

SANTOPRENE[®] 101-80

SANTOPRENE®

A soft, black, versatile thermoplastic vulcanizate (TPV) in the thermoplastic elastomer (TPE) family. This material combines good physical properties and chemical resistance for use in a wide range of applications. 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 excellent flex fatigue resistance
- Excellent ozone resistance

Product information

Resin Identification Part Marking Code	TPV >TPV<		ISO 1043 ISO 11469
Rheological properties			
Moulding shrinkage, parallel	1 .8 ^[1]	%	ISO 294-4, 2577
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[1]: 2.0 mm thickness, min. 24 hours after molding, per test method		,.	
Typical mechanical properties			
Tensile stress at 100% elongation, perpendicular	4.61	MPa	ISO 37
Tensile stress at break, perpendicular		MPa	ISO 527-1/-2 or ISO 37
Elongation at break, perpendicular	526	%	ISO 527-1/-2 or ISO 37
Brittleness Temperature	-60	°C	ASTM D 746
Low temperature brittleness	-60	°C	ISO 812
Shore A hardness, 15s	87		ISO 48-4 / ISO 868
Compression set, 70°C, 24h	36	%	ISO 815
Compression set, 125°C, 70h	52		ISO 815
Tear strength, normal	33	kN/m	ISO 34-1
Thermal properties			
RTI, electrical, 1.5mm	90	°C	UL 746B
RTI, electrical, 3.0mm	90	°C	UL 746B
RTI, strength, 1.5mm	90	°C	UL 746B
RTI, strength, 3.0mm	95	°C	UL 746B
Specific Application Suitability			
Continuous Upper Temperature Resistance, 1000h	135	°C	SAE J2236
Detergent resistance	f3	-	UL 749
Detergent resistance	f4		UL 2157
Outdoor suitability	f1		UL 746C



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Flammability

Burning Behav. at 1.5mm nom. thickn. Thickness tested UL recognition Burning Behav. at thickness h Thickness tested UL recognition FMVSS Class Burning rate, Thickness 2 mm Hot Wire Ignition, 1.5mm Hot Wire Ignition, 3mm	1.5 yes HB 1 yes B		IEC 60695-11-10 IEC 60695-11-10 UL 94 IEC 60695-11-10 IEC 60695-11-10 UL 94 ISO 3795 (FMVSS 302) ISO 3795 (FMVSS 302) UL 746A UL 746A
Electrical properties	1 20 2	0	
Relative permittivity, 60Hz	2.6		IEC 62631-2-1
Comparative tracking index, 23°C		PLC	UL 746A
Arc Resistance Performance Level Category	PLC 6 PLC 0		UL 746B UL 746A
High Amperage Arc Ignition Category, 1.5 mm	FLG U	Class	UL 746A
Physical/Other properties			
Density	960	kg/m³	ISO 1183
Injection			
Drying Recommended	yes		
Drying Temperature		°C	
Drying Time, Dehumidified Dryer	≥3	h	
Processing Moisture Content	≤0.08	%	
Max. regrind level	20		
Melt Temperature Optimum	205		
Min. melt temperature	190		
Max. melt temperature	220		
Mold Temperature Optimum		°C	
Min. mould temperature		°C °C	
Max. mould temperature	50		
Extrusion			
Drying Temperature	82	°C	
Drying Time, Dehumidified Dryer		h	
Melt Temperature Range	202	°C	

Characteristics

Processing

Injection Moulding, Multi Injection Moulding, Extrusion, Sheet Extrusion, Coextrusion, Blow Moulding, Thermoforming

Delivery form

Pellets



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Additional information

Non Standard Data	Property Name	Condition	Value	Unit	Standard
	Change in Tensile Strength	150°C, 168h	-5.8	%	ISO 188
	Change in Tensile Strain at Break	150°C, 168h	-12	%	ISO 188
	Change in Shore A Hardness	150°C, 168h	1.7	-	ISO 188
Injection molding	Holding pressure should be about 50 to 75% of the actual injection pressure. A high screw RPM (100 to 200) is recommended. Back pressure is not always needed, however, a back pressure of 0.3 to 0.7 MPa may be used to ensure a homogeneous melt and maintain a consistent shot size. A higher back pressure is normally employed when using masterbatches.				
Processing Notes	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.				rom 175 to
	Santoprene® TPV has a relatively high melt viscosity at low shear rates. Viscosity decreases as the shear rate increases. 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 BMW Chery Ford	STANDARD GS93042 Q/SQR.04.1195-20 WSD-M2D381-A1	011	ADDI ⁻	TIONAL INFORMATI	ON
General Motors		/-(EPDM+PP)-Type	7 N/A		
			IN/A		
Hyundai Mercedes-Benz	MS220-05 Type D DBL5562				
Renault	FRM 18-27703 /-	, No Spec, Specia r CE Account Mana			

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Renault	FRM 18-27-056 /, No Spec, Special Part Approval, See Your CE Account Manager.	
Renault	UB16b, No Spec, Special Part Approval, See Your CE Account Manager.	
Stellantis	55248_02 EMP90	MS-AR-100 DGN;B63 0300 / 01378_23_00030;Coolant hose celanese TPV1hose-125
Stellantis	B63 0300 / TPV1hose-125	MS-AR-100 DGN;B63 0300 / 01378_23_00030;Coolant hose celanese TPV1hose-125

VW Group

VW 50123

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