

Santoprene™ TPV 241-55

Product Description	Key Features
A soft, colorable, specialty thermoplastic vulcanizate (TPV) in the thermoplastic elastomer (TPE) family. It complies with NSF 61 for plumbing applications in contact with potable water and NSF 51 for food processing equipment. This grade of Santoprene TPV is shear-dependent and can be processed on conventional thermoplastics equipment for injection molding or extrusion. It is polyolefin based and completely recyclable.	<ul style="list-style-type: none"> Complies with NSF Standard 51: Listed Plastic Materials and Components used in Food Equipment. Complies with NSF Standard 61: Piping System Components for Drinking Water. Recommended for applications requiring excellent flex fatigue resistance. UL listed: file #QMFZ2.E80017, Plastics - Component; file #QMFZ8.E80017, Plastics Certified For Canada - Component. Compliant to EU Directive 2003/11/EC regarding marketing and use of certain dangerous substances and preparations, specifically pentabromodiphenyl ether or octabromodiphenyl ether. EU Directive 2002/95/EC (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"> Plumbing - Potable Water Seals and Gaskets 		
Uses	<ul style="list-style-type: none"> Plumbing Parts 		
Agency Ratings	<ul style="list-style-type: none"> EU 2003/11/EC NSF 51 	<ul style="list-style-type: none"> NSF 61 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 		
Forms	<ul style="list-style-type: none"> Pellets 		
Processing Method	<ul style="list-style-type: none"> Coextrusion Extrusion 	<ul style="list-style-type: none"> Injection Molding Multi Injection Molding 	<ul style="list-style-type: none"> Profile Extrusion Sheet Extrusion
Revision Date	<ul style="list-style-type: none"> 03/23/2006 		

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, 15 sec, 73.4°F (23.0°C), 0.0787 in (2.00 mm)	59	59	

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 (73.0°F (22.8°C))	300 psi	2.07 MPa	ASTM D412
Tensile Stress at 100% - Across Flow (73°F (23°C))	305 psi	2.10 MPa	ISO 37
Tensile Strength at Break - Across Flow (73°F (23°C))	750 psi	5.17 MPa	ASTM D412
Tensile Stress at Break - Across Flow (73°F (23°C))	754 psi	5.20 MPa	ISO 37
Elongation at Break - Across Flow (73.0°F (22.8°C))	390 %	390 %	ASTM D412
Tensile Strain at Break - Across Flow (73°F (23°C))	390 %	390 %	ISO 37

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.

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.

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Additional Properties

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.

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.

Medical Use Statement

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.

Notes

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

For additional technical, sales and order assistance:

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