

# SANTOPRENE® 251-70W232

## SANTOPRENE®

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 or blow molding. 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.
- 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.

### Product information

Resin Identification	TPV	ISO 1043
Part Marking Code	>TPV<	ISO 11469

### Typical mechanical properties

Tensile stress at 100% elongation, perpendicular	2.7 MPa	ISO 527-1/-2 or ISO 37
Stress at break, perpendicular	6.3 MPa	ISO 527-1/-2 or ISO 37
Elongation at break, perpendicular	550 %	ISO 527-1/-2 or ISO 37
Shore A hardness, 15s	75	ISO 48-4 / ISO 868

### Thermal properties

RTI, electrical, 1.5mm	90 °C	UL 746B
RTI, electrical, 3.0mm	90 °C	UL 746B
RTI, strength, 1.5mm	85 °C	UL 746B
RTI, strength, 3.0mm	90 °C	UL 746B

### Flammability

Burning Behav. at 1.5mm nom. thickn.	V-0 class	IEC 60695-11-10
Thickness tested	1.5 mm	IEC 60695-11-10
UL recognition	yes	UL 94
Burning Behav. at thickness h	V-2 class	IEC 60695-11-10
Thickness tested	1 mm	IEC 60695-11-10
UL recognition	yes	UL 94
Oxygen index	26 %	ISO 4589-1/-2
Hot Wire Ignition, 1.5mm	PLC 3 s	UL 746A

### Electrical properties

Relative permittivity, 60Hz	2.5	IEC 62631-2-1
Arc Resistance Performance Level Category	PLC 6 class	UL 746B
Electric Strength, Short Time, 2mm	31 kV/mm	ASTM D 149
High Amperage Arc Ignition Category, 1.5 mm	PLC 0 class	UL 746A

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### Physical/Other properties

Density	1270 kg/m <sup>3</sup>	ISO 1183
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### Injection

Drying Temperature	82 °C
Drying Time, Dehumidified Dryer	3 h
Processing Moisture Content	≤0.08 %
Max. regrind level	20 %
Melt Temperature Optimum	215 °C
Min. melt temperature	165 °C
Max. melt temperature	265 °C
Mold Temperature Optimum	50 °C
Min. mould temperature	20 °C
Max. mould temperature	80 °C
Back pressure	0.517 MPa
Ejection temperature	98 °C

### Extrusion

Drying Temperature	82 °C
Drying Time, Dehumidified Dryer	3 h

### Additional information

Processing Notes

### 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.

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## Specific volume-temperature (pvT)

