

ExxonMobil Santoprene® 171-73 Thermoplastic Elastomer (discontinued **)

Categories: [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

Key Words: EU 2003/11/EC; FDA 21 CFR 177.1210; FDA 21 CFR 177.2600; NSF 51; RoHS Compliant; UL QMFZ2; UL QMFZ8

Vendors: No vendors are listed for this material. Please [click here](#) if you are a supplier and would like information on how to add your listing to this material.

Physical Properties	Metric	English	Comments
Specific Gravity	0.970 g/cc	0.970 g/cc	ASTM D792
Mechanical Properties			
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 at Strain	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
	28 %	28 %	ASTM D395
Compression Set 	@Temperature 70.0 °C, Time 79200 sec	@Temperature 158 °F, Time 22.0 hour	
	37 %	37 %	ASTM D395
	@Temperature 125 °C, Time 252000 sec	@Temperature 257 °F, Time 70.0 hour	
Thermal Properties			
Brittleness Temperature	-60.0 °C	-76.0 °F	ASTM D746

UL RTI, Electrical	<u>90.0</u> °C	<u>194</u> °F	UL 746
UL RTI, Mechanical with Impact	<u>90.0</u> °C	<u>194</u> °F	UL 746
	@Thickness 1.00 mm	@Thickness 0.0394 in	
	<u>90.0</u> °C	<u>194</u> °F	UL 746
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	<u>95.0</u> °C	<u>203</u> °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	<u>175 - 230</u> °C	<u>347 - 446</u> °F	
Rear Barrel Temperature	<u>177</u> °C	<u>350</u> °F	
Middle Barrel Temperature	<u>182</u> °C	<u>360</u> °F	
Front Barrel Temperature	<u>188</u> °C	<u>370</u> °F	
Nozzle Temperature	<u>193 - 227</u> °C	<u>380 - 440</u> °F	
Die Temperature	<u>204</u> °C	<u>400</u> °F	Extrusion
Melt Temperature	<u>202</u> °C	<u>395</u> °F	Extrusion
	<u>199 - 232</u> °C	<u>390 - 450</u> °F	Processing
Mold Temperature	<u>10.0 - 51.7</u> °C	<u>50.0 - 125</u> °F	Processing
Drying Temperature	<u>82.2</u> °C	<u>180</u> °F	
Dry Time	<u>3</u> hour	<u>3</u> hour	
Moisture Content	0.080 %	0.080 %	
Back Pressure	<u>0.345 - 0.689</u> MPa	<u>50.0 - 100</u> psi	Processing
	<u>5.00 - 20.0</u> MPa	<u>725 - 2900</u> psi	Extrusion
Clamp Pressure	<u>41.4 - 68.9</u> MPa	<u>6000 - 10000</u> psi	
Vent Depth	<u>0.00254</u> cm	<u>0.00100</u> in	
Cushion	<u>0.317 - 0.635</u> cm	<u>0.125 - 0.250</u> in	
Screw Speed	<u>100 - 200</u> rpm	<u>100 - 200</u> rpm	

Compliance Properties	Metric	English	Comments
FDA	Yes	Yes	

Descriptive Properties

Change in Mass in IRM 903 Oil at 257°F for 70 hr	87
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

**

Materials flagged as discontinued () are no longer part of the manufacturer's standard product line according to our latest information. These materials may be available by special order, in distribution inventory, or reinstated as an active product. Data sheets from materials that are no longer available remain in MatWeb to assist users in finding replacement materials.

Users of our Advanced Search (registration required) may exclude discontinued materials from search results.

Some of the values displayed above may have been converted from their original units and/or rounded in order to display the information in a consistent format. Users requiring more precise data for scientific or engineering calculations can click on the property value to see the original value as well as raw conversions to equivalent units. We advise that you only use the original value or one of its raw conversions in your calculations to minimize rounding error. We also ask that you refer to MatWeb's [terms of use](#) regarding this information. [Click here](#) to view all the property values for this datasheet as they were originally entered into MatWeb.