

SANTOPRENE® 251-92W232

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.

Typical mechanical properties

Stress at 100% elongation	7.2 MPa	ISO 527-1/-2 or ISO 37
Stress at break	13.9 MPa	ISO 527-1/-2 or ISO 37
Elongation at break	630 %	ISO 527-1/-2 or ISO 37
Shear Modulus	94 MPa	ISO 6721
Shore A hardness, 15s	98	ISO 48-4 / ISO 868

Thermal properties

RTI, electrical, 1.5mm	90 °C	UL 746B
RTI, strength, 1.5mm	85 °C	UL 746B
RTI, strength, 3mm	90 °C	UL 746B

Flammability

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

Electrical properties

Comparative tracking index	PLC 0 PLC	UL 746A
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
High Voltage Arc Tracking Rate	PLC 2 mm/min	UL 746A

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Other properties

Density	1240 kg/m ³	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	Internal
Max. mould temperature	10 - 51.7 °C	
Vent depth	25 µm	
Back pressure	0.345 - 0.689 MPa	
Injection speed	fast	

Extrusion

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

Processing Texts

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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