

SANTOPRENE® 101-87

A hard, 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

Typical mechanical properties

Tensile stress at 100% elongation, perpendicular	6.93 MPa	ISO 527-1/-2 or ISO 37
Stress at break, perpendicular	15.6 MPa	ISO 527-1/-2 or ISO 37
Elongation at break, perpendicular	597 %	ISO 527-1/-2 or ISO 37
Brittleness Temperature	-54 °C	ASTM D 746
Low temperature brittleness	-54 °C	ISO 812
Shore A hardness, 15s	94	ISO 48-4 / ISO 868
Shore hardness change, after ageing	0.9	ISO 48-4 / ISO 868
Temperature	150 °C	ISO 188
Time	168 h	ISO 188
Compression set, 70 °C, 24h	37 %	ISO 815
Compression set, 125 °C, 70h	52 %	ISO 815
Tear strength, normal	51 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.	HB class	UL 94
Thickness tested	1.5 mm	UL 94
UL recognition	yes	UL 94
Burning Behav. at thickness h	HB class	UL 94
Thickness tested	1.00 mm	UL 94
UL recognition	yes	UL 94
Hot Wire Ignition, 1mm	PLC 4 s	UL 746A
Hot Wire Ignition, 1.5mm	PLC 3 s	UL 746A
Hot Wire Ignition, 3mm	PLC 2 s	UL 746A

Electrical properties

Relative permittivity, 60Hz	2.6	IEC 62631-2-1
Comparative tracking index, 23°C	PLC 0 PLC	UL 746A
Arc Resistance Performance Level Category	PLC 5 class	UL 746B
Electric Strength, Short Time, 2mm	30 kV/mm	ASTM D 149
High Amperage Arc Ignition Category, 1.5 mm	PLC 0 class	UL 746A
High Voltage Arc Tracking Rate	PLC 1 mm/min	UL 746A

Physical/Other properties

Density	950 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 - 52 °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
Melt Temperature Range	204 °C

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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Other Approvals

Other Approvals

OEM	Specification	Additional Information
Stellantis - Chrysler	MS-AR-100 EGN	
Ford	WSD-M2D382-A1	
GM	GMW15813, Type 8	
Stellantis - FCA Group	55248/02	EMP-90
Stellantis - FCA Group	B63 0300 01378_23_00031	Coolant hose celanese TPV1hose-125
Mercedes-Benz Group (Daimler)	DBL 5562	
Mercedes-Benz Group (Daimler)	DBL 5562	LD3002 BLK, Mercedes- Polytec/Biesterfeld-Plugs engine encapsulation- STP101-87
Renault	FRM 18-27-135 /---	
Renault	UB02b	PMR2021
Renault	UM09g	PMR2021
Renault	UB16b	PMR2021
BMW	GS 93042	
Hyundai	MS220-05, Type E	
Stellantis - PSA Group	PMP 01994_10_00139	
VW Group	VW50123	

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