Estane® 58300 TPU

Wednesday, November 6, 2019

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

General Information

Product Description

Type: Polyether Thermoplastic Polyurethane (TPU)

Special Feature: Moisture Vapor Transmission, with Excellent Hydrolysis Resistance, Low Temperature and Wide Process Window

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

General			
Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• Good Processability	• Hydrolysis Resistant	
Uses	• Blown Film • Cable Jacketing	• Cast Film • Wire & Cable Applications	
Agency Ratings	• FDA 21 CFR 177.1680	• FDA 21 CFR 177.2600	• NSF STD-61
RoHS Compliance	• RoHS Compliant		
Appearance	• Translucent		
Forms	• Pellets		
Processing Method	• Blown Film • Cast Film	• Extrusion • Injection Molding	• Wire & Cable Extrusion

ASTM & ISO Properties [1]

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.11		ASTM D792
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Taber Abrasion Resistance			ASTM D3389
1000 Cycles, 1000 g, H-18 Wheel	22.0	mg	
Films	**Nominal Value**	**Unit**	**Test Method**
Water Vapor Transmission [2, 3]	29	g/100 in²/24 hr	ASTM E96
Water Vapor Transmission Rate - Mocon [4] (100°F, 1.0 mil)	120	g/100 in²/24 hr	ASTM D6701
Elastomers	**Nominal Value**	**Unit**	**Test Method**
Tensile Set (200% Strain)	11	%	ASTM D412
Tensile Stress (100% Strain, 0.0300 in)	696	psi	ASTM D412
Tensile Stress (300% Strain, 0.0300 in)	1100	psi	ASTM D412
Tensile Strength (Break, 0.0300 in)	5500	psi	ASTM D412
Tensile Elongation (Break, 0.0300 in)	650	%	ASTM D412
Tear Strength [5] (0.0300 in)	398	lbf/in	ASTM D624
Tear Strength (Split)	130	lbf/in	ASTM D470
Hardness	**Nominal Value**	**Unit**	**Test Method**
Durometer Hardness (Shore A)	82		ASTM D2240
Thermal	**Nominal Value**	**Unit**	**Test Method**
Glass Transition Temperature	-58.0	°F	ASTM D3418
Melting Temperature	266	°F	DSC
Kofler Melting Temperature	257	°F	Internal Method

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Processing Information

Extrusion	Nominal Value	Unit
Drying Temperature	219	°F
Drying Time	2.0 to 4.0	hr
Suggested Max Moisture	0.020	%
Cylinder Zone 1 Temp.	331	°F
Cylinder Zone 2 Temp.	340	°F
Cylinder Zone 3 Temp.	351	°F
Cylinder Zone 4 Temp.	360	°F
Adapter Temperature	360	°F
Melt Temperature	354	°F
Die Temperature	360	°F

Extrusion Notes

Screens: 20-40-80 mesh
Dew Point: -40°C

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