Estane® D91T80 NAT 01

Tuesday, November 5, 2019

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

General Information

Product Description

Type: Aliphatic polycaprolactone based Thermoplastic Polyurethane (TPU) with a 81 Shore A Hardness.

Features: Translucent resin with excellent colour stability upon UV exposure

Uses: Injection moulding outdoor applications.

General			
Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• Aliphatic	• Good Color Stability	• UV Resistant
Uses	• Outdoor Applications		
Appearance	• Translucent		
Forms	• Pellets		
Processing Method	• Injection Molding		

ASTM & ISO Properties [1]

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.11		ASTM D792
Density	1.11	g/cm³	ISO 2781
Moisture Content	< 0.10	%	
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Stress			ISO 527-2
--	3630	psi	
100% Strain	624	psi	
300% Strain	1090	psi	
Tensile Strain (Break)	800	%	ISO 527-2
Abrasion Loss	30.0	mm³	ISO 4649
Elastomers	**Nominal Value**	**Unit**	**Test Method**
Tensile Stress (100% Strain)	624	psi	ASTM D412
Tensile Stress (300% Strain)	1090	psi	ASTM D412
Tensile Strength	3670	psi	ASTM D412
Tensile Elongation (Break)	800	%	ASTM D412
Tear Strength [2]	457	lbf/in	ASTM D624
Tear Strength [3]	457	lbf/in	ISO 34-1
Hardness	**Nominal Value**	**Unit**	**Test Method**
Durometer Hardness (Shore A, 3 sec)	81		ASTM D2240
Shore Hardness (Shore A, 3 sec)	81		ISO 868
Thermal	**Nominal Value**	**Unit**	**Test Method**
Vicat Softening Temperature	140	°F	ISO 306/A50
Optical	**Nominal Value**	**Unit**	**Test Method**
Haze (78.7 mil)	23.0	%	ASTM D1003

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Processing Information

Injection	Nominal Value	Unit
Drying Temperature	176 to 194	°F
Drying Time	2.0	hr
Dew Point	-40	°F
Suggested Max Moisture	< 0.020	%
Rear Temperature	347	°F
Middle Temperature	356	°F
Front Temperature	365	°F
Nozzle Temperature	374	°F
Mold Temperature	95	°F

Notes

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

[2] Die C

[3] Method B, Angle