

Santoprene™ 251-92W232

Thermoplastic Vulcanizate

Product Description

A hard, colorable, flame retardant thermoplastic vulcanizate (TPV) in the thermoplastic elastomer (TPE) family. This material has good fluid resistance and contains non-ether brominated flame retardants. It does not contain metal deactivators. 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

- UL listed: file #QMFZ2.E80017, Plastics - Component; file #QMFZ8.E80017, Plastics Certified For Canada - Component; file #QMTT2.E86313, Polymeric Materials for Use in Wire, Cable and Flexible Lighting Products - Component.
- Recommended for applications requiring a flame retardant material - UL 94 Vertical Flame rated.
- Recommended for applications requiring excellent flex fatigue resistance.
- Recommended for applications requiring excellent ozone resistance.

General

Applications	- Automotive - Flame Retardant Connectors and Seals - Electrical - Flame Retardant Connectors and Seals - Electrical - Flame Retardant Wire and Cable Jacket
Uses	- Automotive Applications - Cable Jacketing - Flexible Cord Jacketing - Wire & Cable Applications
Agency Ratings	- UL QMFZ2 - UL QMFZ8 - UL QMTT2
RoHS Compliance	RoHS Compliant
UL File Number	- E86313 - E80017
Color	Natural Color
Form(s)	Pellets
Processing Method	- Blow Molding - Coextrusion - Extrusion - Extrusion Blow Molding - Injection Blow Molding - Injection Molding - Multi Injection Molding - Profile Extrusion - Sheet Extrusion - Thermoforming - Vacuum Forming

Physical	Typical Value (English)	Typical Value (SI)	Test Based On
Density / Specific Gravity	1.24	1.24	ASTM D792
Density	1.24 g/cm ³	1.24 g/cm ³	ISO 1183

Hardness	Typical Value (English)	Typical Value (SI)	Test Based On
Shore Hardness			ISO 868
Shore A, 15 sec, 73°F (23°C)	98	98	

Elastomers	Typical Value (English)	Typical Value (SI)	Test Based On
Tensile Stress at 100% - Across Flow (73°F (23°C))	1040 psi	7.20 MPa	ASTM D412
Tensile Stress at 100% - Across Flow (73°F (23°C))	1040 psi	7.20 MPa	ISO 37
Tensile Strength at Break - Across Flow (73°F (23°C))	2020 psi	13.9 MPa	ASTM D412
Tensile Stress at Break - Across Flow (73°F (23°C))	2020 psi	13.9 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

Thermal	Typical Value (English)	Typical Value (SI)	Test Based On
RTI Elec	194 °F	90.0 °C	UL 746
RTI Str			UL 746
0.06 in (1.5 mm)	185 °F	85.0 °C	
0.12 in (3.0 mm)	194 °F	90.0 °C	



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Electrical	Typical Value (English)	Typical Value (SI)	Test Based On
Dielectric Strength 73°F (23°C), 0.0787 in (2.00 mm)	790 V/mil	31 kV/mm	ASTM D149
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 6	PLC 6	UL 746
High Voltage Arc Tracking Rate (HVTR)	PLC 2	PLC 2	UL 746
Hot-wire Ignition (HWI)	PLC 3	PLC 3	UL 746

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 %
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 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	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)
Drying Temperature	180 °F	82 °C
Drying Time	3.0 hr	3.0 hr

Extrusion Notes

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

Flammability	Typical Value (English)	Typical Value (SI)	Test Based On
Flame Rating 0.06 in (1.5 mm) 0.12 in (3.0 mm)	V-0 V-0	V-0 V-0	UL 94
Oxygen Index	26 %	26 %	ASTM D2863
Oxygen Index	26 %	26 %	ISO 4589-2

