

Lubrizol Estane® R185A Thermoplastic Polyurethane

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

Material Notes:

Type: Estane® R185A is a Shore 85A, polyether type thermoplastic polyurethane (TPU). FDA approved (21 CFR 177.2600, 177.1680). Uses: Injection Molding, Extrusion. Availability: Asia Information Provided by The Lubrizol Corporation

Order this product through the following link:

http://www.lookpolymers.com/polymer_Lubrizol-Estane-R185A-Thermoplastic-Polyurethane.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.10 g/cc	1.10 g/cc	ASTM D792
Linear Mold Shrinkage	0.015 cm/cm	0.015 in/in	ASTM D955

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	87	87	ASTM D2240
Tensile Strength, Ultimate	31.4 MPa	4550 psi	ASTM D412
Tensile Strength, Yield	5.88 MPa	853 psi	at 100% elongation; ASTM D412
	9.81 MPa	1420 psi	at 300% elongation; ASTM D412
Elongation at Break	700 %	700 %	ASTM D412
Tear Strength	93.2 kN/m	532 pli	Die C; ASTM D624
Abrasion	45	45	mm ³ loss; ISO 4649
Compression Set	15 %	15 %	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	90.0 °C	194 °F	ASTM D1525

Processing Properties	Metric	English	Comments
Feed Temperature	180 - 195 °C	356 - 383 °F	
Nozzle Temperature	190 - 205 °C	374 - 401 °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	11.7 - 15.9 MPa	1700 - 2300 psi	
Hold Pressure	8.27 - 12.4 MPa	1200 - 1800 psi	
Back Pressure	0.207 - 0.552 MPa	30.0 - 80.0 psi	
Cycle Time - Injection	25 - 35 sec	25 - 35 sec	
Screw Speed	180 - 220 rpm	180 - 220 rpm	

Descriptive Properties	Value	Comments
Injection time (s)	12-18	
Metering Zone	185-200°C	

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