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ExxonMobil Chemical

Santoprene™ 101-64
Thermoplastic Vulcanizate

Product Description	Key Features
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 completely recyclable.	• 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. • EU Directive 2002/95/EC (RoHS) compliant.

General			
Availability [1]	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America • South America
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 • Tubing		
Uses	• Appliance Components • Automotive Applications • Automotive Under the Hood	• Consumer Applications • Diaphrams • Electrical Parts	• Gaskets • Seals • Tubing
Agency Ratings	• EU 2003/11/EC	• UL QMFZ2	• UL QMFZ8
RoHS Compliance	• RoHS Compliant		
Automotive Specifications	• CHRYSLER MS-AR100 BGN • DELPHI 8565 • DELPHI DX300003	• FORD WSD-M2D379-A1 • GM GMP.E/P.002 • TRW TMS-P-10,365	• VALEO VMS-8618
Color	• Black		
Form(s)	• Pellets		
Processing Method	• Blow Molding • Coextrusion • Extrusion	• Extrusion Blow Molding • Injection Blow Molding • Injection Molding	• Multi Injection Molding • Profile Extrusion • Sheet Extrusion
Revision Date	• 11/27/2007		

Physical	Typical Value (English)	Typical Value (SI)	Test Based On
Specific Gravity	0.970	0.970	ASTM D792
Density	0.970 g/cm³	0.970 g/cm³	ISO 1183

Hardness	Typical Value (English)	Typical Value (SI)	Test Based On
Shore Hardness			ISO 868
Shore A, 15 sec, 73°F (23°C), 0.0787 in (2.00 mm)	69	69	

Elastomers	Typical Value (English)	Typical Value (SI)	Test Based On
Tensile Stress at 100% - Across Flow (73°F (23°C))	377 psi	2.60 MPa	ASTM D412

Typical properties: these are not to be construed as specifications.

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Elastomers	Typical Value (English)	Typical Value (SI)	Test Based On
Tensile Stress at 100% - Across Flow (73°F (23°C))	377 psi	2.60 MPa	ISO 37
Tensile Strength at Break - Across Flow (73°F (23°C))	1020 psi	7.00 MPa	ASTM D412
Tensile Stress at Break - Across Flow (73°F (23°C))	1020 psi	7.00 MPa	ISO 37
Elongation at Break - Across Flow (73°F (23°C))	450 %	450 %	ASTM D412
Tensile Strain at Break - Across Flow (73°F (23°C))	450 %	450 %	ISO 37
Tear Strength - Across Flow (73°F (23°C), Die C)	131 lbf/in	23.0 kN/m	ASTM D624
Tear Strength - Across Flow			ISO 34-1
73°F (23°C), Method Bb, Angle (Nicked)	130 lbf/in	23 kN/m	
Compression Set			ASTM D395B
158°F (70°C), 22.0 hr, Type 1	18 %	18 %	
257°F (125°C), 70.0 hr, Type 1	44 %	44 %	
Compression Set			ISO 815
158°F (70°C), 22.0 hr, Type A	18 %	18 %	
257°F (125°C), 70.0 hr, Type A	44 %	44 %	

Thermal	Typical Value (English)	Typical Value (SI)	Test Based On
Brittleness Temperature	-76 °F	-60 °C	ASTM D746
Brittleness Temperature	-76 °F	-60 °C	ISO 812

Electrical	Typical Value (English)	Typical Value (SI)	Test Based On
Volume Resistivity			ASTM D257
73°F (23°C), 0.0800 in (2.03 mm)	1.0E+16 ohm·cm	1.0E+16 ohm·cm	
73°F (23°C), 0.130 in (3.30 mm)	5.0E+15 ohm·cm	5.0E+15 ohm·cm	
Dielectric Strength			ASTM D149
0.0800 in (2.03 mm)	730 V/mil	29 kV/mm	
73°F (23°C), 0.130 in (3.30 mm)	620 V/mil	25 kV/mm	
Dielectric Constant			ASTM D150
73°F (23°C), 0.0780 in (1.98 mm)	2.50	2.50	
Dielectric Constant			IEC 60250
73°F (23°C), 0.0780 in (1.98 mm)	2.50	2.50	

Injection	Typical Value (English)	Typical Value (SI)
Drying Temperature	180 °F	82.2 °C
Drying Time	3.0 hr	3.0 hr
Suggested Max Moisture	0.080 %	0.080 %
Suggested Max Regrind	20 %	20 %
Rear Temperature	350 °F	177 °C
Middle Temperature	360 °F	182 °C
Front Temperature	360 °F	182 °C
Nozzle Temperature	370 to 430 °F	188 to 221 °C
Processing (Melt) Temp	380 to 450 °F	193 to 232 °C
Mold Temperature	50.0 to 125 °F	10.0 to 51.7 °C
Injection Rate	Fast	Fast

Typical properties: these are not to be construed as specifications.

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Injection	Typical Value (English)		Typical Value (SI)	
Back Pressure	50.0 to 100	psi	0.345 to 0.689	MPa
Screw Speed	100 to 200	rpm	100 to 200	rpm
Clamp Tonnage	3.0 to 5.0	tons/in²	41 to 69	MPa
Cushion	0.125 to 0.250	in	3.18 to 6.35	mm
Screw L/D Ratio	16.0:1.0 to 20.0:1.0		16.0:1.0 to 20.0:1.0	
Screw Compression Ratio	2.0:1.0 to 2.5:1.0		2.0:1.0 to 2.5:1.0	
Vent Depth	0.0010	in	0.025	mm

Injection Notes

Santoprene TPV is incompatible with acetal and PVC. For more information regarding processing and mold design, please consult our Injection Molding Guide.

Extrusion	Typical Value (English)		Typical Value (SI)	
Drying Temperature	180	°F	82.2	°C
Drying Time	3.0	hr	3.0	hr
Melt Temperature	385	°F	196	°C
Die Temperature	390	°F	199	°C
Back Pressure	725 to 2900	psi	5.00 to 20.0	MPa

Extrusion Notes

Santoprene TPV is incompatible with acetal and PVC. For more information regarding processing and mold design, please consult our Extrusion Guide.

Aging	Typical Value (English)		Typical Value (SI)		Test Based On
Change in Tensile Strength in Air					ASTM D573
302°F (150°C), 168 hr	-12	%	-12	%	
Change in Tensile Strength in Air					ISO 188
302°F (150°C), 168 hr	-12	%	-12	%	
Change in Ultimate Elongation in Air					ASTM D573
302°F (150°C), 168 hr	6.0	%	6.0	%	
Change in Tensile Strain at Break in Air					ISO 188
302°F (150°C), 168 hr	6.0	%	6.0	%	
Change in Durometer Hardness in Air					ASTM D573
Shore A, 302°F (150°C), 168 hr	2.0		2.0		
Change in Shore Hardness in Air					ISO 188
Shore A, 302°F (150°C), 168 hr	2.0		2.0		
Continuous Upper Temperature Resistance	275	°F	135	°C	SAE J2236

Additional Information

Values are for injection molded plaques, fan-gated, 102.0 mm x 152.0 mm x 2.0 mm (4.000" x 6.000" x 0.080").
Tensile strength, elongation and tensile stress are measured across the flow direction - ISO type 1, ASTM die C.
Compression set at 25% deflection.

Legal Statement

For detailed Product Stewardship information, please contact Customer Service.

This product, including the product name, shall not be used or tested in any medical application without the prior written acknowledgement of ExxonMobil Chemical as to the intended use.

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