



SAE J2236

UL 749

UL 2157

UL 746C

SANTOPRENE® 101-73

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
- 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 Moulding shrinkage, normal [1]: 2.0 mm thickness, min. 24 hours after molding, per test method	2.6 ^[1] 0.8 ^[1] TTPE-X0080		ISO 294-4, 2577 ISO 294-4, 2577
Typical mechanical properties			
Tensile stress at 100% elongation, perpendicular Tensile stress at break, perpendicular Elongation at break, perpendicular Brittleness Temperature Low temperature brittleness Shore A hardness, 15s Compression set, 70°C, 24h Compression set, 125°C, 70h Tear strength, normal	7.98 478 -60 -60 78 27 41	°C °C %	ISO 37 ISO 527-1/-2 or ISO 37 ISO 527-1/-2 or ISO 37 ASTM D 746 ISO 812 ISO 48-4 / ISO 868 ISO 815 ISO 815
Thermal properties RTI, electrical, 1.5mm RTI, electrical, 3.0mm RTI, strength, 1.5mm RTI, strength, 3.0mm	90 90	°C °C °C	UL 746B UL 746B UL 746B UL 746B
Specific Application Suitability			

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135 °C

f3

f4

f1

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Continuous Upper Temperature Resistance, 1000h

Detergent resistance

Detergent resistance

Outdoor suitability





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Flammability

Burning Behav. at 1.5mm nom. thickn.	НВ	class	IEC 60695-11-10
Thickness tested	1.5	mm	IEC 60695-11-10
UL recognition	yes		UL 94
Burning Behav. at thickness h	HB	class	IEC 60695-11-10
Thickness tested	1	mm	IEC 60695-11-10
UL recognition	yes		UL 94
FMVSS Class	В		ISO 3795 (FMVSS 302)
Burning rate, Thickness 2 mm	19.9	mm/min	ISO 3795 (FMVSS 302)
Hot Wire Ignition, 1.5mm	PLC 3	S	UL 746A
Hot Wire Ignition, 3mm	PLC 3	S	UL 746A

Electrical properties

Relative permittivity, 60Hz	2.5	IEC 62631-2-1
Comparative tracking index, 23°C	0 PLC	UL 746A
Arc Resistance Performance Level Category	PLC 6 class	UL 746B
High Amperage Arc Ignition Category, 1.5 mm	PLC 0 class	UL 746A

Physical/Other properties

70 ka/m³	ISO 1183
7	'0 kg/m ³

Injection

Drying Recommended	yes	
Drying Temperature	80 °C	\mathcal{C}
Drying Time, Dehumidified Dryer	≥3 h	
Processing Moisture Content	≤0.08 %)
Max. regrind level	20 %	,
Melt Temperature Optimum	205 °C	3
Min. melt temperature	190 °C	3
Max. melt temperature	220 °C	\mathcal{C}
Mold Temperature Optimum	30 °C	3
Min. mould temperature	10 °C	\mathcal{C}
Max. mould temperature	50 °C	C

Extrusion

Drying Temperature	82 °C
Drying Time, Dehumidified Dryer	3 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	-8	%	ISO 188
Change in Tensile Strain at Break	150°C, 168h	-7.7	%	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 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.

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 STANDARD ADDITIONAL INFORMATION

BMW GS93042

Chery Q/SQR.04.1195-2011
Ford WSD-M2D380-A1

General Motors GMW15813P-TPV-(EPDM+PP)-Type 6 N/A

 Hyundai
 MS220-05 Type C

 Hyundai
 MS220-31 Type A2

 MAN
 M 3236-A-7

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Mercedes-Benz DBL5562

Renault FRM 18-27-021 /---, No Spec, Special Part

Approval, See Your CE Account Manager.

Stellantis 55248_02 EMP90 01378_23_00029;MS-AR-100 CGN;Coolant

hose celanese TPV1hose-125

Stellantis B63 0300 / TPV1hose-125 01378_23_00029;MS-AR-100 CGN;Coolant

hose celanese TPV1hose-125

VW Group VW 50123

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