

Lubrizol Estane® S160D Thermoplastic Polyurethane

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

Material Notes:

Type: Estane® S160D is a Shore 63D, polyester based thermoplastic polyurethane (TPU). FDA approved (21 CFR 177.2600, 177.1680). Uses: Injection Molding. Availability: 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-S160D-Thermoplastic-Polyurethane.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.25 g/cc	1.25 g/cc	ASTM D792
Linear Mold Shrinkage	0.0070 cm/cm	0.0070 in/in	ASTM D955

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	63	63	ASTM D2240
Tensile Strength, Ultimate	44.1 MPa	6400 psi	ASTM D412
Tensile Strength, Yield	21.6 MPa	3130 psi	at 100% elongation; ASTM D412
	34.3 MPa	4980 psi	at 300% elongation; ASTM D412
Elongation at Break	480 %	480 %	ASTM D412
Tear Strength	226 kN/m	1290 pli	Die C; ASTM D624
Abrasion	25	25	mm ³ loss; ISO 4649
Compression Set	20 %	20 %	ASTM D395
	@Temperature 23.0 °C, Time 79200 sec	@Temperature 73.4 °F, Time 22.0 hour	
	45 %	45 %	ASTM D395
	@Temperature 70.0 °C, Time 79200 sec	@Temperature 158 °F, Time 22.0 hour	

Thermal Properties	Metric	English	Comments
Vicat Softening Point	158 °C	316 °F	ASTM D1525

Processing Properties	Metric	English	Comments
Feed Temperature	200 - 215 °C	392 - 419 °F	
Nozzle Temperature	215 - 230 °C	419 - 446 °F	

Mold Temperature Processing Properties	10.0 - 40.0 °C Metric	50.0 - 104 °F English	Comments
Drying Temperature	70.0 - 80.0 °C	158 - 176 °F	
Dry Time	4.00 - 5.00 hour	4.00 - 5.00 hour	
Injection Pressure	12.4 - 16.5 MPa	1800 - 2400 psi	
Hold Pressure	8.96 - 13.1 MPa	1300 - 1900 psi	
Back Pressure	0.207 - 0.552 MPa	30.0 - 80.0 psi	
Cycle Time - Injection	25 - 30 sec	25 - 30 sec	
Screw Speed	160 - 200 rpm	160 - 200 rpm	

Descriptive Properties	Value	Comments
Injection time (s)	12-18	

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