

Santoprene™ 271-64

Thermoplastic Vulcanizate

Product Description	Key Features
A soft, colorable, specialty thermoplastic vulcanizate (TPV) in the thermoplastic elastomer (TPE) family. It is designed for use in non fatty food contact 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.	<ul style="list-style-type: none"> 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. Recommended for applications requiring excellent flex fatigue resistance. EU and China RoHS compliant.

General			
Availability ¹	<ul style="list-style-type: none"> Africa & Middle East Asia Pacific 	<ul style="list-style-type: none"> Europe Latin America 	<ul style="list-style-type: none"> North America South America
Applications	<ul style="list-style-type: none"> Consumer - FDA Seals and Closures Consumer - Packaging 	<ul style="list-style-type: none"> Consumer - Small Appliance Consumer - Soft Touch Grips 	<ul style="list-style-type: none"> Seals and Gaskets
Uses	<ul style="list-style-type: none"> Filters Flexible Grips Food Containers Gaskets 	<ul style="list-style-type: none"> Kitchenware Living Hinges Non-specific Food Applications Seals 	<ul style="list-style-type: none"> Tubing White Goods & Small Appliances
Agency Ratings	<ul style="list-style-type: none"> EU Annex XVII of Regulation (EC) No 1907/2006 FDA Food Contact, Unspecified Rating 	<ul style="list-style-type: none"> NSF 51 UL QMFZ2 	<ul style="list-style-type: none"> UL QMFZ8
RoHS Compliance	<ul style="list-style-type: none"> RoHS Compliant 		
Color	<ul style="list-style-type: none"> Natural Color 		
Form(s)	<ul style="list-style-type: none"> Pellets 		
Processing Method	<ul style="list-style-type: none"> Blow Molding Coextrusion Extrusion 	<ul style="list-style-type: none"> Extrusion Blow Molding Injection Blow Molding Injection Molding 	<ul style="list-style-type: none"> Multi Injection Molding Profile Extrusion Sheet Extrusion
Revision Date	<ul style="list-style-type: none"> 11/10/2009 		

Physical	Typical Value (English)	Typical Value (SI)	Test Based On
Specific Gravity	0.970	0.970	ASTM D792
Density	0.970 g/cm ³	0.970 g/cm ³	ISO 1183

Hardness	Typical Value (English)	Typical Value (SI)	Test Based On
Shore Hardness			ISO 868
Shore A, 73°F (23°C), 0.0787 in (2.00 mm)	69	69	

Elastomers	Typical Value (English)	Typical Value (SI)	Test Based On
Tensile Stress at 100% - Across Flow (73°F (23°C))	377 psi	2.60 MPa	ASTM D412

Typical properties: these are not to be construed as specifications.

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Elastomers	Typical Value (English)	Typical Value (SI)	Test Based On
Tensile Stress at 100% - Across Flow (73°F (23°C))	377 psi	2.60 MPa	ISO 37
Tensile Strength at Break - Across Flow (73°F (23°C))	957 psi	6.60 MPa	ASTM D412
Tensile Stress at Break - Across Flow (73°F (23°C))	957 psi	6.60 MPa	ISO 37
Elongation at Break - Across Flow (73°F (23°C))	490 %	490 %	ASTM D412
Tensile Strain at Break - Across Flow (73°F (23°C))	490 %	490 %	ISO 37
Tear Strength - Across Flow (73°F (23°C), Die C)	131 lbf/in	23.0 kN/m	ASTM D624
Tear Strength - Across Flow 73°F (23°C), Method Bb, Angle (Nicked)	130 lbf/in	23 kN/m	ISO 34-1
Compression Set			ASTM D395B
158°F (70°C), 22.0 hr, Type 1	18 %	18 %	
257°F (125°C), 70.0 hr, Type 1	44 %	44 %	
Compression Set			ISO 815
158°F (70°C), 22.0 hr, Type A	18 %	18 %	
257°F (125°C), 70.0 hr, Type A	44 %	44 %	

Thermal	Typical Value (English)	Typical Value (SI)	Test Based On
Brittleness Temperature	-76 °F	-60 °C	ASTM D746
Brittleness Temperature	-76 °F	-60 °C	ISO 812

Injection	Typical Value (English)	Typical Value (SI)
Drying Temperature	180 °F	82.2 °C
Drying Time	3.0 hr	3.0 hr
Suggested Max Moisture	0.080 %	0.080 %
Suggested Max Regrind	20 %	20 %
Rear Temperature	350 °F	177 °C
Middle Temperature	360 °F	182 °C
Front Temperature	360 °F	182 °C
Nozzle Temperature	370 to 430 °F	188 to 221 °C
Processing (Melt) Temp	380 to 450 °F	193 to 232 °C
Mold Temperature	50.0 to 125 °F	10.0 to 51.7 °C
Injection Rate	Fast	Fast
Back Pressure	50.0 to 100 psi	0.345 to 0.689 MPa
Screw Speed	100 to 200 rpm	100 to 200 rpm
Clamp Tonnage	3.0 to 5.0 tons/in ²	41 to 69 MPa
Cushion	0.125 to 0.250 in	3.18 to 6.35 mm
Screw L/D Ratio	16.0:1.0 to 20.0:1.0	16.0:1.0 to 20.0:1.0
Screw Compression Ratio	2.0:1.0 to 2.5:1.0	2.0:1.0 to 2.5:1.0
Vent Depth	0.0010 in	0.025 mm

Injection Notes

Santoprene TPV is incompatible with acetal and PVC. For more information regarding processing and mold design, please consult our Injection Molding Guide.

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Extrusion	Typical Value (English)	Typical Value (SI)
Drying Temperature	180 °F	82.2 °C
Drying Time	3.0 hr	3.0 hr
Melt Temperature	385 °F	196 °C
Die Temperature	390 °F	199 °C
Back Pressure	725 to 2900 psi	5.00 to 20.0 MPa

Extrusion Notes

Santoprene TPV is incompatible with acetal and PVC. For more information regarding processing and mold design, please consult our Extrusion Guide.

Aging	Typical Value (English)	Typical Value (SI)	Test Based On
Change in Tensile Strength in Air 302°F (150°C), 168 hr	-12 %	-12 %	ASTM D573
Change in Tensile Strength in Air 302°F (150°C), 168 hr	-12 %	-12 %	ISO 188
Change in Ultimate Elongation in Air 302°F (150°C), 168 hr	6.0 %	6.0 %	ASTM D573
Change in Tensile Strain at Break in Air 302°F (150°C), 168 hr	6.0 %	6.0 %	ISO 188
Change in Durometer Hardness in Air Shore A, 302°F (150°C), 168 hr	2.0	2.0	ASTM D573
Change in Shore Hardness in Air Shore A, 302°F (150°C), 168 hr	2.0	2.0	ISO 188

Additional Information

Values are for injection molded plaques, fan-gated, 102.0 mm x 152.0 mm x 2.0 mm (4.000" x 6.000" x 0.080").
Tensile strength, elongation and tensile stress are measured across the flow direction - ISO type 1, ASTM die C.
Compression set at 25% deflection.

Legal Statement

For detailed Product Stewardship information, please contact Customer Service.

This product, including the product name, shall not be used or tested in any medical application without the prior written acknowledgement of ExxonMobil Chemical as to the intended use.

Processing Statement

Desiccant drying for 3 hours at 80°C (180°F) is recommended. Santoprene TPV has a wide temperature processing window from 175 to 230°C (350 to 450°F) and is incompatible with acetal and PVC. For more information, please consult our Material Safety Data Sheet, Injection Molding Guide and Extrusion Guide.

Notes

¹ Product may not be available in one or more countries in the identified Availability regions. Please contact your Sales Representative for complete Country Availability.

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