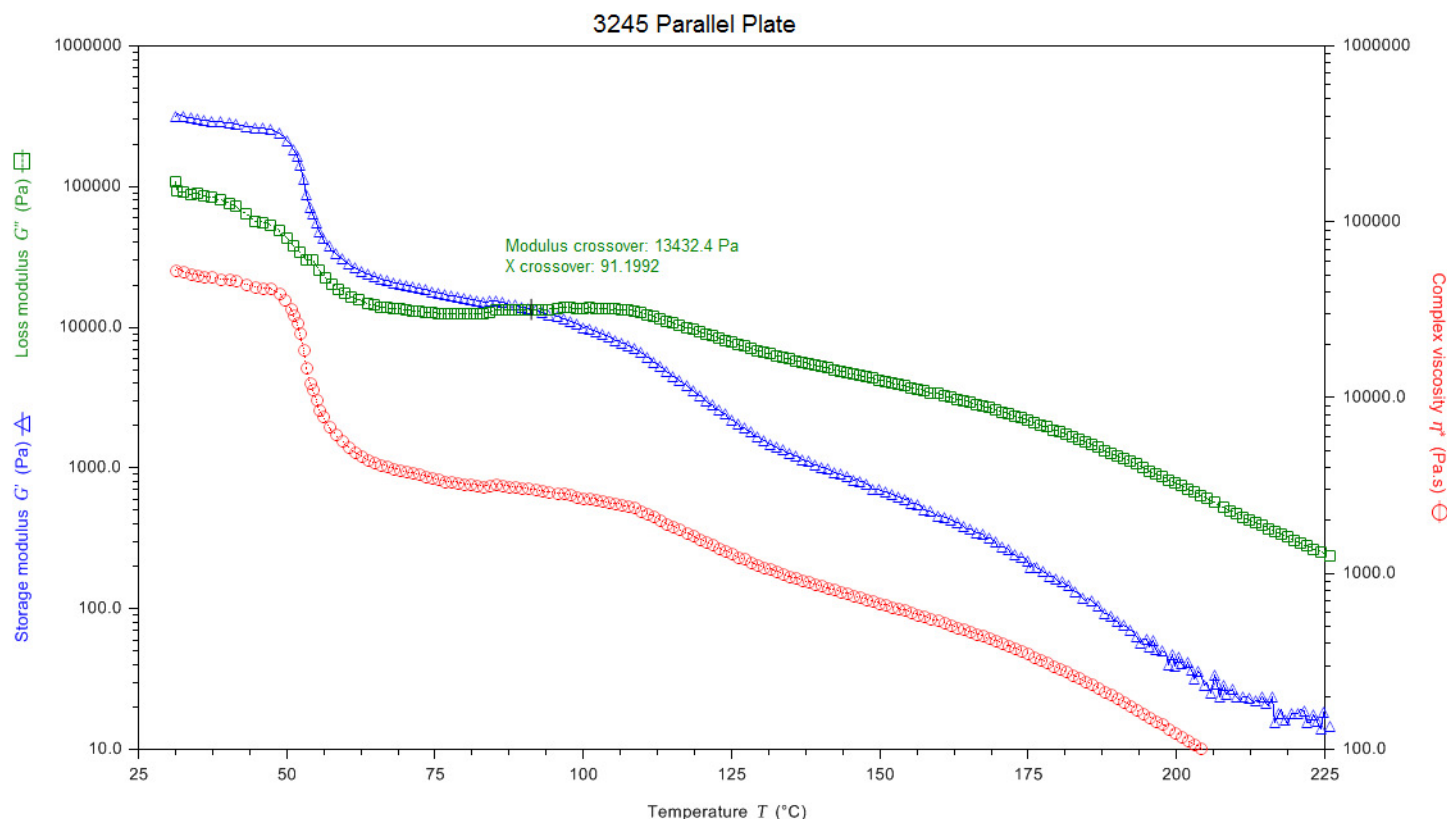
BOND STRENGTH AFTER HEAT SEALING

3245 is a crystalline polyurethane adhesive; its crystallization rate is moderate at room temperature. This product needs some aging at room temperature to achieve its highest peel strength. Our testing indicates the adhesive achieves its effective peel strength 60 minutes after bonding when stored at room temperature.

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TEMPERATURE VS. VISCOSITY CURVE:



The plot above shows results for Bemis 3245 tested using a TA Instruments AR2000EX rotational rheometer in dynamic parallel plate configuration. In a dynamic mechanical measurements, a sinusoidal strain is applied to the sample, and a resulting sinusoidal stress is collected. For viscoelastic materials, there is a phase lag between the stress and the strain due to viscoelastic dissipation. Mechanical properties such as modulus and viscosity are represented by elastic and viscous components, for example G' (elastic) and G'' (loss). The total complex modulus or viscosity is G^* or η^* . The test can be carried out as a function of temperature, test frequency, or strain. In this test of Bemis 3245, we have ramped the temperature at a rate of 5°C/minute while continuously collecting data. As would be expected, the elastic modulus and the viscosity decrease with increasing temperature. By convention, the temperature at which the elastic modulus and loss modulus cross is considered the solid-liquid transition for the material, in this case about 91°C.

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