

SOLUTION DATA SHEET

Estane® TPU for Hoses Involved in Food Contact



Markets	Industrial hoses, food handling
Polymer	Estane® 58300 NAT 036 thermoplastic polyurethane (TPU)
Key Benefits	<ul style="list-style-type: none"> • Food contact grade • Low temperature flexibility • Very good UV stability • Very good abrasion resistance

One of the major challenges for hose manufacturers is ensuring a reliable transportation of a variety of different materials. The polymer used to produce the hose makes a large difference in this reliability. A

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long history of proven performance in hose made from durable polymers with versatile functionalities (such as material handling or transfer) brings us to today’s technologies developed by Lubrizol Engineered Polymers. Since Lubrizol launched the world’s first commercial TPU grade in 1959, the use of Estane TPU as a custom solution has expanded to ensure you make hoses with better performance that meet very stringent specifications needed for food compliance.

Lubrizol has developed Estane TPU resins specifically for hose made from materials composed of ingredients that are allowed under the current EU and US regulations for materials intended to come in contact with food. Estane® 58300 NAT 036 TPU is UV-stabilized, enhances flow properties, and guarantees easy processing and water tightness. This polyether-based polymer offers very good hydrolysis and microbial resistance, easy cleaning and good adhesion with the hose wall. Hose made of this material have very good chemical and oil resistance, are very flexible even at low temperatures without reducing the flow capacity, and other high-performing benefits even in demanding environments.

Estane 58300 NAT 036 TPU properties:

Physical Properties	Value (Metric)	Unit	Test Method
Hardness	82	Shore A	ISO 868
Abrasion Resistance	34	mm³	ISO 4649-A
Tensile Strength	32	MPa	ISO 527-2/5A/500
Ultimate Elongation	670	%	ISO 527-2/5A/500
Tensile Stress at 50% Elongation	4	MPa	ISO 527-2/5A/500
100 % Elongation	5	MPa	ISO 527-2/5A/500
300 % Elongation	8	MPa	ISO 527-2/5A/500
Suitable to deliver food contact material in accordance to Reg. EU [n°10/2011 and FDA Regulations (title 21 CFR 177.2600)]*			



**Migration studies will have to be performed to confirm the suitability in the intended applications on an individual customer base.*

Lubrizol’s innovative engineered polymer TPU portfolio offers a wide-range of highly versatile materials to be applied in hoses with outstanding abrasion-, hydrolysis- and high heat resistance. The use of Estane 58300 NAT 036 results in flexible, lightweight hoses resistant to several chemicals and to extreme weather conditions, and EU/ FDA food contact compliance.

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**Possible Applications of Estane® 58300 NAT 036 TPU:**

For suction and transport hoses, in general, in the food and agricultural industries: water hoses, materials handling hoses, cooling hoses, and other hoses in the food, brewing and grain industries. It is the ideal solution for hoses that deliver food liquids, beverages, fruit juices, and also to transfer such foodstuffs as drinking water, products, fats, oils, etc.

For street cleaning vehicles, in the chemical industry, and for all applications where a special microbial resistance is required. This product is also suitable for other industrial markets such as roofing membranes, films and tubes.

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

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