

Lubrizol Estane® 2103-80AEF Thermoplastic Polyurethane Elastomer

Category : Polymer , Thermoplastic , Elastomer, TPE , Polyurethane, TP , Thermoplastic Polyurethane, Elastomer, Ether Grade

Material Notes:

Formerly Pellethane
 Feature: Film resin for injection blow molding
 Available in Americas, Europe, Middle East, Africa, India and Asia
 Data provided by Lubrizol
 Lubrizol acquired the Pellethane product line from Dow in 2009.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Lubrizol-Estane-2103-80AEF-Thermoplastic-Polyurethane-Elastomer.php

Physical Properties	Metric	English	Comments
Density	1.13 g/cc	0.0408 lb/in ³	ASTM D792
Linear Mold Shrinkage, Flow	0.0060 - 0.0070 cm/cm	0.0060 - 0.0070 in/in	ASTM D955
Linear Mold Shrinkage, Transverse	-0.00200 - 0.0060 cm/cm	-0.00200 - 0.0060 in/in	ASTM D955
Melt Flow	13 g/10 min @Load 8.70 kg, Temperature 224 °C	13 g/10 min @Load 19.2 lb, Temperature 435 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	86	86	ASTM D2240
Tensile Strength, Ultimate	34.5 MPa	5000 psi	ASTM D412
Elongation at Break	580 %	580 %	ASTM D412
50% Modulus	0.00480 GPa	0.696 ksi	ASTM D412
100% Modulus	0.00640 GPa	0.928 ksi	ASTM D412
300% Modulus	0.0123 GPa	1.78 ksi	ASTM D412
Tear Strength	80.6 kN/m	460 pli	Die C; ASTM D624
Taber Abrasion, mg/1000 Cycles	20	20	H22 Wheel, 1000g; ASTM D1044
Compression Set	30 % @Temperature 25.0 °C, Time 79200 sec	30 % @Temperature 77.0 °F, Time 22.0 hour	ASTM D395, Method B
	33 % @Temperature 70.0 °C, Time 79200 sec	33 % @Temperature 158 °F, Time 22.0 hour	ASTM D395, Method B
Tensile Set	40 %	40 %	Elongation set after break; ASTM D412

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	166 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	92.2 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	ASTM D696
	@Temperature 20.0 $^{\circ}\text{C}$	@Temperature 68.0 $^{\circ}\text{F}$	
Vicat Softening Point	81.0 $^{\circ}\text{C}$	178 $^{\circ}\text{F}$	120 $^{\circ}\text{C}/\text{hr}$, 9.8N; ASTM D1525
Glass Transition Temp, Tg	-42.0 $^{\circ}\text{C}$	-43.6 $^{\circ}\text{F}$	

Processing Properties	Metric	English	Comments
Melt Temperature	182 - 199 $^{\circ}\text{C}$	360 - 390 $^{\circ}\text{F}$	Molding
	182 - 199 $^{\circ}\text{C}$	360 - 390 $^{\circ}\text{F}$	Extrusion
Mold Temperature	16.0 - 60.0 $^{\circ}\text{C}$	60.8 - 140 $^{\circ}\text{F}$	
Drying Temperature	82.0 - 93.0 $^{\circ}\text{C}$	180 - 199 $^{\circ}\text{F}$	air dew point $\leq -40^{\circ}\text{C}$

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