

## SANTOPRENE<sup>®</sup> 251-80W232

**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, 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.

### Product information

Resin Identification Part Marking Code	TPV >TPV<		ISO 1043 ISO 11469
Typical mechanical properties			
Tensile stress at 100% elongation, perpendicular Tensile stress at break, perpendicular Elongation at break, perpendicular Shore A hardness, 15s Compression set, 23°C Time	3.9 9 550 86 31 168	%	ISO 37 ISO 527-1/-2 or ISO 37 ISO 527-1/-2 or ISO 37 ISO 48-4 / ISO 868 ISO 815
Compression set, 70°C, 24h	40	%	ISO 815
Thermal properties			
RTI, electrical, 1.5mm RTI, electrical, 3.0mm RTI, strength, 1.5mm RTI, strength, 3.0mm	90 85	0° 0° 0° 0°	UL 746B UL 746B UL 746B UL 746B
Flammability			
Burning Behav. at 1.5mm nom. thickn. Thickness tested UL recognition Burning Behav. at thickness h	1.5 yes	class mm class	IEC 60695-11-10 IEC 60695-11-10 UL 94 IEC 60695-11-10
Thickness tested UL recognition Oxygen index	yes 27	%	IEC 60695-11-10 UL 94 ISO 4589-1/-2
Hot Wire Ignition, 1.5mm Hot Wire Ignition, 3mm	PLC 3 PLC 3		UL 746A UL 746A



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Electrical properties				
Comparative tracking index, 23°C		PLC	UL 746A	
Arc Resistance Performance Level C	<b>.</b> .		UL 746B	
High Amperage Arc Ignition Category	γ, 1.5 mm PLC 0	class	UL 746A	
Physical/Other properties				
Density	1310	kg/m³	ISO 1183	
Injection				
Drying Recommended	yes			
Drying Temperature		°C		
Drying Time, Dehumidified Dryer	≥3 ≤0.08			
Processing Moisture Content Max. regrind level		% %		
Melt Temperature Optimum	200			
Min. melt temperature	190			
Max. melt temperature	210	°C		
Mold Temperature Optimum	30	°C		
Min. mould temperature		°C		
Max. mould temperature	50	°C		
Extrusion				
Drying Temperature	82	°C		
Drying Time, Dehumidified Dryer	3	h		
Characteristics				
Processing	Injection Moulding, Multi Injection Coextrusion, Blow Moulding, The	Moulding, Extrusion, Sheet Extrusion	,	
Delivery form	Pellets			
Special characteristics	Flame retardant			
Additional information				
Injection molding	Holding pressure should be about	t 50 to 75% of the actual injection pres	sure.	
	A high screw RPM (100 to 200) is			
		ed, however, a back pressure of 0.3 to		
		neous melt and maintain a consistent		
	A nigher back pressure is normali	y employed when using masterbatche	s.	
Processing Notes	Processing Notes			
	Desiccant drying for 3 hours at 80	0°C (180°F) is recommended. Santop	rene®	
	TPV has a wide temperature processing window from 175 to $230$ °C (350 to $450$ °F) and is incompatible with acetal and PVC.			
	Santoprene® TPV has a relatively high melt viscosity at low shear rates. Viscosity decreases as the shear rate increases.			





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Increasing temperature has little effect on TPV melt viscosity. Smaller gates and higher shear rates keep melt viscosity low and improve melt flow. Please also refer to the injection molding guide.

#### Automotive

OEM VW Group STANDARD VW 50123 ADDITIONAL INFORMATION LF3001 Nat, VW EA211\_Flame Retar\_SOP 04/23

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