

ExxonMobil Santoprene® 101-55 Thermoplastic Elastomer

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

Material Notes:

A soft, 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 or extrusion. It is polyolefin based and completely recyclable. 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. Recommended for applications requiring excellent flex fatigue resistance. Excellent ozone resistance. EU and China RoHS compliant. Applications: Automotive Air Filter Gaskets Air Induction System Ducts Plugs, Bumpers, Grommets, Clips Seals and Gaskets Consumer Electronics Industrial Seals and Gaskets Uses: Appliance Components Consumer Applications Gaskets Automotive Applications Diaphragms Seal s Automotive Under the Hood Electrical Parts Tubing Processing Method: Coextrusion, Injection Molding, Profile Extrusion, Extrusion, Multi Injection Molding and Sheet Extrusion Availability: Africa & Middle East, Europe, North America, Asia Pacific, Latin America and South America Information provided by ExxonMobil

Order this product through the following link:

http://www.lookpolymers.com/polymer_ExxonMobil-Santoprene-101-55-Thermoplastic-Elastomer.php

Physical Properties	Metric	English	Comments
Specific Gravity	0.970 g/cc	0.970 g/cc	23°C; ASTM D792

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	59	59	0.0787 in; ASTM D2240
	62	62	in Air; ASTM D573
	@Temperature 150 °C, Time 605000 sec	@Temperature 302 °F, Time 168 hour	
Tensile Strength at Break	5.20 MPa	754 psi	Across Flow; ASTM D412
	4.48 MPa	650 psi	in Air; ASTM D573
	@Temperature 150 °C, Time 605000 sec	@Temperature 302 °F, Time 168 hour	
Tensile Stress	2.10 MPa	305 psi	Across Flow; ASTM D412
	@Strain 100 %	@Strain 100 %	
Elongation at Break	400 %	400 %	Across Flow; ASTM D412
	452 %	452 %	in Air; ASTM D573
	@Temperature 150 °C, Time 605000 sec	@Temperature 302 °F, Time 168 hour	
Tear Strength	16.0 kN/m	91.4 pli	73°C, Die C, Across Flow; ASTM D624

Mechanical Properties	Metric	English	Comments
	38 %	38 %	257°F, 70 hr Type 1; ASTM D395

Thermal Properties	Metric	English	Comments
Maximum Service Temperature, Air	275 °C	527 °F	SAE J2236
Brittleness Temperature	-60.0 °C	-76.0 °F	ASTM D746
UL RTI, Electrical	90.0 °C	194 °F	UL 746
UL RTI, Mechanical with Impact	90.0 °C	194 °F	UL 746
	@Thickness 1.00 mm	@Thickness 0.0394 in	
	90.0 °C	194 °F	
	@Thickness 1.50 mm	@Thickness 0.0591 in	UL 746
	95.0 °C	203 °F	UL 746
	@Thickness 3.00 mm	@Thickness 0.118 in	
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	1.93 mm; ASTM D150
Dielectric Strength	27.2 kV/mm	690 kV/in	2.03 mm; ASTM D149

Processing Properties	Metric	English	Comments
Processing Temperature	175 - 230 °C	347 - 446 °F	
Rear Barrel Temperature	177 °C	350 °F	
Middle Barrel Temperature	182 °C	360 °F	
Front Barrel Temperature	182 °C	360 °F	
Nozzle Temperature	188 - 221 °C	370 - 430 °F	
Die Temperature	199 °C	390 °F	Extrusion

Processing Properties	Metric °C	English °F	Comments
	193 - 232 °C	380 - 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	
Cushion	0.317 - 0.635 cm	0.125 - 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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