

ExxonMobil Santoprene® 171-73 Thermoplastic Elastomer

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

Material Notes:

A soft, black, specialty thermoplastic vulcanizate (TPV) in the thermoplastic elastomer (TPE) family. It complies with FDA regulations for rubber articles intended for repeated use, as well as those in contact with non-fatty, non-oily foods as closures and sealing gaskets. 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. Key Features: This product, in principle, can be used in food contact applications in the USA (FDA). Migration or use limitations may apply. Complies with NSF Standard 51: Food Equipment Materials - Plastics, materials and components used in food equipment. 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. EU and China RoHS compliant. Applications: Consumer: Packaging, Small Appliance, Soft Touch Grips Industrial – Seals and Gaskets Tubing Uses: Filter Flexible Grips Food Containers Kitchenware Non-specific Food Applications Seals White Goods & Small Appliances 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-171-73-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	78	78	2 mm, 15 sec; ISO 868
	85	85	Air at 302°F, 168 hr; ASTM D573
Tensile Strength at Break	8.7370 MPa	1267.2 psi	Air at 302°F, 168 hr; ASTM D573
	8.83 MPa	1280 psi	Across Flow; ASTM D412
Tensile Stress	3.60 MPa	522 psi	Across Flow; ASTM D412
	@Strain 100 %	@Strain 100 %	
Elongation at Break	475.3 %	475.3 %	Air at 302°F, 168 hr; ASTM D573
	490 %	490 %	Across Flow; ASTM D412
Tear Strength	27.0 kN/m	154 pli	73°F, Die C; ASTM D624
Compression Set	28 %	28 %	158°F, 22 hr; ASTM D395
	37 %	37 %	257°F, 70 hr; ASTM D395

Thermal Properties	Metric	English	Comments
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	UL 746
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	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	

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	188 °C	370 °F	
Nozzle Temperature	193 - 227 °C	380 - 440 °F	
Die Temperature	204 °C	400 °F	Extrusion
Melt Temperature	202 °C	395 °F	Extrusion
	199 - 232 °C	390 - 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 Processing Properties	0.345 - 0.689 MPa Metric	50.0 - 100 psi English	Processing Comments
	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
Change in Mass in IRM 903 Oil at 257°F for 70 hr	87	
Color	Black	
Form	Pellets	
Injection Rate	Fast	
Maximum Re grind %	20	
Screw Compression Ratio	2:1 - 2.5:1	
Screw L/D Ratio	16:1 - 20:1	

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