

Lubrizol Estane® 2103-70A Thermoplastic Polyurethane Elastomer

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

Material Notes:

Formerly Pellethane
 Feature: High MVTR
 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-2103-70A-Thermoplastic-Polyurethane-Elastomer.php

Physical Properties	Metric	English	Comments
Density	1.06 g/cc	0.0383 lb/in ³	ASTM D792
Linear Mold Shrinkage, Flow	0.0040 - 0.0050 cm/cm	0.0040 - 0.0050 in/in	ASTM D955
Linear Mold Shrinkage, Transverse	-0.00300 - 0.0080 cm/cm	-0.00300 - 0.0080 in/in	ASTM D955
Melt Flow	11 g/10 min @Load 8.70 kg, Temperature 224 °C	11 g/10 min @Load 19.2 lb, Temperature 435 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	72	72	ASTM D2240
Tensile Strength, Ultimate	24.7 MPa	3580 psi	ASTM D412
Elongation at Break	730 %	730 %	ASTM D412
50% Modulus	0.00210 GPa	0.305 ksi	ASTM D412
100% Modulus	0.00300 GPa	0.435 ksi	ASTM D412
300% Modulus	0.00520 GPa	0.754 ksi	ASTM D412
Tear Strength	66.5 kN/m	379 pli	Die C; ASTM D624
Taber Abrasion, mg/1000 Cycles	3.0	3.0	H22 Wheel, 1000g; ASTM D1044
Compression Set	25 % @Temperature 25.0 °C, Time 79200 sec	25 % @Temperature 77.0 °F, Time 22.0 hour	ASTM D395, Method B
	75 % @Temperature 70.0 °C, Time 79200 sec	75 % @Temperature 158 °F, Time 22.0 hour	ASTM D395, Method B
Tensile Set	50 %	50 %	Elongation set after break; ASTM D412

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	175 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	97.2 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	ASTM D696
	@Temperature 20.0 $^{\circ}\text{C}$	@Temperature 68.0 $^{\circ}\text{F}$	
Vicat Softening Point	75.0 $^{\circ}\text{C}$	167 $^{\circ}\text{F}$	120 $^{\circ}\text{C}/\text{hr}$, 9.8N; ASTM D1525
Glass Transition Temp, Tg	-69.0 $^{\circ}\text{C}$	-92.2 $^{\circ}\text{F}$	

Processing Properties	Metric	English	Comments
Melt Temperature	188 - 204 $^{\circ}\text{C}$	370 - 399 $^{\circ}\text{F}$	Extrusion
	193 - 210 $^{\circ}\text{C}$	379 - 410 $^{\circ}\text{F}$	Molding
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 <-40 $^{\circ}\text{C}$

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