

## SANTOPRENE™ 101-80 - TPV

### Product Description

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.

### Characteristics

<b>Applications</b>	Automotive - Air Induction System Ducts, Automotive - Boots and Bellows for Steering and Suspension, Automotive - Plugs, Bumpers, Grommets, Clips, Automotive - Seals and Gaskets, Consumer - Electronics, Consumer - Floor Care, Industrial - Seals and Gaskets, Tubing
<b>Uses</b>	Appliance components, Automotive applications, Automotive under the hood, Consumer applications, Diaphragms, Electrical parts, Gaskets, Outdoor applications, Seals, Tubing
<b>Agency Ratings</b>	UL QMFZ2, UL QMFZ8, UL QMTT2
<b>UL File Number</b>	E80017, E86313
<b>Color</b>	Black
<b>Delivery Form</b>	Pellets
<b>Processing</b>	Blow molding, Coextrusion, Extrusion, Extrusion blow molding, Injection blow molding, Injection molding, Multi injection molding, Profile extrusion, Sheet extrusion, Thermoforming, Vacuum forming

Physical properties	Value	Unit	Test Standard
Density	0.96	g/cm <sup>3</sup>	ASTM D792
Density	960	kg/m <sup>3</sup>	ISO 1183
Outdoor suitability	f1	-	UL 746C
Detergent resistance	f3	-	UL 749
Detergent resistance	f4	-	UL 2157

Hardness	Value	Unit
Shore A hardness-TPE, 15s	87	ISO 868

Mechanical properties	Value	Unit	Test Standard
Tensile stress at 100%, perpendicular	4.61	MPa	ASTM D412
Tensile stress at 100%, perpendicular	4.61	MPa	ISO 37
Tensile strength at break elast, perpendicular	10.4	MPa	ASTM D412
Tensile stress at break, perpendicular	10.4	MPa	ISO 37
Elongation at break elast, perpendicular	526	%	ASTM D412
Tensile strain at break, perpendicular	526	%	ISO 37
Tear strength, Method Ba, perpendicular	33	kN/m	ISO 34-1
Compression set, 70 °C, 22h, Type 1, Method B	36	%	ASTM D395
Compression set, 70 °C, 22h, Type A	36	%	ISO 815
Compression set, 125 °C, 70h, Type 1, Method B	52	%	ASTM D395
Compression set, 125 °C, 70h, Type A	52	%	ISO 815

Thermal properties	Value	Unit	Test Standard
Brittleness temperature	-60	°C	ASTM D746
RTI Elec	90	°C	UL 746
RTI Str, 1.0 mm	90	°C	UL 746
RTI Str, 1.5 mm	90	°C	UL 746
RTI Str, 3.0 mm	95	°C	UL 746

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Electrical properties	Value	Unit	Test Standard
Dielectric Strength, 2.0 mm	30	kV/mm	ASTM D149
Dielectric Constant 60Hz, 1.98 mm	2.6	-	ASTM D150
Dielectric Constant 60Hz, 1.98 mm	2.6	-	IEC 60250
Comparative tracking index	PLC 0	-	UL 746
High amp arc ignition (HAI)	PLC 0	-	UL 746
High voltage arc resistance to ignition (HVAR)	PLC 6	-	UL 746
High voltage arc tracking rate (HVTR)	PLC 1	-	UL 746
Hot-wire Ignition (1.0 mm)	PLC 4	-	UL 746A
Hot-wire Ignition (1.5 mm)	PLC 3	-	UL 746A
Hot-wire Ignition (3.0 mm)	PLC 2	-	UL 746A

Injection	Value	Unit
Drying temperature	82	°C
Drying time	3	h
Necessary low maximum residual moisture content	0.08	%
Suggested maximum regrind	20	%
Rear temperature	177	°C
Middle temperature	182	°C
Front temperature	188	°C
Nozzle temperature	193 - 232	°C
Melt temperature	199 - 232	°C
Mold temperature	10 - 52	°C
Injection speed	fast	-
Back pressure	0.345 - 0.689	MPa
Screw Speed	100 - 200	RPM
Clamp tonnage	41 - 69	MPa
Cushion	3.18 - 6.35	mm
Screw L/D	20:1/*	-
Screw compression ratio	2.5:1/*	-
Vent depth	0.025	mm

Extrusion	Value	Unit
Drying temperature	82	°C
Drying time	3	h
Melt temperature	202	°C
Die head temperature	204	°C
Back pressure	5 - 20	MPa

Aging	Value	Unit	Test Standard
Change in Tensile Strength in Air @ 150 C, 168 h	-5.8	%	ASTM D573
Change in Tensile Strength in Air @ 150 C, 168 h	-5.8	%	ISO 188
Change in Ultimate Elongation in Air @ 150 C, 168 h	-12	%	ASTM D573
Change in Tensile Strain at Break in Air @ 150 C, 168 h	-12	%	ISO 188
Change in Durometer Hardness in Air @ 150 C, 168 h, Shore A	1.7	-	ASTM D573
Change in Shore Hardness in Air @ 150 C, 168 h, Shore A	1.7	-	ISO 188
Continuous Upper Temperature Resistance (CUTR) @ 1008 h	135	°C	SAE J2236

Flammability	Value	Unit
Flame rating, 1.0 mm	HB	UL 94
Flame rating, 1.5 mm	HB	UL 94
Flame rating, 3.0 mm	HB	UL 94

**Other text information****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.

**Other Approvals**

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OEM	Specification
Chrysler (FCA)	MS-AR-100 DGN
FORD	WSD-M2D381-A1
GM	GMW15813, Type 7

**Contact**

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**General Disclaimer**

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