



Estane® 54640 TPU

Lubrizol Advanced Materials, Inc. - Thermoplastic Polyurethane Elastomer (Polyether)

Wednesday, November 6, 2019

General Information

Product Description

Type: Estane® 54640 is an 85A aromatic Polyether-Based Thermoplastic Polyurethane (TPU).

Features: Very good physical properties and hydrolysis resistance and wide processing window for calendering.

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

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East	• Europe	• North America
	• Asia Pacific	• Latin America	
Features	• Aromatic	• Good Processability	• Hydrolysis Resistant
Uses	• Coating Applications		
Agency Ratings	• FDA 21 CFR 177.1680	• FDA 21 CFR 177.2600	• NSF STD-61
RoHS Compliance	• RoHS Compliant		
Forms	• Pellets		
Processing Method	• Calendering	• Extrusion	
	• Cast Film	• Extrusion Coating	

ASTM & ISO Properties¹

	Nominal Value	Unit	Test Method
Physical			
Density / Specific Gravity	1.13		ASTM D792
Elastomers			
Tensile Set (200% Strain)	14	%	ASTM D412
Tensile Stress (100% Strain, 0.0300 in)	899	psi	ASTM D412
Tensile Stress (300% Strain, 0.0300 in)	1700	psi	ASTM D412
Tensile Strength (Break, 0.0300 in)	6600	psi	ASTM D412
Tensile Elongation (Break, 0.0300 in)	520	%	ASTM D412
Tear Strength ² (0.0300 in)	392	lbf/in	ASTM D624
Tear Strength (Split)	120	lbf/in	ASTM D470
Hardness			
Durometer Hardness (Shore A, 5 sec)	82 to 88		ASTM D2240
Thermal			
Glass Transition Temperature	-56.2	°F	DSC
Melting Temperature	275	°F	DSC
Aging			
Change in Volume (73°F, 24 hr, in Water)	1.3	%	ASTM D471

Processing Information

	Nominal Value	Unit
Extrusion		
Drying Temperature	219	°F
Drying Time	2.0 to 4.0	hr
Suggested Max Moisture	0.020	%
Cylinder Zone 1 Temp.	340	°F

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Extrusion	Nominal	Value	Unit
Cylinder Zone 2 Temp.	351	°F	
Cylinder Zone 3 Temp.	360	°F	
Cylinder Zone 4 Temp.	370	°F	
Adapter Temperature	370	°F	
Melt Temperature	365	°F	
Die Temperature	370	°F	

Extrusion Notes

Dew Point: -40°C

Screen Pack Recommendation: 20/40/80/20

Notes

¹ Typical properties: these are not to be construed as specifications.

² Die C