SEWFREE® ADHESIVES
APPAREL SELECTOR GUIDE

bemisworldwide.com
BONDBING IS THE NEXT GENERATION OF CUT AND CONSTRUCT

Bemis Sewfree® Adhesives revolutionize the design and construction of garments by replacing conventional stitching, bonding materials from the lightest fabrics to the hardest materials. Sewfree® innovation goes beyond bonding to provide garments with customizable performance options - maximizing comfort and feel, enhancing aesthetic, streamlining production, replacing bulky elastics, and creating construction possibilities that are low-profile, lightweight, and durable.

SLEEKER LINES, SOFTER CORNERS, STRONGER SEAMS

BEMIS SEWFREE® ADHESIVES DELIVER SUPERIOR CONSTRUCTION OPTIONS FOR YOUR DESIGNS AND ARE ENGINEERED FOR A VARIETY OF FABRICS AND APPLICATIONS

- Hems & Seams
- Waist & Bra Bands
- Collars & Necklines
- Bonded Gussets & Panels
- Bonded Baffles
- Bra Wings & Straps
- Patch-on Pockets
- Molding & Body Shaping
- Elastic Replacement
- Arm & Leg Openings
- Zippers & Other Trims
- Cuffs, Hoods, & Storm Flaps

CONSTRUCTION
LOW PROFILE
LIGHTWEIGHT
DURABLE
PERFORMANCE

BEMIS IS A BLUESIGN® SYSTEM PARTNER WITH EXTENSIVE EXPERIENCE IN PROVIDING FILM AND TAPE SOLUTIONS.

We continue to expand our portfolio of Bluesign® approved formulas, please use the Blueguide tool for our most up-to-date list of approved products.

Most Bemis Sewfree® Adhesives are certified to the OEKO-TEX® STANDARD 100 and are developed to meet brands’ restricted substance requirements.

For more details on which items are certified, please contact your Bemis Sales Representative.

CALL YOUR BEMIS SALES REPRESENTATIVE FOR MORE INFORMATION AND SAMPLES
SEWFREE® ADHESIVE BONDING BASICS

SEWFREE® BONDING IS A COMPLETE ECOSYSTEM OF HIGH-PERFORMANCE PRODUCTS AND SERVICES. BEMIS HAS NUMEROUS SEWFREE® ADHESIVES TO MEET DIFFERENT BONDING NEEDS AND OUR PRODUCTS COME IN ALL SHAPES.

Bemis Sewfree® adhesives are manufactured and arrive as a clear, solid film on rolls that require heat to activate. In full width, our rolls can range from 1372mm to 1524mm (54” - 60”) and we offer slitting services with some products stocked at commonly slit widths such as 6mm, 8mm, or 10mm.

While most Sewfree® products come rolled with a silicone coated paper liner or PET liner, some other products arrive without a liner. Call your Bemis Sales Representative for more information on product customization such as: Flowfree™ perforation options that promote and increase breathability Versafilm™ customized engineered patterns that deliver breathability and enhanced aesthetics.

CRITICAL FACTORS IN ADHESION

- **CHEMISTRY**: Chemical properties must be a good match with the substrate.
- **TEMPERATURE**: Heat is required to melt the adhesive which initiates the bond.
- **PRESSURE**: Pressure forces melted adhesive into the substrate creating a strong bond.
- **DWELL TIME**: Appropriate time under heat and pressure ensures successful bonds.

SELECTING THE RIGHT SEWFREE®

WHAT IS THE APPLICATION?
- Zippers
- Overlap Seams
- Pockets
- Hemming
- Panel Bonding

WHAT IS THE FABRIC?
- Initial Tacking
- Hemming
- Seams

WHAT ARE THE PERFORMANCE REQUIREMENTS?
- Wide Width Lamination
- Pockets
- Panel Bonding

WHAT MACHINERY IS AVAILABLE?
- Belt Laminator
- Hand Iron
- Continuous Machine
- Hot Air Machine
## Technical Data

### Key Benefits
- Stretch Adhesive High Activation Temperature Low Modulus / Very High Recovery Enhanced Durability
- Durable bonds delivering in impeccable fit

### Material Adhesion
- A variety of fabrics and materials including Nylon, Polyester, Spandex Blends, and Cotton Blends
- Suitable for applications where low to moderate stretch is required

### Suggested Use
- Performance Wear Intimates
- Performance Wear Intimates
- Performance Wear Intimates
- Technical Outerwear Performance Wear Intimates
- Performance Wear Intimates

### Hand Feel
- Very Soft
- Softest
- Softest
- Very Soft
- Very Soft
- Soft

### Flowfree™ Technology
- Ask your Bemis Sales Rep about this custom option
- Available Product
- Available Product
- Available Product
- Made with Flowfree™ Technology
- Made with Flowfree™ Technology

### Thermal & Physical Properties

<table>
<thead>
<tr>
<th>Composition</th>
<th>Ester Polyurethane</th>
<th>Elastomer</th>
<th>Ester Polyurethane / Elastic / Polyurethane</th>
<th>Polyurethane / Spandex / Polyurethane</th>
<th>Polyurethane</th>
<th>Elastomer</th>
<th>Polyurethane</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gauge (μm)</td>
<td>25 (0.001&quot;) - 100 (0.004&quot;)</td>
<td>50 (0.002&quot;&quot;) - 150 (0.006&quot;)</td>
<td>See Above</td>
<td>200 (0.008&quot;)</td>
<td>100 (0.004&quot;)</td>
<td>50 (0.002&quot;) - 100 (0.004&quot;)</td>
<td>50 (0.002&quot;) - 100 (0.004&quot;)</td>
</tr>
<tr>
<td>Adhesive Weight</td>
<td>30 g/2m (per 25 m)</td>
<td>25 g/2m (per 25 m)</td>
<td>30 g/2m (per 25 m)</td>
<td>30 g/2m (per 25 m)</td>
<td>31 g/2m (per 25 m)</td>
<td>27.7 g/2m (per 25 m)</td>
<td>27.7 g/2m (per 25 m)</td>
</tr>
<tr>
<td>Softening Point</td>
<td>110ºC (239ºF)</td>
<td>87.9ºC (190ºF)</td>
<td>99ºC (208ºF)</td>
<td>99ºC (208ºF)</td>
<td>115ºC (239ºF)</td>
<td>95ºC (203ºF)</td>
<td>115ºC (239ºF)</td>
</tr>
<tr>
<td>Multi Flow Index</td>
<td>34dm/1g at 175ºC / 2.16 kg</td>
<td>37dm/1g at 175ºC / 2.16 kg</td>
<td>45dm/1g at 175ºC / 2.16 kg</td>
<td>45dm/1g at 175ºC / 2.16 kg</td>
<td>45dm/1g at 175ºC / 2.16 kg</td>
<td>45dm/1g at 175ºC / 2.16 kg</td>
<td>45dm/1g at 175ºC / 2.16 kg</td>
</tr>
<tr>
<td>Glue Line Temperature (ºC)</td>
<td>140ºC to 170ºC (284ºF to 338ºF)</td>
<td>130ºC to 135ºC (266ºF to 275ºF)</td>
<td>130ºC to 135ºC (266ºF to 275ºF)</td>
<td>120ºC to 165ºC (248ºF to 329ºF)</td>
<td>140ºC to 170ºC (284ºF to 338ºF)</td>
<td>110ºC to 140ºC (230ºF to 284ºF)</td>
<td>110ºC to 140ºC (230ºF to 284ºF)</td>
</tr>
</tbody>
</table>

### Elastomer Testing

<table>
<thead>
<tr>
<th>Wash/Ory</th>
<th>Excellent up to 60ºC</th>
<th>Excellent up to 60ºC</th>
<th>Excellent up to 60ºC</th>
<th>Excellent up to 60ºC</th>
<th>Excellent up to 60ºC</th>
<th>Excellent up to 60ºC</th>
<th>Excellent up to 60ºC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gauge Tested</td>
<td>50 (0.002&quot;)</td>
<td>75 (0.003&quot;)</td>
<td>200 (0.008&quot;)</td>
<td>Item Dependent</td>
<td>200 (0.008&quot;)</td>
<td>100 (0.004&quot;)</td>
<td>100 (0.004&quot;)</td>
</tr>
<tr>
<td>at 40% of Original Length</td>
<td>0.4 lb/in</td>
<td>0.3 lb/in</td>
<td>0.6 lb/in</td>
<td>Range: 0.9 lb/in - 2.4 lb/in</td>
<td>0.67 lb/in</td>
<td>1.1 lb/in</td>
<td>0.42 lb/in</td>
</tr>
<tr>
<td>at 100%</td>
<td>0.8 lb/in</td>
<td>0.5 lb/in</td>
<td>0.97 lb/in</td>
<td>Range: 1.4 lb/in - 4.0 lb/in</td>
<td>1.2 lb/in</td>
<td>2.2 lb/in</td>
<td>0.64 lb/in</td>
</tr>
<tr>
<td>Recovery</td>
<td>99%</td>
<td>100%</td>
<td>99.7%</td>
<td>Range: 99% - 100%</td>
<td>98.5%</td>
<td>97%</td>
<td>100%</td>
</tr>
</tbody>
</table>

### Recommended Bonding Conditions

| Flattop Press
<table>
<thead>
<tr>
<th>Temperature (ºC)</th>
<th>Excellent up to 150ºC</th>
<th>Excellent up to 150ºC</th>
<th>Excellent up to 150ºC</th>
<th>Excellent up to 150ºC</th>
<th>Excellent up to 150ºC</th>
<th>Excellent up to 150ºC</th>
<th>Excellent up to 150ºC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>20 to 30 seconds</td>
<td>30 to 40 seconds</td>
<td>30 to 40 seconds</td>
<td>30 to 40 seconds</td>
<td>30 to 40 seconds</td>
<td>30 to 40 seconds</td>
<td>30 to 40 seconds</td>
</tr>
<tr>
<td>Pressure</td>
<td>40 to 60 psi (2.8 to 4.2 bar)</td>
<td>45 to 55 psi (3.0 to 4.0 bar)</td>
<td>45 to 55 psi (3.0 to 4.0 bar)</td>
<td>40 to 60 psi (2.8 to 4.2 bar)</td>
<td>43.5 to 72.5 psi (3.0 to 5.0 bar)</td>
<td>40 to 60 psi (2.8 to 4.2 bar)</td>
<td>40 to 60 psi (2.8 to 4.2 bar)</td>
</tr>
</tbody>
</table>

| Continuous Bonding Machine
<table>
<thead>
<tr>
<th>Temperature (ºC)</th>
<th>Excellent up to 150ºC</th>
<th>Excellent up to 150ºC</th>
<th>Excellent up to 150ºC</th>
<th>Excellent up to 150ºC</th>
<th>Excellent up to 150ºC</th>
<th>Excellent up to 150ºC</th>
<th>Excellent up to 150ºC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>20 to 30 seconds</td>
<td>30 to 40 seconds</td>
<td>30 to 40 seconds</td>
<td>30 to 40 seconds</td>
<td>30 to 40 seconds</td>
<td>30 to 40 seconds</td>
<td>30 to 40 seconds</td>
</tr>
<tr>
<td>Pressure</td>
<td>14.3 psi (1.0 bar)</td>
<td>2.8 psi (0.1 bar)</td>
<td>2.8 psi (0.1 bar)</td>
<td>29.0 psi (2.0 bar)</td>
<td>20 to 28 psi (1.5 to 2.0 bar)</td>
<td>14.3 psi (1.0 bar)</td>
<td>14.3 psi (1.0 bar)</td>
</tr>
<tr>
<td>Speed</td>
<td>1.5 to 2.0 m/min</td>
<td>1.0 to 5.0 m/min</td>
<td>1.0 to 5.0 m/min</td>
<td>1.0 to 5.0 m/min</td>
<td>0.8 to 1.5 m/min</td>
<td>1.5 to 2.0 m/min</td>
<td>1.5 to 2.0 m/min</td>
</tr>
</tbody>
</table>

### Additional Notes
1. Contact your Bemis Sales Representative for more detail and data on Bemis Flowfree™ technology.
2. Custom gauges may be available.
3. Glue Line Temperature relates to the temperature the adhesive must reach during bonding to achieve optimal bond strength.
4. Recovery after 100场所 is the rate of 20% per minute.
5. Recommended bonding conditions may vary between machinery, fabrics and applications. Optimal bonding conditions should be established by Bemis and the customer for each application prior to production.
## TECHNICAL DATA

### Key Benefits
- **Excellent Durability**: Engineered for applications where molding may be required.
- **High Activation Temperature**: Medium Modulus / High Recovery.

### Material Adhesion
- A variety of fabrics and materials including Nylon, Polyester, Spandex Blends, and Cotton Blends.

### Recommended Bonding Conditions

<table>
<thead>
<tr>
<th>Condition</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow Rate</td>
<td>150 μm (.006&quot;)</td>
</tr>
<tr>
<td>Activation</td>
<td>High</td>
</tr>
<tr>
<td>Temperature</td>
<td>Medium Modulus / High Recovery</td>
</tr>
</tbody>
</table>

### Footnotes
1. Contact your Bemis Sales Representative for more detail and data on Bemis Flowfree™ technology.
2. Custom gauges may be available.

---

### TECHNICAL OVERVIEW

**PRODUCT OVERVIEW**

- **3410 Sewfree® Adhesive**: Designed to be used on a variety of materials including DWR-coated fabrics.
- **3415 Sewfree® Adhesive**: Designed to be used on a variety of fabrics and materials including PU and PU/Vinyl coated textiles.
- **3405 Sewfree® Adhesive**: Designed to add durability in products that need to withstand daily wear and tear.
- **3206 Bio-Based Sewfree® Adhesive**: Designed to be used on fabric substrates.
- **3700 Nyltech™**: Designed to be used on a variety of materials including DWR-coated fabrics.
- **3218 Sewfree® Adhesive**: Designed to be used on a variety of materials including DWR-coated fabrics.
- **3186 BioPreferred®**: Supports mechanical recycling process of monomaterial polyester garments.
- **3526 Sewfree® Adhesive**: Supports mechanical recycling process of mono-material polyester garments.

### THERMAL & PHYSICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Composition</strong>: Ester Polyurethane</td>
<td>Polyurethane</td>
</tr>
<tr>
<td><strong>Polyester</strong>: Polyester</td>
<td>Polyester</td>
</tr>
</tbody>
</table>

### DURABILITY TESTING

<table>
<thead>
<tr>
<th>Condition</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wear</td>
<td>Excellent up to 40ºC / Medium Modulus / High Recovery</td>
</tr>
<tr>
<td>Resistance</td>
<td>Medium Modulus / High Recovery</td>
</tr>
</tbody>
</table>

### TUMBLE DRYING RESISTANCE

<table>
<thead>
<tr>
<th>Condition</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dry Cleaning</td>
<td>Excellent up to 60ºC / Tumble Dry Low</td>
</tr>
<tr>
<td>Cleaning</td>
<td>Excellent up to 40ºC / Dry Cleaning Resistant</td>
</tr>
</tbody>
</table>

### MODULUS & RECOVERY OF 25-MM (1") WIDE SAMPLE

<table>
<thead>
<tr>
<th>Condition</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gauge Tested</td>
<td>50 μm (.002&quot;)</td>
</tr>
<tr>
<td>Adhesive Weight</td>
<td>50 μm (.002&quot;)</td>
</tr>
<tr>
<td>Softening Point</td>
<td>200ºC to 250ºC</td>
</tr>
<tr>
<td>Multiflow Index</td>
<td>10 dg/min at 175ºC / 2.16 kg</td>
</tr>
<tr>
<td>Glassline Temperature</td>
<td>160ºC to 190ºC (320ºF to 376ºF)</td>
</tr>
</tbody>
</table>

### CONTINUOUS BONDING MACHINE

<table>
<thead>
<tr>
<th>Condition</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature</td>
<td>Not Recommended</td>
</tr>
<tr>
<td>Pressure</td>
<td>Not Recommended</td>
</tr>
<tr>
<td>Speed</td>
<td>Not Recommended</td>
</tr>
</tbody>
</table>