

Lubrizol Estane® 58070 Thermoplastic Polyurethane

Category : Polymer , Thermoplastic , Polyurethane, TP , Thermoplastic Polyurethane (TPUR), Polyester Grade

Material Notes:

Features: Outstanding resiliency, fuel resistance and low temperature flexibility. Uses: Hose and Tube, Injection Molding, Fabric Coating and Wire/Cable Available in Americas, Europe, Middle East, Africa, India and Asia Information Provided by The Lubrizol Corporation

Order this product through the following link:

http://www.lookpolymers.com/polymer_Lubrizol-Estane-58070-Thermoplastic-Polyurethane.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.17 g/cc	1.17 g/cc	ASTM D792
Maximum Moisture Content	0.020	0.020	

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	72	72	ASTM D2240
	@Time 5.00 sec	@Time 0.00139 hour	
Tensile Strength	45.0 MPa	6530 psi	ASTM D412
	39.6 MPa	5740 psi	ASTM Fuel B; ASTM D412
	@Temperature 25.0 °C, Time 2.42e+6 sec	@Temperature 77.0 °F, Time 672 hour	
Tensile Strength, Yield	45.0 MPa	6530 psi	Air Oven; ASTM D412
	@Temperature 136 °C, Time 605000 sec	@Temperature 277 °F, Time 168 hour	
Elongation at Break	45.0 MPa	6530 psi	ASTM Fuel A; ASTM D412
	@Temperature 25.0 °C, Time 2.42e+6 sec	@Temperature 77.0 °F, Time 672 hour	
	600 MPa	87000 psi	100% elongation; ASTM D412
Elongation at Break	900 MPa	131000 psi	300% elongation; ASTM D412
	700 %	700 %	ASTM D412
	630 %	630 %	
Elongation at Break	@Temperature 136 °C, Time 605000 sec	@Temperature 277 °F, Time 168 hour	Air Oven; ASTM D412
	700 %	700 %	ASTM Fuel A; ASTM D412
	@Temperature 25.0 °C, Time 2.42e+6 sec	@Temperature 77.0 °F, Time 672 hour	
Elongation at Break	700 %	700 %	

Mechanical Properties	Metric	English	Comments
	@Temperature 25.0 °C, Time 2.42e+6 sec	@Temperature 77.0 °F, Time 672 hour	ASTM F418; ASTM D412
Tensile Modulus	0.00260 GPa @Temperature 25.0 °C	0.377 ksi @Temperature 77.0 °F	Gehman Rigidity; ASTM D1053
	0.00310 GPa @Temperature -20.0 °C	0.450 ksi @Temperature -4.00 °F	Gehman Rigidity; ASTM D1053
	0.00370 GPa @Temperature -30.0 °C	0.537 ksi @Temperature -22.0 °F	Gehman Rigidity; ASTM D1053
	0.00700 GPa @Temperature -40.0 °C	1.02 ksi @Temperature -40.0 °F	Gehman Rigidity; ASTM D1053
	0.0917 GPa @Temperature -50.0 °C	13.3 ksi @Temperature -58.0 °F	Gehman Rigidity; ASTM D1053
Tear Strength	17.5 kN/m	100 pli	Trouser; ASTM D470
Graves Tear Strength	78.9 kN/m	450 pli	Die C; ASTM D624
Taber Abrasion, mg/1000 Cycles	50	50	H18; ASTM D3389

Thermal Properties	Metric	English	Comments
Melting Point	165 °C	329 °F	DSC
Glass Transition Temp, Tg	-52.0 °C	-61.6 °F	DSC

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	175 °C	347 °F	Injection
Middle Barrel Temperature	180 °C	356 °F	Injection
Front Barrel Temperature	195 °C	383 °F	Injection
Nozzle Temperature	200 °C	392 °F	Injection
Zone 1	165 °C	329 °F	Extrusion
Zone 2	170 °C	338 °F	Extrusion
Zone 3	175 °C	347 °F	Extrusion
Zone 4	180 °C	356 °F	Extrusion
Adapter Temperature	180 °C	356 °F	5, Extrusion

Die Temperature Processing Properties	180 °C Metric	356 °F English	6. Zone 1, Extrusion Comments
	180 °C	356 °F	Zone 2, Extrusion
Melt Temperature	200 °C	392 °F	Injection
Drying Temperature	82.0 °C	180 °F	
Dry Time	2.00 - 4.00 hour	2.00 - 4.00 hour	
Dew Point	-40.0 °C	-40.0 °F	
Injection Pressure	34.5 - 68.9 MPa	5000 - 10000 psi	Injection
Hold Pressure	13.8 - 55.2 MPa	2000 - 8000 psi	Injection
Back Pressure	0.000 - 6.89 MPa	0.000 - 1000 psi	Injection
Screw Speed	50 - 100 rpm	50 - 100 rpm	Injection

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