



Estane® 58123 TPU

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

Wednesday, November 6, 2019

General Information

Product Description

Type: Polyether Thermoplastic Polyurethane (TPU)

Special Feature: Moisture Vapor Transmission, with Excellent Low Temperature and Elasticity. Low Moisture Absorption

Processes: Extrusion: Blown, Flat Die Cast Film, Injection and Cable Jacketing

General

Material Status	• Commercial: Active		
Availability	• Asia Pacific	• Latin America	• North America
Features	• Low Moisture Absorption		
Uses	• Blown Film • Cable Jacketing	• Cast Film • Wire & Cable Applications	
Agency Ratings	• FDA 21 CFR 177.1680	• FDA 21 CFR 177.2600	
RoHS Compliance	• RoHS Compliant		
Appearance	• Translucent		
Forms	• Pellets		
Processing Method	• Blown Film	• Cast Film	• Wire & Cable Extrusion

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.06		ASTM D792
Mechanical	Nominal Value	Unit	Test Method
Taber Abrasion Resistance 1000 Cycles, 1000 g, H-18 Wheel	17.0	mg	ASTM D3389
Films	Nominal Value	Unit	Test Method
Water Vapor Transmission ^{2, 3}	27	g/100 in ² /24 hr	ASTM E96
Water Vapor Transmission Rate - Mocon ⁴ (100°F)	210	g/100 in ² /24 hr	ASTM D6701
Elastomers	Nominal Value	Unit	Test Method
Tensile Set (200% Strain)	6	%	ASTM D412
Tensile Stress (100% Strain)	493	psi	ASTM D412
Tensile Stress (300% Strain)	798	psi	ASTM D412
Tensile Strength (Break)	5290	psi	ASTM D412
Tensile Elongation (Break)	730	%	ASTM D412
Tear Strength ⁵	381	lbf/in	ASTM D624
Tear Strength (Split)	110	lbf/in	ASTM D470
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore A)	70		ASTM D2240
Thermal	Nominal Value	Unit	Test Method
Glass Transition Temperature	-94.0	°F	ASTM D3418
Melting Temperature	275	°F	DSC
Kofler Melting Temperature	302	°F	Internal Method

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Processing Information

Extrusion	Nominal Value	Unit
Drying Temperature	356	°F
Drying Time	2.0 to 4.0	hr
Suggested Max Moisture	0.020	%
Cylinder Zone 1 Temp.	340	°F
Cylinder Zone 2 Temp.	351	°F
Cylinder Zone 3 Temp.	360	°F
Cylinder Zone 4 Temp.	370	°F
Adapter Temperature	379	°F
Melt Temperature	376	°F
Die Temperature	379	°F

Extrusion Notes

Dew Point: -40°C

Screen Pack: 20/40/80 mesh

Notes

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

² Procedure BW

³ 23°C, 50% RH

⁴ 90% RH

⁵ Die C