

## SANTOPRENE™ 251-80W232 - TPV

### Product Description

A soft, 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.

### Characteristics

<b>Applications</b>	Automotive - Flame Retardant Connectors and Seals, Electrical - Flame Retardant Connectors and Seals, Electrical - Flame Retardant Wire and Cable Jacket, Seals
<b>Uses</b>	Automotive applications, Cable jacketing, Flexible cord jacketing, Wire & cable applications
<b>Agency Ratings</b>	UL QMFZ2, UL QMFZ8, UL QMTT2
<b>UL File Number</b>	E80017, E86313
<b>Color</b>	Natural color
<b>Delivery Form</b>	Pellets
<b>Processing</b>	Blow molding, Coextrusion, Extrusion, Extrusion blow molding, Injection blow molding, Injection molding, Multi injection molding, Profile extrusion, Sheet extrusion, Thermoforming, Vacuum forming

Physical properties	Value	Unit	Test Standard
Density	1.24	g/cm <sup>3</sup>	ASTM D792
Density	1240	kg/m <sup>3</sup>	ISO 1183

Hardness	Value	Unit
Shore A hardness-TPE, 15s	86	ISO 868

Mechanical properties	Value	Unit	Test Standard
Tensile stress at 100%, perpendicular	3.9	MPa	ASTM D412
Tensile stress at 100%, perpendicular	3.9	MPa	ISO 37
Tensile strength at break elast, perpendicular	9	MPa	ASTM D412
Tensile stress at break, perpendicular	9	MPa	ISO 37
Elongation at break elast, perpendicular	550	%	ASTM D412
Tensile strain at break, perpendicular	550	%	ISO 37
Compression set, 23 °C, 168h, Type 1, Method B	31	%	ASTM D395
Compression set, 23 °C, 168h, Type A	31	%	ISO 815
Compression set, 70 °C, 22h, Type 1, Method B	40	%	ASTM D395
Compression set, 70 °C, 22h, Type A	40	%	ISO 815
Compression set, 100 °C, 168h, Type 1, Method B	55	%	ASTM D395
Compression set, 100 °C, 168h, Type A	55	%	ISO 815

Thermal properties	Value	Unit	Test Standard
Limiting oxygen index (LOI)	27	%	ASTM D2863
Limiting oxygen index (LOI)	27	%	ISO 4589-1/-2
RTI Elec	90	°C	UL 746
RTI Str, 1.5 mm	85	°C	UL 746
RTI Str, 3.0 mm	90	°C	UL 746

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Electrical properties	Value	Unit	Test Standard
Dielectric Strength, 2.0 mm	28	kV/mm	ASTM D149
Comparative tracking index	PLC 0	-	UL 746
High amp arc ignition (HAI)	PLC 0	-	UL 746
High voltage arc resistance to ignition (HVAR)	PLC 6	-	UL 746
High voltage arc tracking rate (HVTR)	PLC 2	-	UL 746
Hot wire ignition	PLC 3	-	UL 746

Injection	Value	Unit
Drying temperature	82	°C
Drying time	3	h
Necessary low maximum residual moisture content	0.08	%
Suggested maximum regrind	20	%
Mold temperature	10 - 52	°C
Injection speed	fast	-
Back pressure	0.345 - 0.689	MPa
Screw Speed	100 - 200	RPM
Clamp tonnage	41 - 69	MPa
Cushion	3.18 - 6.35	mm
Screw L/D	20:1/*	-
Screw compression ratio	2.5:1/*	-
Vent depth	0.025	mm

Extrusion	Value	Unit
Drying temperature	82	°C
Drying time	3	h

Flammability	Value	Unit
Flame rating, 1.5 mm	V-0	UL 94
Flame rating, 3.0 mm	V-0	UL 94

## Other text information

## Processing Notes

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.

## Other Approvals

OEM	Specification
Chrysler (FCA)	MS-AR-100 AFN

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**General Disclaimer**

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