



## OVERVIEW

Bio TPU™ by Lubrizon is a revolutionary line of bio-based\* TPU (thermoplastic polyurethane) that's made with renewable-sourced material (content ranging from approximately 30%–70%). Bio TPU by Lubrizon provides the same performance and benefits as traditional petroleum-based TPU and can range in hardness from 82 Shore A to 55 Shore D.

Paired with a commitment to the responsible use of natural resources and innovations in technologies derived from renewable sources, Lubrizon serves the most technically demanding market segments. Designers from the sports, footwear, electronics and automotive industries, among others, are embracing bio-based polymers and Lubrizon's forward thinking.

## PRODUCTS

### Pearlthane® ECO

Pearlthane® ECO is a bio-based line of polymers made with renewable material content from 29% of total volume. These resins can be processed through injection molding and extrusion and offer a low density as compared to their petroleum-based counterparts.

### Pearlbond® ECO

Pearlbond® ECO is Lubrizon's bio-based TPU with high renewable material content and high thermoplasticity. Pearlbond can be added to reactive hot-melt (HMPUR) formulations to improve crystallization speed and is also used for hot-melt adhesives in heat-sealable fabrics and in toe puffs and counters.

## BENEFITS

- Superior abrasion resistance
- Very good chemical resistance
- Cold temperature flexibility
- UV and hydrolysis resistance
- Transparency
- Outstanding mechanical properties
- Processed via injection molding or extrusion

\*Bio-based content as determined according to ASTM-D6866.



## AVAILABLE PRODUCTS:

TPU for HMPUR formulations and hot-melt adhesives:

Product	Percentage of bio-based content*	Comment
Pearlbond® ECO 590	67%	Extremely high crystallization rate and very high thermoplasticity. Additives for HMPUR. Applied by extrusion and sintering.

TPU for injection molding and extrusion:

Product	Percentage of bio-based content*	Hardness	Comment
Pearlthane® ECO D12T80E	43%	82 Shore A	Food-contact grade.
Pearlthane® ECO D12T90E	37%	91 Shore A	Food-contact grade.
Pearlthane® ECO 12T95	32%	95 Shore A	UV-stabilized.
Pearlthane® ECO D12T55D	29%	55 Shore D	

## APPLICATIONS

### Industrial

- Hoses
- Timing belts
- Automotive interior parts
- Textile coatings for shoe stiffeners (toe puffs and counters)
- Formulations of reactive polyurethane hot melts (HMPUR)
- Various molded parts
- Housing/Overmolded grips

### Sports & Recreation

- Footwear
- Goggles
- Watchbands
- Sports equipment

### Electronics

- Smartphones
- Headphones
- Consumer goods and appliances



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**LUBRIZOL**  
ENGINEERED  
POLYMERS

**ADVANCING MATERIALS.  
ELEVATING PERFORMANCE.**

