Estane® 2103-90AE TPU

Wednesday, November 6, 2019

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

General Information

Product Description

2103-90AE is a thermoplastic polyurethane elastomer.

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Forms	• Pellets		
Processing Method	• Injection Molding		

ASTM & ISO Properties [1]

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.14		ASTM D792
Melt Mass-Flow Rate (224°C/8.7 kg)	7.0	g/10 min	ASTM D1238
Molding Shrinkage - Flow	4.0E-3 to 6.0E-3	in/in	ASTM D955
Molding Shrinkage - Across Flow	5.0E-3 to 7.0E-3	in/in	ASTM D955
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Flexural Modulus (0.126 in)	9560	psi	ASTM D790
Taber Abrasion Resistance (1000 g, H-22 Wheel)	50.0	mg	ASTM D1044
Elastomers	**Nominal Value**	**Unit**	**Test Method**
Tensile Stress (50% Strain, 0.126 in)	914	psi	ASTM D412
Tensile Stress (100% Strain, 0.126 in)	1410	psi	ASTM D412
Tensile Stress (300% Strain, 0.126 in)	2600	psi	ASTM D412
Tensile Strength (Break, 0.126 in)	5540	psi	ASTM D412
Tensile Elongation (Break, 0.126 in)	530	%	ASTM D412
Elongation Set After Break (0.126 in)	60	%	ASTM D412
Tear Strength [2] (0.126 in)	759	lbf/in	ASTM D624
Compression Set			ASTM D395B
77°F, 22 hr	25	%	
158°F, 22 hr	40	%	
Hardness	**Nominal Value**	**Unit**	**Test Method**
Durometer Hardness			ASTM D2240
Shore A	90		
Shore D	47		
Thermal	**Nominal Value**	**Unit**	**Test Method**
Glass Transition Temperature	-29.2	°F	DSC
Vicat Softening Temperature	195	°F	ASTM D1525 [3]
CLTE - Flow	8.6E-5	in/in/°F	ASTM D696

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	190 to 219	°F
Processing (Melt) Temp	379 to 410	°F
Mold Temperature	370 to 399	°F

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Injection Notes
Air Dew Point: <-40°C

Notes

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

[2] Die C

[3] Rate B (120°C/h), Loading 1 (10 N)