

SOLUTION DATA SHEET

# Unique Pearlbond™ 300 Series, Soft TPU for Film & Sheet Thermobonding Adhesives



<b>Markets</b>	Textile lamination, footwear, leather goods, electronics and transportation and elastic seam tape.
<b>Polymer</b>	Pearlbond™ thermoplastic polyurethane (TPU)
<b>Key Benefits</b>	<ul style="list-style-type: none"> <li>• Plasticizer-free, soft material (approx. 55-70 Shore A)</li> <li>• Soft touch, good haptics</li> <li>• Improved processability and wide wettability</li> <li>• Good adhesion properties at low temperatures</li> <li>• Rigid system modifier</li> </ul>

The textile lamination market has always required polymers with a soft feel. Until recently, the only technology available with this characteristic was plasticized TPU. The challenge for the TPU industry was to eliminate the plasticizer while maintaining the low hardness and tack-free properties of the TPU.

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This challenge has been overcome by Lubrizol technology: Tin- and wax-free Pearlbond 300 series combines all the demands from the industry: A very soft, plasticizer-free material with good processability, and no residual tack.

**The soft, adhesive melting temperature of Pearlbond™ 300 TPU series fills the gap between crystalline and amorphous TPU**

This novel TPU range is a powerful thermobonding option for designers and manufacturers who want to convert their products into unique solutions. The advanced science of this technology, combined with recent advances in machinery and the increasing sophistication of textiles, delivers benefits such as an agreeable soft touch texture, absence of residual surface tackiness, excellent processing properties and good grip/anti-slip properties.

**Pearlbond™ 300 and Pearlbond 301** solutions provide:

- Superior soft hand feel in textiles (jackets, shirts, skirts, dresses, trousers, pullovers, shirts, beach towels, table linen, curtains, leather, synthetic leather, Kevlar, ABS, and PVC, among others)
- Good adhesion to fabrics (e.g.: cotton, acrylic, nylon, silk, and polyester)
- Good wash resistance.

The portfolio available can be seen below:

	Pearlbond™ 300	Pearlbond™ 301
Shore A hardness	70	55
Tensile Strength (MPa)	9	9
Elongation @ break (%)	855	1050
Modulus @ 100% Elongation	1.8	1.1
Activation Temperature (°C)	<80	≤100
Wash Resistance (°C)	<40	<60
Unique Features	Soft touch. Very low activation temperature	Soft touch. Adapts to body movement

Pearlbond 300 material stands out as the lowest viscosity, soft TPU that can be processed on highly demanding equipment such as slot dies. Both grades offer outstanding gel-free properties which makes them ideal to convert into high-quality films via flat die and extruded blown film process.

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These innovative solutions can be processed across a wide temperature window. The new Pearlbond offering provides elastomeric performance together with the appropriate recovery. This results in pleasant-to-wear garments.

Typical industries and applications that can benefit from the Pearlbond™ 300 TPU series include:

- Textile lamination
- Automotive
- Footwear
- Electronics
- Outdoor equipment
- Furniture
- Synthetic leather & Leather
- Elastic seam tapes
- Heat transfer labels



For more information, please visit our web site: [www.lubrizol.com/Engineered-Polymers](http://www.lubrizol.com/Engineered-Polymers)

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