

# Santoprene™ 8201-80

## Thermoplastic Vulcanizate

### Product Description

A soft, colorable, non-hygroscopic 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, blow molding, thermoforming or vacuum forming. It is polyolefin based and recyclable within the manufacturing stream.

### Key Features

- Non-hygroscopic product, requires little to no drying before processing.
- Neutral, easy coloring formulation.
- Recommended for applications requiring excellent ozone resistance.
- Used in sealing applications.
- Recommended for applications requiring excellent flex fatigue resistance.
- 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.
- RoHS compliant.

### General

Availability <sup>1</sup>	<ul style="list-style-type: none"> <li>▪ Africa &amp; Middle East</li> <li>▪ Asia Pacific</li> </ul>	<ul style="list-style-type: none"> <li>▪ Europe</li> <li>▪ Latin America</li> </ul>	<ul style="list-style-type: none"> <li>▪ North America</li> </ul>
Applications	<ul style="list-style-type: none"> <li>▪ Consumer - Cell Phones</li> <li>▪ Consumer - Electronics</li> </ul>	<ul style="list-style-type: none"> <li>▪ Consumer - Kitchen Tools</li> <li>▪ General Purpose</li> </ul>	
Uses	<ul style="list-style-type: none"> <li>▪ Appliance Components</li> <li>▪ Cell Phones</li> </ul>	<ul style="list-style-type: none"> <li>▪ Flexible Grips</li> <li>▪ Kitchenware</li> </ul>	<ul style="list-style-type: none"> <li>▪ Stationary Supplies</li> <li>▪ Strain Reliefs</li> </ul>
Agency Ratings	<ul style="list-style-type: none"> <li>▪ UL QMFZ2</li> </ul>	<ul style="list-style-type: none"> <li>▪ UL QMFZ8</li> </ul>	
RoHS Compliance	<ul style="list-style-type: none"> <li>▪ RoHS Compliant</li> </ul>		
UL File Number	<ul style="list-style-type: none"> <li>▪ E80017</li> </ul>		
Color	<ul style="list-style-type: none"> <li>▪ Natural Color</li> </ul>		
Form(s)	<ul style="list-style-type: none"> <li>▪ Pellets</li> </ul>		
Processing Method	<ul style="list-style-type: none"> <li>▪ Blow Molding</li> <li>▪ Coextrusion</li> <li>▪ Extrusion</li> <li>▪ Extrusion Blow Molding</li> </ul>	<ul style="list-style-type: none"> <li>▪ Injection Blow Molding</li> <li>▪ Injection Molding</li> <li>▪ Multi Injection Molding</li> <li>▪ Profile Extrusion</li> </ul>	<ul style="list-style-type: none"> <li>▪ Sheet Extrusion</li> <li>▪ Thermoforming</li> <li>▪ Vacuum Forming</li> </ul>
Revision Date	<ul style="list-style-type: none"> <li>▪ 06/20/2014</li> </ul>		

Physical	Typical Value (English)	Typical Value (SI)	Test Method
Specific Gravity	0.950	0.950	ASTM D792
Density	0.950 g/cm <sup>3</sup>	0.950 g/cm <sup>3</sup>	ISO 1183

  

Hardness	Typical Value (English)	Typical Value (SI)	Test Method
Shore Hardness			ISO 868
Shore A, 15 sec, 73°F (23°C), 0.0787 in (2.00 mm)	85	85	

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Elastomers	Typical Value (English)	Typical Value (SI)	Test Method
Tensile Stress at 100% - Across Flow (73°F (23°C))	609 psi	4.20 MPa	ASTM D412
Tensile Stress at 100% - Across Flow (73°F (23°C))	609 psi	4.20 MPa	ISO 37
Tensile Strength at Break - Across Flow (73°F (23°C))	1420 psi	9.80 MPa	ASTM D412
Tensile Stress at Break - Across Flow (73°F (23°C))	1420 psi	9.80 MPa	ISO 37
Elongation at Break - Across Flow (73°F (23°C))	630 %	630 %	ASTM D412
Tensile Strain at Break - Across Flow (73°F (23°C))	630 %	630 %	ISO 37
Tear Strength - Across Flow (73°F (23°C), Die C)	246 lbf/in	43.0 kN/m	ASTM D624
Tear Strength - Across Flow (73°F (23°C), Method Bb, Angle (Nicked))	250 lbf/in	43 kN/m	ISO 34-1
Compression Set (158°F (70°C), 22 hr, Type 1)	35 %	35 %	ASTM D395B
Compression Set (257°F (125°C), 70 hr, Type 1)	69 %	69 %	
Compression Set (158°F (70°C), 22 hr, Type A)	35 %	35 %	ISO 815
Compression Set (257°F (125°C), 70 hr, Type A)	69 %	69 %	

Thermal	Typical Value (English)	Typical Value (SI)	Test Method
Brittleness Temperature	-81 °F	-63 °C	ASTM D746
Brittleness Temperature	-81 °F	-63 °C	ISO 812
RTI Elec	212 °F	100 °C	UL 746
RTI Str			UL 746
0.0433 in (1.10 mm)	194 °F	90.0 °C	
0.0630 in (1.60 mm)	194 °F	90.0 °C	
0.118 in (3.00 mm)	203 °F	95.0 °C	

Electrical	Typical Value (English)	Typical Value (SI)	Test Method
Volume Resistivity (73°F (23°C), 0.0787 in (2.00 mm))	5.5E+17 ohms-cm	5.5E+17 ohms-cm	ASTM D257
Volume Resistivity (73°F (23°C), 0.126 in (3.20 mm))	2.4E+16 ohms-cm	2.4E+16 ohms-cm	
Comparative Tracking Index (CTI)	PLC 0	PLC 0	UL 746
High Amp Arc Ignition (HAI)	PLC 0	PLC 0	UL 746
High Voltage Arc Resistance to Ignition (HVAR)	PLC 5	PLC 5	UL 746
Hot-wire Ignition (HWI)			UL 746
0.0630 in (1.60 mm)	PLC 3	PLC 3	
0.118 in (3.00 mm)	PLC 2	PLC 2	

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Injection	Typical Value (English)	Typical Value (SI)
Suggested Max Moisture	0.080 %	0.080 %
Suggested Max Regrind	20 %	20 %
Rear Temperature	365 to 390 °F	185 to 199 °C
Middle Temperature	375 to 400 °F	191 to 204 °C
Front Temperature	375 to 400 °F	191 to 204 °C
Nozzle Temperature	390 to 420 °F	199 to 216 °C
Processing (Melt) Temp	390 to 420 °F	199 to 216 °C
Mold Temperature	75.0 to 125 °F	23.9 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 <sup>2</sup>	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	1.0E-3 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.

Extrusion	Typical Value (English)	Typical Value (SI)
Melt Temperature	375 to 435 °F	191 to 224 °C
Die Temperature	375 to 435 °F	191 to 224 °C

#### Extrusion Notes

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

Aging	Typical Value (English)	Typical Value (SI)	Test Method
Change in Tensile Strength in Air 302°F (150°C), 168 hr	-6.0 %	-6.0 %	ASTM D573
Change in Tensile Strength in Air 302°F (150°C), 168 hr	-6.0 %	-6.0 %	ISO 188
Change in Ultimate Elongation in Air 302°F (150°C), 168 hr	-19 %	-19 %	ASTM D573
Change in Tensile Strain at Break in Air 302°F (150°C), 168 hr	-19 %	-19 %	ISO 188
Change in Durometer Hardness in Air Shore A, 302°F (150°C), 168 hr	1.0	1.0	ASTM D573
Change in Shore Hardness in Air Shore A, 302°F (150°C), 168 hr	1.0	1.0	ISO 188
Change in Mass in Air 302°F (150°C), 168 hr	-8.0 %	-8.0 %	ASTM D573
Change in Mass in Air 302°F (150°C), 168 hr	-8.0 %	-8.0 %	ISO 188

Flammability	Typical Value (English)	Typical Value (SI)	Test Method
Flame Rating			UL 94
0.0433 in (1.10 mm)	HB	HB	
0.0630 in (1.60 mm)	HB	HB	
0.118 in (3.00 mm)	HB	HB	

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### Additional Information

Where applicable, test results based on fan gated, injection molded plaques.

Tensile strength, elongation and tensile stress are measured across the flow direction - ISO type 1, ASTM die C.

Compression set at 25% deflection.

All products purchased directly from an ExxonMobil affiliate in Europe are REACH compliant. For products not imported into Europe by ExxonMobil, customers should assess their legal responsibilities under REACH.

### 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. For detailed Product Stewardship information, please contact Customer Service.

### Processing Statement

Desiccant drying for 3 hours at 80°C (180°F) can be performed if desired. 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

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

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

For additional technical, sales and order assistance: [www.exxonmobilchemical.com/ContactUs](http://www.exxonmobilchemical.com/ContactUs)

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