

ExxonMobil Santoprene® 103-50 Thermoplastic Elastomer

Category : Polymer , Thermoplastic , Elastomer, TPE , Thermoplastic Vulcanizate Elastomer (TPV)

Material Notes:

A hard, black, versatile thermoplastic vulcanizate (TPV) in the thermoplastic elastomer (TPE) family. This material combines good physical properties and chemical resistance for use in a wide range of applications. This grade of Santoprene TPV is shear-dependent and can be processed on conventional thermoplastics equipment for injection molding, extrusion or blow molding. It is polyolefin based and completely recyclable. Excellent ozone resistance. Key Features: UL listed: file #QMFZ2.E80017, Plastics - Component; file #QMFZ8.E80017, Plastics Certified For Canada - Component. Although not NSF certified, this product has a Material Supplier Form on file with NSF to facilitate its evaluation for use in applications requiring NSF certification. Excellent ozone resistance. EU and China RoHS compliant. Applications: Automotive-Air Induction System Ducts, Boots and Bellows for Steering and Suspension, Plugs, Bumpers, Grommets, Clips Uses: Appliance Components Consumer Applications Living Hinges Automotive Applications Diaphragms Tubing Automotive Under the Hood Electrical Parts Availability: Africa & Middle East, Europe, North America, Asia Pacific, Latin America and South America Information provided by ExxonMobil Chemical

Order this product through the following link:

http://www.lookpolymers.com/polymer_ExxonMobil-Santoprene-103-50-Thermoplastic-Elastomer.php

Physical Properties	Metric	English	Comments
Specific Gravity	0.950 g/cc	0.950 g/cc	23°C; ASTM D792

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	56	56	in Air 302°F, 168 hr; ASTM D573
	51	51	Across Flow; ISO 868
	@Thickness 2.00 mm, Time 15.0 sec	@Thickness 0.0787 in, Time 0.00417 hour	
Tensile Strength, Yield	8.158 MPa	1183 psi	302°F, 168 hr; ASTM D573
	12.0 MPa	1740 psi	Across Flow; ASTM D638
Elongation at Yield	22.6 %	22.6 %	302°F, 168 hr; ASTM D573
	31 %	31 %	Across Flow; ASTM D638
Tear Strength	87.1 kN/m	497 pli	73°C, Die C; ASTM D624
Compression Set	59 %	59 %	158°F, 22 hr; ASTM D395
	74 %	74 %	257°F, 70 hr; ASTM D395

Thermal Properties	Metric	English	Comments
Brittleness Temperature	-27.8 °C	-18.0 °F	ASTM D746

UL RTI Electrical Thermal Properties	85.0 °C Metric	185 °F English	UL 746 Comments
UL RTI, Mechanical with Impact	85.0 °C	185 °F	UL 746
Flammability, UL94	HB	HB	
	@Thickness 1.00 mm	@Thickness 0.0394 in	
	HB	HB	
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	HB	HB	
	@Thickness 3.00 mm	@Thickness 0.118 in	

Electrical Properties	Metric	English	Comments
Dielectric Constant	2.4	2.4	1.98 mm; ASTM D150
Dielectric Strength	30.7 kV/mm	780 kV/in	2.03 mm; ASTM D149

Processing Properties	Metric	English	Comments
Processing Temperature	175 - 230 °C	347 - 446 °F	
Rear Barrel Temperature	193 °C	380 °F	
Middle Barrel Temperature	199 °C	390 °F	
Front Barrel Temperature	204 °C	400 °F	
Nozzle Temperature	210 - 241 °C	410 - 465 °F	
Die Temperature	216 °C	420 °F	Extrusion
Melt Temperature	210 °C	410 °F	Extrusion
	216 - 232 °C	420 - 450 °F	Processing
Mold Temperature	10.0 - 51.7 °C	50.0 - 125 °F	Processing
Drying Temperature	82.2 °C	180 °F	
Dry Time	3 hour	3 hour	
Moisture Content	0.080 %	0.080 %	
Back Pressure	0.345 - 0.689 MPa	50.0 - 100 psi	Processing
	5.00 - 20.0 MPa	725 - 2900 psi	Extrusion
Clamp Pressure	41.4 - 68.9 MPa	6000 - 10000 psi	
Vent Depth	0.00254 cm	0.00100 in	

Processing Properties	Metric	English	Comments
	0.511 - 0.635 cm	0.020 - 0.250 in	
Screw Speed	100 - 200 rpm	100 - 200 rpm	

Descriptive Properties	Value	Comments
Color	Black	
Form	Pellets	
Injection Rate	Fast	
Maximum Regrind %	20	
Screw Compression Ratio	2:1 - 2.5:1	
Screw L/D Ratio	16:1 - 20:1	

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