



Estane® 2103-90AENH TPU

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

Wednesday, November 6, 2019

General Information

Product Description

2103-90AENH is a thermoplastic polyurethane elastomer.

Feature: NSF Standard 61 Certified, FDA Compliance

General

Material Status	• Commercial: Active		
Availability	• Asia Pacific	• Latin America	• North America
Agency Ratings	• FDA Unspecified Rating	• NSF STD-61	
Forms	• Pellets		
Processing Method	• Injection Molding		

ASTM & ISO Properties ¹

	Nominal Value	Unit	Test Method
Physical			
Density / Specific Gravity	1.14		ASTM D792
Melt Mass-Flow Rate (224°C/8.7 kg)	9.0	g/10 min	ASTM D1238
Molding Shrinkage - Flow	6.0E-3	in/in	ASTM D955
Molding Shrinkage - Across Flow	7.0E-3 to 0.010	in/in	ASTM D955
Mechanical			
Taber Abrasion Resistance (1000 g, H-22 Wheel)	50.0	mg	ASTM D1044
Elastomers			
Tensile Stress (50% Strain, 0.126 in)	899	psi	ASTM D412
Tensile Stress (100% Strain, 0.126 in)	1310	psi	ASTM D412
Tensile Stress (300% Strain, 0.126 in)	2490	psi	ASTM D412
Tensile Strength (Break, 0.126 in)	6990	psi	ASTM D412
Tensile Elongation (Break, 0.126 in)	560	%	ASTM D412
Elongation Set After Break (0.126 in)	60	%	ASTM D412
Tear Strength ² (0.126 in)	719	lbf/in	ASTM D624
Compression Set			ASTM D395B
77°F, 22 hr	25	%	
158°F, 22 hr	40	%	
Hardness			
Durometer Hardness			ASTM D2240
Shore A	90		
Shore D	47		
Thermal			
Glass Transition Temperature	-29.2	°F	DSC
Vicat Softening Temperature	194	°F	ASTM D1525 ³
CLTE - Flow	8.6E-5	in/in/°F	ASTM D696

Processing Information

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

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Injection	Nominal Value	Unit
Mold Temperature	61 to 140	°F
Injection Notes		
Air Dew Point: <-40°C		
Extrusion	Nominal Value	Unit
Drying Temperature	190 to 219	°F
Melt Temperature	370 to 399	°F
Extrusion 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)