

SOLUTION DATA SHEET

Unique, Soft Pearlbond™ 301 TPU for Film & Sheet Thermobonding Adhesives



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

The textile lamination market has always required polymers with a soft feel. Before, 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 301 TPU combines all the demands from the industry: A very soft, plasticizer-free material with good processability, and no residual tack.

Its soft, adhesive melting temperature fills the gap between crystalline and amorphous TPU

This resin 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™ Pearlbond 301 TPU provides:

- 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 key performance values can be seen below:

Pearlbond™ 301 TPU	
Shore A hardness	55
Tensile Strength (MPa)	9
Elongation @ break (%)	1050
Modulus @ 100% Elongation	1.1
Activation Temperature (°C)	≤100
Wash Resistance (°C)	<60
Unique Features	Soft touch. Adapts to body movement

Figure 1: Main properties of Pearlbond 301 TPU

Pearlbond 301 TPU is gel-free, making it ideal for its conversion into high-quality films via flat die and extruded blown film process.

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This innovative solution 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 it are:

- 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:

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