

Estane® 58309 TPU

Thermoplastic Polyurethane Elastomer (Polyether)

Lubrizol Advanced Materials, Inc.

Message:

Type: Estane® 58309 is an 85A aromatic Polyether-Based Thermoplastic Polyurethane (TPU).

Features: Good Physical Properties and Reduced Surface Tack.

Uses: Flat Die/Cast Film and Blown Film Extrusion, Injection Molding

General Information			
Features	Aroma		
Uses	Blown Film cast film		
Agency Ratings	FDA 21 CFR 177.2600 NSF 61		
RoHS Compliance	RoHS compliance		
Forms	Particle		
Processing Method	Blow film Extrusion cast film Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.13	g/cm ³	ASTM D792
Molding Shrinkage - Across Flow	1.4	%	ASTM D955
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)	19	%	ASTM D412
Tensile Stress			ASTM D412
100% strain, 0.762mm	6.20	MPa	ASTM D412
300% strain, 0.762mm	11.0	MPa	ASTM D412
Tensile Strength (Break, 0.762 mm)	44.8	MPa	ASTM D412
Tensile Elongation (Break, 0.762 mm)	570	%	ASTM D412
Tear Strength			
0.762 mm ¹	79.4	kN/m	ASTM D624
Cracking	23	kN/m	ASTM D470
Aging	Nominal Value	Unit	Test Method
Change in Volume (23°C, 24 hr, in water)	1.7	%	ASTM D471
Thermal	Nominal Value	Unit	Test Method

Glass Transition Temperature	-46.0	°C	DSC
Melting Temperature	135	°C	DSC
Kofler Melting Temperature	145	°C	Internal method
Injection	Nominal Value	Unit	
Drying Temperature	104	°C	
Drying Time	2.0 - 4.0	hr	
Suggested Max Moisture	0.020	%	
Rear Temperature	193	°C	
Middle Temperature	204	°C	
Front Temperature	216	°C	
Nozzle Temperature	216	°C	
Processing (Melt) Temp	216	°C	
Injection Pressure	21.0 - 48.0	MPa	
Injection Rate	Slow-Moderate		
Holding Pressure	14.0 - 28.0	MPa	
Back Pressure	0.345	MPa	
Screw Speed	20 - 50	rpm	

Injection instructions

Air Dew Point: -40°C

Extrusion	Nominal Value	Unit	
Drying Temperature	104	°C	
Drying Time	2.0 - 4.0	hr	
Suggested Max Moisture	0.020	%	
Cylinder Zone 1 Temp.	176	°C	
Cylinder Zone 2 Temp.	183	°C	
Cylinder Zone 3 Temp.	188	°C	
Cylinder Zone 4 Temp.	194	°C	
Adapter Temperature	194	°C	
Melt Temperature	194	°C	
Die Temperature	194	°C	

Extrusion instructions

Dew Point: -40°C Screen Pack Recommendation: 20/40/80/20

NOTE

1. C mould

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