

## Lubrizol Estane® 2103-80AEN Thermoplastic Polyurethane Elastomer

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

### Material Notes:

Formerly Pellethane Feature: NSF Standard 61 certified, FDA compliance 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-2103-80AEN-Thermoplastic-Polyurethane-Elastomer.php](http://www.lookpolymers.com/polymer_Lubrizol-Estane-2103-80AEN-Thermoplastic-Polyurethane-Elastomer.php)

Physical Properties	Metric	English	Comments
Density	1.13 g/cc	0.0408 lb/in <sup>3</sup>	ASTM D792
Linear Mold Shrinkage, Flow	0.0050 - 0.0070 cm/cm	0.0050 - 0.0070 in/in	ASTM D955
Linear Mold Shrinkage, Transverse	0.00 - 0.0060 cm/cm	0.00 - 0.0060 in/in	ASTM D955
Melt Flow	20 g/10 min @Load 8.70 kg, Temperature 224 °C	20 g/10 min @Load 19.2 lb, Temperature 435 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	83	83	ASTM D2240
Tensile Strength, Ultimate	28.9 MPa	4190 psi	ASTM D412
Elongation at Break	650 %	650 %	ASTM D412
50% Modulus	0.00380 GPa	0.551 ksi	ASTM D412
100% Modulus	0.00600 GPa	0.870 ksi	ASTM D412
300% Modulus	0.0110 GPa	1.60 ksi	ASTM D412
Tear Strength	87.6 kN/m	500 pli	Die C; ASTM D624
Taber Abrasion, mg/1000 Cycles	20	20	H22 Wheel, 1000g; ASTM D1044
Compression Set	30 %	30 %	23°C.
	75 %	75 %	
	@Temperature 70.0 °C	@Temperature 158 °F	
	30 %	30 %	ASTM D395, Method B
	@Temperature 25.0 °C, Time 79200 sec	@Temperature 77.0 °F, Time 22.0 hour	
	75 %	75 %	ASTM D395, Method B

Mechanical Properties	Metric @Temperature 70.0 °C, Time 19200 sec	English @Temperature 158 °F, Time 22.0 hour	Comments
Tensile Set	40 %	40 %	Elongation set after break; ASTM D412

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	171 µm/m-°C	95.0 µin/in-°F	ASTM D696
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Vicat Softening Point	72.0 °C	162 °F	120°C/hr, 9.8N; ASTM D1525
Glass Transition Temp, Tg	-45.0 °C	-49.0 °F	

Processing Properties	Metric	English	Comments
Melt Temperature	182 - 199 °C	360 - 390 °F	Extrusion
	188 - 204 °C	370 - 399 °F	Molding
Mold Temperature	16.0 - 60.0 °C	60.8 - 140 °F	
Drying Temperature	82.0 - 93.0 °C	180 - 199 °F	air dew point <-40°C

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