Estane® 2103-80AE TPU

Wednesday, November 6, 2019

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

General Information

Product Description

2103-80AE 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	1.13		ASTM D792
Melt Mass-Flow Rate (224°C/1.2 kg)	40	g/10 min	ASTM D1238
Molding Shrinkage - Flow	-2.0E-3 to 5.0E-3	in/in	ASTM D955
Molding Shrinkage - Across Flow	6.0E-3 to 8.0E-3	in/in	ASTM D955
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Taber Abrasion Resistance (1000 g, H-22 Wheel)	20.0	mg	ASTM D1044
Elastomers	**Nominal Value**	**Unit**	**Test Method**
Tensile Stress (50% Strain, 0.126 in)	595	psi	ASTM D412
Tensile Stress (100% Strain, 0.126 in)	798	psi	ASTM D412
Tensile Stress (300% Strain, 0.126 in)	1700	psi	ASTM D412
Tensile Strength (Break, 0.126 in)	5000	psi	ASTM D412
Tensile Elongation (Break, 0.126 in)	600	%	ASTM D412
Elongation Set After Break (0.126 in)	70	%	ASTM D412
Tear Strength [2] (0.126 in)	600	lbf/in	ASTM D624
Compression Set			ASTM D395B
77°F, 22 hr	30	%	
158°F, 22 hr	33	%	
Hardness	**Nominal Value**	**Unit**	**Test Method**
Durometer Hardness (Shore A)	82		ASTM D2240
Thermal	**Nominal Value**	**Unit**	**Test Method**
Glass Transition Temperature	-40.0	°F	DSC
Vicat Softening Temperature	185	°F	ASTM D1525 [3]
CLTE - Flow	9.3E-5	in/in/°F	ASTM D696

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	180 to 199	°F
Processing (Melt) Temp	360 to 410	°F
Mold Temperature	61 to 140	°F

Injection Notes

Air Dew Point: <-40°C

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Extrusion	Nominal Value	Unit
Drying Temperature	180 to 199	°F
Melt Temperature	360 to 390	°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)