

Lubrizol Estane® 2103-55D Thermoplastic Polyurethane Elastomer

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

Material Notes:

Formerly Pellethane
 Feature: Load bearing capacity
 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-2103-55D-Thermoplastic-Polyurethane-Elastomer.php

Physical Properties	Metric	English	Comments
Density	1.15 g/cc	0.0415 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	0.0050 - 0.0090 cm/cm	0.0050 - 0.0090 in/in	ASTM D955
Melt Flow	15 g/10 min @Load 0.160 kg, Temperature 224 °C	15 g/10 min @Load 0.353 lb, Temperature 435 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	96	96	ASTM D2240
Hardness, Shore D	55	55	ASTM D2240
Tensile Strength, Ultimate	44.1 MPa	6400 psi	ASTM D412
Elongation at Break	425 %	425 %	ASTM D412
50% Modulus	0.0134 GPa	1.94 ksi	ASTM D412
100% Modulus	0.0165 GPa	2.39 ksi	ASTM D412
300% Modulus	0.0317 GPa	4.60 ksi	ASTM D412
Flexural Modulus	0.172 GPa	24.9 ksi	ASTM D412
Tear Strength	158 kN/m	902 pli	Die C; ASTM D624
Taber Abrasion, mg/1000 Cycles	80	80	H22 Wheel, 1000 g; 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
	30 % @Temperature 70.0 °C, Time 79200 sec	30 % @Temperature 158 °F, Time 22.0 hour	ASTM D395, Method B

Mechanical Properties	Metric	English	Comments
			set after break, ASTM D412

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	130 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	72.2 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	ASTM D696
	@Temperature 20.0 $^{\circ}\text{C}$	@Temperature 68.0 $^{\circ}\text{F}$	
Vicat Softening Point	104 $^{\circ}\text{C}$	219 $^{\circ}\text{F}$	120 $^{\circ}\text{C}/\text{hr}$, 9.8N; ASTM D1525

Processing Properties	Metric	English	Comments
Melt Temperature	210 - 227 $^{\circ}\text{C}$	410 - 441 $^{\circ}\text{F}$	Molding
Mold Temperature	16.0 - 60.0 $^{\circ}\text{C}$	60.8 - 140 $^{\circ}\text{F}$	
Drying Temperature	88.0 - 104 $^{\circ}\text{C}$	190 - 219 $^{\circ}\text{F}$	air dew point $\leq -40^{\circ}\text{C}$

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