

Technical Data Sheet

Type: Estane® 54610 is an 85A aromatic Polyester-Based Thermoplastic Polyurethane (TPU).

Features: Good physical properties and chemical resistance and wide processing window for calendering.

Uses: Melt coating/calendering, flat die/cast film extrusion.

Physical Properties	Value (Metric)	Unit	Test Method
Hardness (5 sec)	85 +/- 3	Shore A	ASTM D-2240
Specific Gravity	1.20		ASTM D-792
Tensile Strength	5400 (37.2)	psi (MPa)	ASTM D-412
Ultimate Elongation	620	%	"
Tensile Stress at			
- 100 % Elongation	770 (5.3)	psi (MPa)	ASTM D-412
- 300 % Elongation	1200 (8.3)	psi (MPa)	"
Tear Strength			
Graves	400 (7.2)	lb/in (kg/mm)	ASTM D-624 (die C)
Trouser	150 (2.7)	lb/in (kg/mm)	ASTM D-470
Taber Loss (1000 rev)	0.0012 (34)	oz (mg)	ASTM D-3389 (H18, 1000g)
T _m (by DSC)	248 (120)	°F (°C)	Lubrizol Advanced Materials
T _g (by DSC)	-13 (-25)	°F (°C)	Lubrizol Advanced Materials

- Prior to testing samples were conditioned at 23°C for 48 hours.
- Based on extruded sheet (30 mils).
- Listed values are "typical (average) values" and should / cannot be applied for specification purposes.

Supply Form and Standard Packaging

- Estane® 54610 TPU is supplied in pellet form and packaged in 50 lb bags or 1000 lb boxes.

Material Preparation

- Prior to processing, Estane® 54610 TPU must be dried at 220°F (104°C) for 2-4 hours.
- It is recommended to dry the material in a desiccant type dryer. Target dew point should be -40°C.
- Depending on the applied processing technique, the maximum moisture level should be 0.02%.

Processing Conditions

- Estane® 54610 TPU can be processed on any conventional extruder.

The information contained herein is believed to be reliable, but no representations, guarantees or warranties of any kind are made as to its accuracy, suitability for particular applications or the results to be obtained. The information often is based on laboratory work with small-scale equipment and does not necessarily indicate end product performance or reproducibility. Formulations presented may not have been tested for stability and should be used only as a suggested starting point. Because of the variations in methods, conditions and equipment used commercially in processing these materials, no warranties or guarantees are made as to the suitability of the products for the applications disclosed. Full-scale testing and end product performance are the responsibility of the user. Lubrizol Advanced Materials, Inc. shall not be liable for and the customer assumes all risk and liability for any use or handling of any material beyond Lubrizol Advanced Materials, Inc.'s direct control. The SELLER MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Nothing contained herein is to be considered as permission, recommendation nor as an inducement to practice any patented invention without permission of the patent owner.



Recommended Starting Extrusion Temperature Profile:

	°F/°C
Zone 1	340/171
Zone 2	350/177
Zone 3	360/182
Zone 4	370/188
Adapter (5)	370/188
Die Zone 1 (6)	370/188
Die Zone 2	370/188

Melt Temp. Mid-Range: 365°F/185°C
Screen Pack Recommendation: 20/40/80

Application Information: High Performance Film & Sheet

Properties	Value (Metric)	Unit	Test Method
Tensile Set (200% elongation)	11	%	ASTM D-412
USP Class VI Status	Not Tested		
FDA 177.1680 (dry bulk foods)	COMPLIES		
FDA 177.2600 (wet/fatty foods)	COMPLIES		

*For repeat use applications only.

For further information refer to Lubrizol Advanced Materials processing guides.

The information contained herein is believed to be reliable, but no representations, guarantees or warranties of any kind are made as to its accuracy, suitability for particular applications or the results to be obtained. The information often is based on laboratory work with small-scale equipment and does not necessarily indicate end product performance or reproducibility. Formulations presented may not have been tested for stability and should be used only as a suggested starting point. Because of the variations in methods, conditions and equipment used commercially in processing these materials, no warranties or guarantees are made as to the suitability of the products for the applications disclosed. Full-scale testing and end product performance are the responsibility of the user. Lubrizol Advanced Materials, Inc. shall not be liable for and the customer assumes all risk and liability for any use or handling of any material beyond Lubrizol Advanced Materials, Inc.'s direct control. The SELLER MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Nothing contained herein is to be considered as permission, recommendation nor as an inducement to practice any patented invention without permission of the patent owner.

