

Lubrizol ESTALOC® 59003 Ester-Type, Reinforced Engineering Thermoplastic (European Grade)

Category : Polymer , Thermoplastic , Elastomer, TPE , Polyurethane, TP , Thermoplastic Polyurethane, Elastomer, Glass Filled

Material Notes:

Description: Estaloc® RETP (Reinforced Engineering Thermoplastic) is a tough, dimensionally stable, abrasion-resistant thermoplastic that withstands demanding environments. Developed as an extension to the Noveon Estane® TPU technology, Estaloc® RETP products complement Estane's durability and aesthetics with increased stiffness capability and dimensional stability over a broad temperature performance range not available from other engineering thermoplastics. Major Benefits of Estaloc® RETPs: Dimensional Stability approaching that of metals Class A surface aesthetics Paintability with no primer nor adhesion promoter Excellent abrasion and scuff/mar resistance Toughness over a broad temperature range Excellent adhesion to a variety of overmolding chemistries Information provided by Noveon, Inc.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Lubrizol-ESTALOC-59003-Ester-Type-Reinforced-Engineering-Thermoplastic-European-Grade.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.28 g/cc	1.28 g/cc	ISO 1183
Filler Content	10 %	10 %	
Linear Mold Shrinkage	0.0023 cm/cm	0.0023 in/in	ASTM D955

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	57	57	ISO 868
Tensile Strength, Ultimate	32.0 MPa	4640 psi	ISO 527-2/1A/5
Elongation at Break	86 %	86 %	ISO 527-2/1A/5
Tensile Modulus	0.658 GPa	95.4 ksi	ISO 527-2/1A/1
Flexural Strength	22.0 MPa	3190 psi	ISO 178
Flexural Modulus	0.520 GPa	75.4 ksi	ISO 178
Izod Impact, Notched (ISO)	11.0 kJ/m ²	5.23 ft-lb/in ²	Low Temp; ISO 180/1eA
	76.0 kJ/m ²	36.2 ft-lb/in ²	ISO 180/1eA
Izod Impact, Unnotched (ISO)	NB	NB	ISO 180/1eU
	72.0 kJ/m ²	34.3 ft-lb/in ²	ISO 180/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact Unnotched	NB	NB	ISO 179/1eU
	8.70 J/cm ²	41.4 ft-lb/in ²	

Mechanical Properties	Metric @ Temperature -30.0 °C	English @ Temperature -22.0 °F	ISO 179/1eJ Comments
Charpy Impact, Notched	7.90 J/cm ²	37.6 ft-lb/in ²	ISO 179/1eA
	1.30 J/cm ² @Temperature -30.0 °C	6.19 ft-lb/in ² @Temperature -22.0 °F	ISO 179/1eA
Taber Abrasion, mg/1000 Cycles	<= 5.0	<= 5.0	CS-17 wheel; ASTM D1044

Thermal Properties	Metric	English	Comments
CTE, linear	24.4 μm/m-°C @Temperature 20.0 °C	13.6 μin/in-°F @Temperature 68.0 °F	ASTM D696
Deflection Temperature at 0.46 MPa (66 psi)	136 °C	277 °F	method Bf; ISO 75-2
Deflection Temperature at 1.8 MPa (264 psi)	101 °C	214 °F	method Af; ISO 75-2
Vicat Softening Point	79.0 °C	174 °F	temperature B; ISO 36
	145 °C	293 °F	temperature A; ISO 306

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