

Lubrizol Estane® 2102-55D Thermoplastic Polyurethane Elastomer

Category : Polymer , Thermoplastic , Elastomer, TPE , Polyurethane, TP , Thermoplastic Polyurethane, Elastomer, Polyester 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-2102-55D-Thermoplastic-Polyurethane-Elastomer.php

Physical Properties	Metric	English	Comments
Density	1.21 g/cc	0.0437 lb/in ³	ASTM D792
Linear Mold Shrinkage, Flow	0.0050 - 0.0070 cm/cm	0.0050 - 0.0070 in/in	ASTM D955
Linear Mold Shrinkage, Transverse	0.0060 - 0.0090 cm/cm	0.0060 - 0.0090 in/in	ASTM D955
Melt Flow	14 g/10 min @Load 2.16 kg, Temperature 224 °C	14 g/10 min @Load 4.76 lb, Temperature 435 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	58	58	ASTM D2240
Tensile Strength, Ultimate	49.5 MPa	7180 psi	ASTM D412
Elongation at Break	415 %	415 %	ASTM D412
50% Modulus	0.0153 GPa	2.22 ksi	ASTM D412
100% Modulus	0.0162 GPa	2.35 ksi	ASTM D412
300% Modulus	0.0359 GPa	5.21 ksi	ASTM D412
Flexural Modulus	0.172 GPa	24.9 ksi	ASTM D790
Tear Strength	179 kN/m	1020 pli	Die C; ASTM D624
Taber Abrasion, mg/1000 Cycles	60	60	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
	27 % @Temperature 70.0 °C, Time 79200 sec	27 % @Temperature 158 °F, Time 22.0 hour	ASTM D395, Method B
Tensile Set	30 %	30 %	Elongation set after break; ASTM D412

Mechanical Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	135 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$ @Temperature 20.0 $^\circ\text{C}$	75.0 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$ @Temperature 68.0 $^\circ\text{F}$	ASTM D636
Vicat Softening Point	118 $^\circ\text{C}$	244 $^\circ\text{F}$	120 $^\circ\text{C}/\text{hr}$, 9.8N; ASTM D1525

Processing Properties	Metric	English	Comments
Melt Temperature	204 - 221 $^\circ\text{C}$	399 - 430 $^\circ\text{F}$	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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