

Estane® 54640 TPU

Thermoplastic Polyurethane Elastomer (Polyether)

Lubrizol Advanced Materials, Inc.

Message:

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 Information	
Features	Aroma
	Workability, good
	Hydrolysis resistance
Uses	Coating application
Agency Ratings	FDA 21 CFR 177.1680
	FDA 21 CFR 177.2600
	NSF 61
RoHS Compliance	RoHS compliance
Forms	Particle
Processing Method	Extrusion
	Extrusion coating
	cast film
	Calendering

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.13	g/cm ³	ASTM D792
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore A, 5 sec)	82 - 88		ASTM D2240
Elastomers	Nominal Value	Unit	Test Method
Tensile Set (200% Strain)	14	%	ASTM D412
Tensile Stress			ASTM D412
100% strain, 0.762mm	6.20	MPa	ASTM D412
300% strain, 0.762mm	11.7	MPa	ASTM D412
Tensile Strength (Break, 0.762 mm)	45.5	MPa	ASTM D412
Tensile Elongation (Break, 0.762 mm)	520	%	ASTM D412
Tear Strength			
0.762 mm ¹	68.6	kN/m	ASTM D624
Cracking	21	kN/m	ASTM D470
Aging	Nominal Value	Unit	Test Method
Change in Volume (23°C, 24 hr, in water)	1.3	%	ASTM D471

Thermal	Nominal Value	Unit	Test Method
Glass Transition Temperature	-49.0	°C	DSC
Melting Temperature	135	°C	DSC
Extrusion	Nominal Value	Unit	
Drying Temperature	104	°C	
Drying Time	2.0 - 4.0	hr	
Suggested Max Moisture	0.020	%	
Cylinder Zone 1 Temp.	171	°C	
Cylinder Zone 2 Temp.	177	°C	
Cylinder Zone 3 Temp.	182	°C	
Cylinder Zone 4 Temp.	188	°C	
Adapter Temperature	188	°C	
Melt Temperature	185	°C	
Die Temperature	188	°C	
Extrusion instructions			
Dew Point: -40°C Screen Pack Recommendation: 20/40/80/20			
NOTE			
1.	C mould		

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