

SOLUTION DATA SHEET

Pearlthane and ESTANE TPU For Specialty Gear Knobs



Markets	Interior automotive applications
Polymer	Aromatic and Aliphatic Pearlthane™ thermoplastic polyurethane (TPU)
Key Benefits	<ul style="list-style-type: none"> • Improved abrasion and scratch resistance • Matt finish • Fast molding • Low density

Interior TPU automotive applications like gear knobs require outstanding abrasion and scratch resistance. In the automotive industry, manufacturers are focusing on using lighter colors and aesthetic materials to meet design requirements without sacrificing quality.

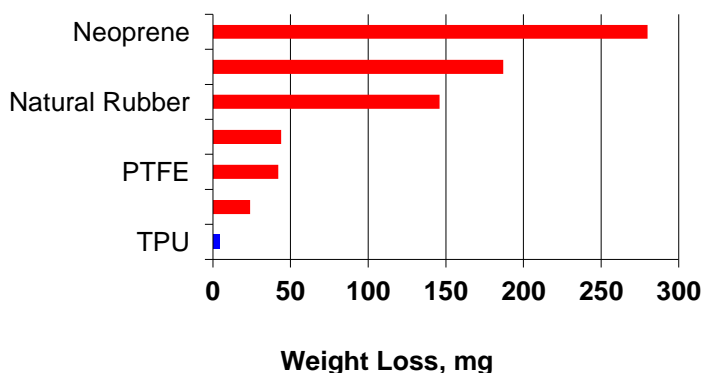
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Because of their unique set of properties, Lubrizol Engineered Polymers' TPUs are the material of choice for high-quality automotive interior parts.

Lubrizol TPUs offer a wide range of solutions to meet the automotive industry demands:

- **Pearlthane™ 11T85UV** TPU provides a matt finish, and improved abrasion and scratch resistance over PVC. It has been developed for dark and deep colors.
- **ESTANE® D91T80 and D91T86** TPU aliphatic-based solutions are especially suited for automotive molded parts designed for use with light colors, such as beige or silver grey. These materials offer long-term color fastness in addition to the toughness and scratch resistance of traditional TPUs. This makes them a material of choice in automotive interior applications.

Due to their excellent aesthetic properties, both aromatic Pearlthane 11T85UV and aliphatic (color-stable) Pearlthane 91T85 are ideal for a PVC replacement process. In addition, their low density assures faster moulding performance due to reduced cycle times, with the respective cost-savings.



Source: Handbook of Thermoplastic Elastomers, Litton Educational Publishing.

Summary of benefits obtained by using Pearlthane 11T85UV and aliphatic ESTANE TPU:

- Easy flow for greater design flexibility
- Outstanding adhesion to engineering plastics like ABS and PC
- Excellent abrasion and scratch resistance, even in coloured grades
- Good mechanical properties, such as improved tensile strength
- Matt finish and soft “rubbery” feel guaranteed while maintaining TPU benefits.

Bio TPU™ by Lubrizol is also applied in gear knobs. The bio-based ESTANE ECO range (previously known as Pearlthane ECO) includes ECO 12T85E, ECO 12T90E, ECO 12T95 and ECO 12T55D TPU resins, with 43%, 37%, 32% and 29% of bio-based content, respectively, as certified according to ASTM-D6866. The bio-based material alternatives –which have the same or better performance as traditional TPU from petroleum sources– have widened the polymer offering for automotive interiors.

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

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