

SANTOPRENE™ 101-64 - 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 or blow molding. It is polyolefin based and recyclable within the manufacturing stream.

Characteristics

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

Physical properties	Value	Unit	Test Standard
Density	60.6	lb/ft ³	ASTM D792
Density	60.6	lb/ft ³	ISO 1183
Outdoor suitability	f1	-	UL 746C
Detergent resistance	f3	-	UL 749
Detergent resistance	f4	-	UL 2157

Hardness	Value	Unit	Test Standard
Shore A hardness-TPE, 15s	70		ISO 868

Mechanical properties	Value	Unit	Test Standard
Tensile stress at 100%, perpendicular	410	psi	ASTM D412
Tensile stress at 100%, perpendicular	410	psi	ISO 37
Tensile strength at break elast, perpendicular	938	psi	ASTM D412
Tensile stress at break, perpendicular	938	psi	ISO 37
Elongation at break elast, perpendicular	450	%	ASTM D412
Tensile strain at break, perpendicular	450	%	ISO 37
Tear strength, Method Ba, perpendicular	131	lb/in	ISO 34-1
Compression set, 70 °C, 22h, Type 1, Method B	25	%	ASTM D395
Compression set, 70 °C, 22h, Type A	25	%	ISO 815
Compression set, 125 °C, 70h, Type 1, Method B	44	%	ASTM D395
Compression set, 125 °C, 70h, Type A	44	%	ISO 815

Thermal properties	Value	Unit	Test Standard
Brittleness temperature	-60	°C	ASTM D746
RTI Elec	194	°F	UL 746
RTI Str, 1.0 mm	194	°F	UL 746
RTI Str, 1.5 mm	194	°F	UL 746
RTI Str, 3.0 mm	203	°F	UL 746

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Electrical properties	Value	Unit	Test Standard
Dielectric Strength, 2.0 mm	686	V/mil	ASTM D149
Dielectric Constant 60Hz, 1.98 mm	2.5	-	ASTM D150
Dielectric Constant 60Hz, 1.98 mm	2.5	-	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	PLC 2	-	UL 746
Volume resistivity, 2.0 mm	1E16	Ohm*cm	ASTM D257
Volume resistivity, 3.2 mm	5E15	Ohm*cm	ASTM D257

Injection	Value	Unit
Drying temperature	180	°F
Drying time	3	h
Necessary low maximum residual moisture content	0.08	%
Suggested maximum regrind	20	%
Rear temperature	351	°F
Middle temperature	360	°F
Front temperature	360	°F
Nozzle temperature	370 - 430	°F
Melt temperature	379 - 450	°F
Mold temperature	50 - 126	°F
Injection speed	fast	-
Back pressure	50 - 99.9	psi
Screw Speed	100 - 200	RPM
Clamp tonnage	5950 - 10000	psi
Cushion	0.125 - 0.25	in
Screw L/D	20:1/*	-
Screw compression ratio	2.5:1/*	-
Vent depth	0.000984	in

Extrusion	Value	Unit
Drying temperature	180	°F
Drying time	3	h
Melt temperature	385	°F
Die head temperature	390	°F
Back pressure	725 - 2900	psi

Aging	Value	Unit	Test Standard
Change in Tensile Strength in Air @ 150 C, 168 h	-9.4	%	ASTM D573
Change in Tensile Strength in Air @ 150 C, 168 h	-9.4	%	ISO 188
Change in Ultimate Elongation in Air @ 150 C, 168 h	-7.7	%	ASTM D573
Change in Tensile Strain at Break in Air @ 150 C, 168 h	-7.7	%	ISO 188
Change in Durometer Hardness in Air @ 150 C, 168 h, Shore A	1.3	-	ASTM D573
Change in Shore Hardness in Air @ 150 C, 168 h, Shore A	1.3	-	ISO 188
Continuous Upper Temperature Resistance (CUTR) @ 1008 h	275	°F	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

OEM	Specification
Chrysler (FCA)	MS-AR-100 BGN
FORD	WSD-M2D379-A1
GM	GMW15813, Type 5

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