

SOLUTION DATA SHEET

Breathable Pearlbond™ TPU For HMAs on Difficult-To-Bond Fabrics



Markets	Textiles, apparel (seam tapes, heat-transfer labels), footwear and conveyor belts
Polymer	Pearlbond thermoplastic polyurethane (TPU)
Key Benefits	<ul style="list-style-type: none"> • Outstanding adhesion to fabrics (cotton, Elastane/polyamide and polyester) • Superior resistance to hydrolysis and microorganisms • Solubility in MEK • Low activation temperature • Oeko-Tex compliant

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Market demands for hot melt adhesives are increasingly varied and complex. Lubrizol works relentlessly to improve formulations and offer material solutions that take into consideration the latest trends. One of the most recent breakthrough technologies is now available with **Pearlbond 360**: Soft, plasticizer-free breathable TPU for advanced thermobonding applications.

Pearlbond 360 is a novel TPU with the following breakthrough features: It combines very good bonding strength to a multitude of fabrics with plasticizer-free softness (68 Shore A). Thanks to its polyether backbone chemistry, it brings additional value to end-users in terms of optimum breathability, resistance to microorganisms and fungus. Its durability is also increased thanks to its good wash resistance.

Pearlbond 360 can easily be converted into high-quality film via the T-die and extrusion blown film processes. It requires low energy for stretching (low modulus: 2 MPa @100%). This new Pearlbond solution goes a step further: its low activation temperature ($\leq 120^{\circ}\text{C}$) allows it to be combined with delicate fabrics because it preserves delicate substrates from being damaged.

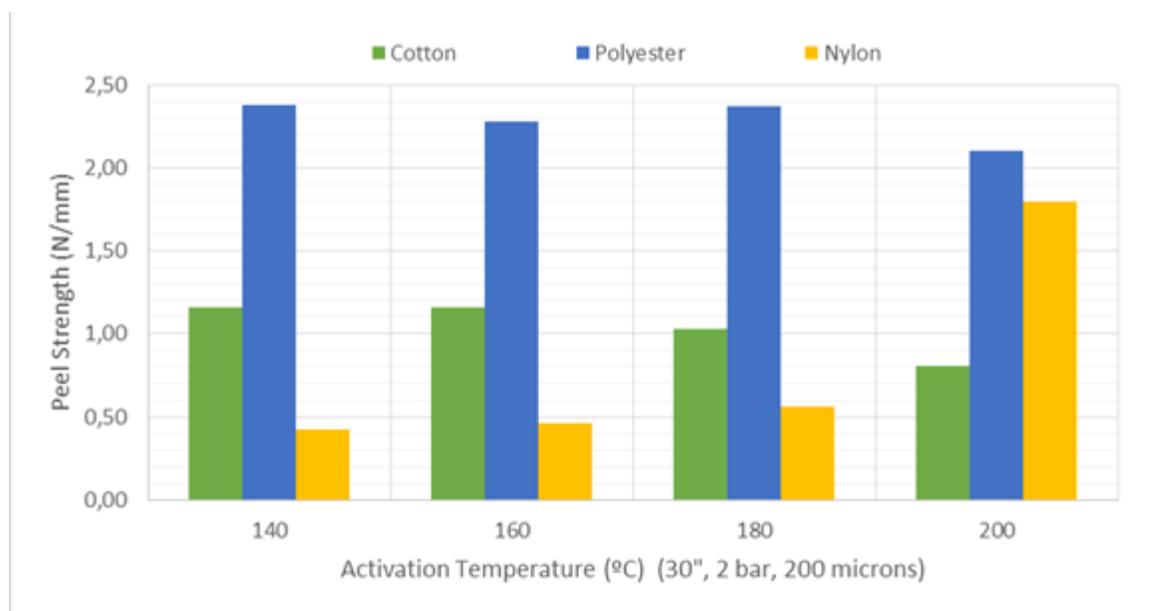


Figure 1: Pearlbond 360 has very good adhesion to fabrics.

Pearlbond 360 bonds well to polyester, polyether, cotton and non-woven fabrics and its good elastomeric properties make it very suitable for stretchable garments. This new, UV-stabilized material has good recovery properties that provide optimum stretch and recovery while maintaining top performance features over time. It strengthens the performance of garments without compromising the flexibility and soft hand feel.

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Its breathable performance can be observed below:

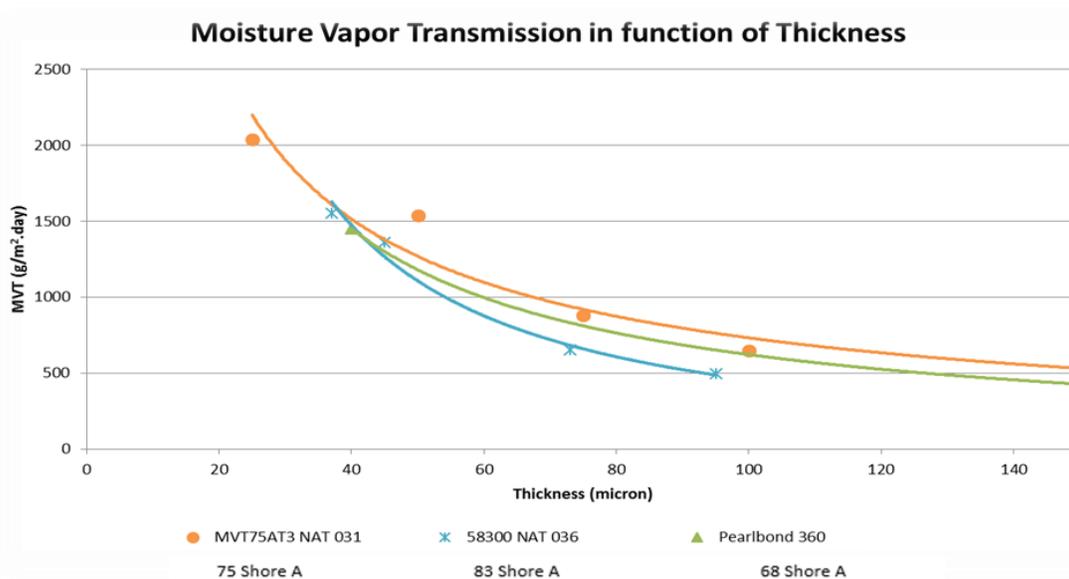


Figure 2: Values of Moisture Vapor Transmission

Breathable, hot melt film technology absorbs moisture and releases it in the form of vapor.

Typical applications for breathable Pearlbond 360 TPU include:

- High antimicrobial- and hydrolysis-resistant textiles, such as military and marine
- Technical outerwear, athletic performance wear and intimates
- Tie coats for conveyor belts and life jackets
- Synthetic leather and leather goods



Without sacrificing performance, Pearlbond 360 TPU technology keeps alive the airiest of aspirations for fabric designs and formulations in diverse end applications. It is the secret ingredient for high-performing, more comfortable designs in support of clothes that breathe, stretch and recover with the individual. The broad, Pearlbond specialties cater for the solutions required today by hot melt adhesive manufacturers.

For more information, please visit our web site: <http://www.lubrizol.com/Engineered-Polymers>

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