

Technical Data Sheet

Type: Estane® 54600 is a 92A aromatic Polyester-based thermoplastic polyurethane (TPU).

Features: Very 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)	92 +/- 3	Shore A	ASTM D-2240
Specific Gravity	1.22		ASTM D-792
Tensile Strength	8500 (58.6)	psi (MPa)	ASTM D-412
Ultimate Elongation	490	%	"
Tensile Stress at			
- 100 % Elongation	1400 (6.9)	psi (MPa)	ASTM D-412
- 300 % Elongation	3600 (24.8)	psi (MPa)	"
Tear Strength			
Graves	640 (11.4)	lb/in (kg/mm)	ASTM D-624 (die C)
Trouser	170 (3.0)	lb/in (kg/mm)	ASTM D-470
Taber Loss (1000 rev)	0.00159 (45)	oz (mg)	ASTM D-3389 (H18, 1000g)
T _m (by DSC)	266 (130)	°F (°C)	Lubrizol Advanced Materials
T _g (by DSC)	-4 (-20)	°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® 54600 TPU** is supplied in pellet form and packaged in 50 lb bags or 1000 lb boxes.

Material Preparation

- Prior to processing, **Estane® 54600 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® 54600 TPU** can be processed on any conventional extruder.

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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)	380/193
Die Zone 1	380/193
Die Zone 2	380/193

Melt Temp. Mid-Range: 375°F/191°C
Screen Pack Recommendation: 20/40/80

Application Information: High Performance Film & Sheet

Properties	Value (Metric)	Unit	Test Method
Tensile Set (200% elongation)	30	%	ASTM D-412
Kofler Melt Point	284 (140)	°F (°C)	Lubrizol Advanced Materials
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.

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