

# Santoprene™ 241-73W236

## 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 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 completely recyclable.	<ul style="list-style-type: none"> <li>• Certified by NSF to NSF/ANSI Standard 61: Drinking Water System Components - Health Effects.</li> <li>• Contains a stabilization system for protection against copper and other metal-catalyzed degradation.</li> <li>• EU and China RoHS compliant.</li> </ul>		
<b>General</b>			
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> <li>• South America</li> </ul>
Applications	<ul style="list-style-type: none"> <li>• Plumbing - Potable Water</li> <li>• Seals and Gaskets</li> </ul>	<ul style="list-style-type: none"> <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>• EU Annex XVII of Regulation (EC) No 1907/2006</li> </ul>	<ul style="list-style-type: none"> <li>• NSF 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>• 10/30/2009</li> </ul>		

Physical	Typical Value (English)	Typical Value (SI)	Test Based On
Specific Gravity	0.970	0.970	ASTM D792
Density	0.970 g/cm <sup>3</sup>	0.970 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), 0.0787 in (2.00 mm)	79	79	

Elastomers	Typical Value (English)	Typical Value (SI)	Test Based On
Tensile Stress at 100% - Across Flow (73°F (23°C))	522 psi	3.60 MPa	ASTM D412
Tensile Stress at 100% - Across Flow (73°F (23°C))	522 psi	3.60 MPa	ISO 37
Tensile Strength at Break - Across Flow (73°F (23°C))	1280 psi	8.80 MPa	ASTM D412
Tensile Stress at Break - Across Flow (73°F (23°C))	1280 psi	8.80 MPa	ISO 37
Elongation at Break - Across Flow (73°F (23°C))	490 %	490 %	ASTM D412

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

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**ExxonMobil Chemical Santoprene™ 241-73W236**  
**Thermoplastic Vulcanizate**

Elastomers	Typical Value (English)	Typical Value (SI)	Test Based On
Tensile Strain at Break - Across Flow (73°F (23°C))	490 %	490 %	ISO 37
Compression Set			ASTM D395B
73°F (23°C), 168 hr, Type 1	25 %	25 %	
212°F (100°C), 168 hr, Type 1	57 %	57 %	
Compression Set			ISO 815
73°F (23°C), 168 hr, Type A	25 %	25 %	
212°F (100°C), 168 hr, Type A	57 %	57 %	

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	370 °F	188 °C
Nozzle Temperature	380 to 440 °F	193 to 227 °C
Processing (Melt) Temp	390 to 450 °F	199 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 <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	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 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	82.2 °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 mold design, please consult our Extrusion Guide and Technical Literature (TL) on "Resistance of Santoprene Rubber to Copper Catalyzed Oxidative Attack".

**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.

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## 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.

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## 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, Extrusion Guide and Technical Literature (TL) on "Resistance of Santoprene Rubber to Copper Catalyzed Oxidative Attack".

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## Notes

<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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