Estane® MVT 75AT3 TPU

Wednesday, November 6, 2019

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

General Information

Product Description

Type: Estane® MVT 75AT3 is a 75A aromatic Polyether-Based Thermoplastic Polyurethane (TPU)

Features:

- High moisture vapor transmission with low water swell
- Excellent low temperature properties and elasticity

Process:

- Primary Use: Blown and flat die/cast film extrusion.
- Secondary Use: Injection molding and cable jacketing.

General			
Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• Aromatic	• High Moisture Vapor Transmission	
Uses	• Wire & Cable Applications		
Agency Ratings	• FDA 21 CFR 177.1680	• FDA 21 CFR 177.2600	
Forms	• Pellets		
Processing Method	• Blown Film • Cast Film	• Extrusion • Injection Molding	

ASTM & ISO Properties [1]

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.07		ASTM D792
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Taber Abrasion Resistance			ASTM D3389
1000 Cycles, 1000 g, H-18 Wheel	20.0	mg	
Films	**Nominal Value**	**Unit**	**Test Method**
Water Vapor Transmission [2, 3]	26	g/100 in²/24 hr	ASTM E96
Water Vapor Transmission Rate - Mocon [4] (100°F)	190	g/100 in²/24 hr	ASTM D6701
Elastomers	**Nominal Value**	**Unit**	**Test Method**
Tensile Set (200% Strain)	8	%	ASTM D412
Tensile Stress (100% Strain, 0.0300 in)	595	psi	ASTM D412
Tensile Stress (300% Strain, 0.0300 in)	899	psi	ASTM D412
Tensile Strength (Break, 0.0300 in)	5000	psi	ASTM D412
Tensile Elongation (Break, 0.0300 in)	700	%	ASTM D412
Tear Strength [5] (0.0300 in)	358	lbf/in	ASTM D624
Tear Strength (Split)	110	lbf/in	ASTM D470
Hardness	**Nominal Value**	**Unit**	**Test Method**
Durometer Hardness (Shore A, 5 sec)	72 to 78		ASTM D2240
Thermal	**Nominal Value**	**Unit**	**Test Method**
Glass Transition Temperature	-90.4	°F	DSC
Melting Temperature	277	°F	DSC

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Thermal	Nominal Value	Unit	Test Method
Kofler Melting Temperature	320	°F	Internal Method

Aging	Nominal Value	Unit	Test Method
Change in Volume (73°F, 24 hr, in Water)	1.0	%	ASTM D471

Processing Information

Extrusion	Nominal Value	Unit
Drying Temperature	180	°F
Drying Time	2.0 to 4.0	hr
Suggested Max Moisture	0.020	%
Cylinder Zone 1 Temp.	351	°F
Cylinder Zone 2 Temp.	360	°F
Cylinder Zone 3 Temp.	370	°F
Cylinder Zone 4 Temp.	379	°F
Adapter Temperature	390	°F
Melt Temperature	385	°F
Die Temperature	390	°F

Extrusion Notes

Dew Point: -40°C

Screen Pack Recommendation: 20/40/80

Notes

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

[2] Procedure B

[3] 23°C, 50% RH

[4] 90% RH

[5] Die C