

Santoprene™ 121-75M100

Thermoplastic Vulcanizate

Product Description	Key Features
A soft, black, UV resistant thermoplastic vulcanizate (TPV) in the thermoplastic elastomer (TPE) family. This material combines good physical properties and chemical resistance for use in difficult injection molding applications. This grade of Santoprene TPV is shear-dependent and can be processed on conventional thermoplastics equipment for injection molding. It is polyolefin based and completely recyclable.	<ul style="list-style-type: none"> Used in glass encapsulation applications. Designed for fast, easy injection molding, especially for complex part geometries. Used in sealing applications. Recommended for applications requiring superior part surface appearance. UL listed: file #QMFZ2.E80017, Plastics - Component; file #QMFZ8.E80017, Plastics Certified For Canada - Component. EU and China RoHS compliant.

General			
Availability ¹	<ul style="list-style-type: none"> Africa & Middle East Asia Pacific 	<ul style="list-style-type: none"> Europe Latin America 	<ul style="list-style-type: none"> North America South America
Applications	<ul style="list-style-type: none"> Automotive - Interior Mat 	<ul style="list-style-type: none"> Automotive - Seals and Gaskets 	<ul style="list-style-type: none"> Automotive - Weather Seals
Uses	<ul style="list-style-type: none"> Automotive Applications Automotive Exterior Trim 	<ul style="list-style-type: none"> Automotive Interior Trim Automotive Under the Hood 	
Agency Ratings	<ul style="list-style-type: none"> EU Annex XVII of Regulation (EC) No 1907/2006 	<ul style="list-style-type: none"> UL QMFZ2 	<ul style="list-style-type: none"> UL QMFZ8
RoHS Compliance	<ul style="list-style-type: none"> RoHS Compliant 		
Automotive Specifications	<ul style="list-style-type: none"> CHRYSLER MS-AR100 CMV GM GMN6706 	<ul style="list-style-type: none"> GM GMP.E/P.098 GM GMW15812, Type 7 	
UL File Number	<ul style="list-style-type: none"> E80017 		
Color	<ul style="list-style-type: none"> Black 		
Form(s)	<ul style="list-style-type: none"> Pellets 		
Processing Method	<ul style="list-style-type: none"> Injection Molding 	<ul style="list-style-type: none"> Multi Injection Molding 	
Revision Date	<ul style="list-style-type: none"> 02/17/2011 		

Physical	Typical Value (English)	Typical Value (SI)	Test Based On
Specific Gravity	0.920	0.920	ASTM D792
Density	0.920 g/cm ³	0.920 g/cm ³	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)	80	80	

Elastomers	Typical Value (English)	Typical Value (SI)	Test Based On
Tensile Stress at 100% - Across Flow (73°F (23°C))	508 psi	3.50 MPa	ASTM D412
Tensile Stress at 100% - Across Flow (73°F (23°C))	508 psi	3.50 MPa	ISO 37
Tensile Strength at Break - Across Flow (73°F (23°C))	1020 psi	7.00 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 Break - Across Flow (73°F (23°C))	1020 psi	7.00 MPa	ISO 37
Elongation at Break - Across Flow (73°F (23°C))	480 %	480 %	ASTM D412
Tensile Strain at Break - Across Flow (73°F (23°C))	480 %	480 %	ISO 37
Tear Strength - Across Flow (73°F (23°C), Die C)	148 lbf/in	26.0 kN/m	ASTM D624
Tear Strength - Across Flow 73°F (23°C), Method Bb, Angle (Nicked)	150 lbf/in	26 kN/m	ISO 34-1
Compression Set 158°F (70°C), 22.0 hr, Type 1	40 %	40 %	ASTM D395B
257°F (125°C), 70.0 hr, Type 1	53 %	53 %	
Compression Set 158°F (70°C), 22.0 hr, Type A	40 %	40 %	ISO 815
257°F (125°C), 70.0 hr, Type A	53 %	53 %	

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

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	360 °F	182 °C
Middle Temperature	370 °F	188 °C
Front Temperature	380 °F	193 °C
Nozzle Temperature	390 °F	199 °C
Processing (Melt) Temp	400 to 450 °F	204 to 232 °C
Mold Temperature	50.0 to 125 °F	10.0 to 51.7 °C
Injection Rate	Fast	Fast
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/in ²	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.

Aging	Typical Value (English)	Typical Value (SI)	Test Based On
Change in Tensile Strength in Air 302°F (150°C), 168 hr	-11 %	-11 %	ASTM D573

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Aging	Typical Value (English)	Typical Value (SI)	Test Based On
Change in Tensile Strength in Air 302°F (150°C), 168 hr	-11 %	-11 %	ISO 188
Change in Ultimate Elongation in Air 302°F (150°C), 168 hr	-14 %	-14 %	ASTM D573
Change in Tensile Strain at Break in Air 302°F (150°C), 168 hr	-14 %	-14 %	ISO 188
Change in Durometer Hardness in Air Shore A, 302°F (150°C), 168 hr	2.0	2.0	ASTM D573
Change in Shore Hardness in Air Shore A, 302°F (150°C), 168 hr	2.0	2.0	ISO 188

Flammability	Typical Value (English)	Typical Value (SI)	Test Based On
Flame Rating (0.0433 in (1.10 mm))	HB	HB	UL 94

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.
Tear strength - DIN 53515, die C (notched).

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.

Processing Statement

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. For more information, please consult our Material Safety Data Sheet and Injection Molding Guide.

Notes

¹ Product may not be available in one or more countries in the identified Availability regions. Please contact your Sales Representative for complete Country Availability.

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