



Estane® 2103-90AEL TPU

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

Wednesday, November 6, 2019

General Information

Product Description

2103-90AEL is a thermoplastic polyurethane elastomer.

Feature: Film resin for injection blow molding

General

Material Status	• Commercial: Active		
Availability	• Asia Pacific	• Latin America	• North America
Uses	• Film		
Forms	• Pellets		
Processing Method	• Injection Blow Molding	• 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)	1.2	g/10 min	ASTM D1238
Molding Shrinkage - Flow	4.0E-3 to 5.0E-3	in/in	ASTM D955
Molding Shrinkage - Across Flow	5.0E-3 to 8.0E-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)	1000	psi	ASTM D412
Tensile Stress (100% Strain, 0.126 in)	1410	psi	ASTM D412
Tensile Stress (300% Strain, 0.126 in)	2940	psi	ASTM D412
Tensile Strength (Break, 0.126 in)	5640	psi	ASTM D412
Tensile Elongation (Break, 0.126 in)	480	%	ASTM D412
Elongation Set After Break (0.126 in)	60	%	ASTM D412
Tear Strength ² (0.126 in)	540	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 (Shore A)	92		ASTM D2240
Thermal	Nominal Value	Unit	Test Method
Glass Transition Temperature	-16.6	°F	DSC
Vicat Softening Temperature	216	°F	ASTM D1525 ³
CLTE - Flow	8.7E-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	61 to 140	°F

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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)