

# Santoprene™ 241-80W236

## Thermoplastic Vulcanizate

### Product Description

A soft, colorable, specialty thermoplastic vulcanizate (TPV) in the thermoplastic elastomer (TPE) family. It is designed for use in plumbing applications in contact with potable water. 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

- Certified by NSF to NSF/ANSI Standard 61: Drinking Water System Components - Health Effects.
- Contains a stabilization system for protection against copper and other metal-catalyzed degradation.

### 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>▪ Plumbing - Potable Water Seals and Gaskets</li> <li>▪ Tubing</li> </ul>		
Uses	<ul style="list-style-type: none"> <li>▪ Plumbing Parts</li> </ul>		
Agency Ratings	<ul style="list-style-type: none"> <li>▪ NSF STD-61</li> </ul>		
RoHS Compliance	<ul style="list-style-type: none"> <li>▪ RoHS Compliant</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 Based On
Density / Specific Gravity	0.960	0.960	ASTM D792
Density	0.960 g/cm <sup>3</sup>	0.960 g/cm <sup>3</sup>	ISO 1183

Hardness	Typical Value (English)	Typical Value (SI)	Test Based On
Shore Hardness			ISO 868
Shore A, 15 sec, 73°F (23°C)	87	87	

Elastomers	Typical Value (English)	Typical Value (SI)	Test Based On
Tensile Stress at 100% - Across Flow (73°F (23°C))	638 psi	4.40 MPa	ASTM D412
Tensile Stress at 100% - Across Flow (73°F (23°C))	638 psi	4.40 MPa	ISO 37
Tensile Strength at Break - Across Flow (73°F (23°C))	1600 psi	11.0 MPa	ASTM D412
Tensile Stress at Break - Across Flow (73°F (23°C))	1600 psi	11.0 MPa	ISO 37
Elongation at Break - Across Flow (73°F (23°C))	560 %	560 %	ASTM D412
Tensile Strain at Break - Across Flow (73°F (23°C))	560 %	560 %	ISO 37



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Injection	Typical Value (English)	Typical Value (SI)
Drying Temperature	180 °F	82 °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	370 °F	188 °C
Nozzle Temperature	380 to 450 °F	193 to 232 °C
Processing (Melt) Temp	390 to 450 °F	199 to 232 °C
Mold Temperature	50 to 125 °F	10 to 52 °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 and Technical Literature (TL) on "Resistance of Santoprene Rubber to Copper Catalyzed Oxidative Attack".

Extrusion	Typical Value (English)	Typical Value (SI)
Drying Temperature	180 °F	82 °C
Drying Time	3.0 hr	3.0 hr
Melt Temperature	395 °F	202 °C
Die Temperature	400 °F	204 °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 die design, please consult our Extrusion Guide and Technical Literature (TL) on "Resistance of Santoprene Rubber to Copper Catalyzed Oxidative Attack".

### 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.

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) 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 Safety Data Sheet, Injection Molding Guide, Extrusion Guide and Technical Literature (TL) on "Resistance of Santoprene Rubber to Copper Catalyzed Oxidative Attack".

### 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.



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

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