

# Santoprene™ 121-75M100

## Thermoplastic Vulcanizate

### Product Description

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 recyclable within the manufacturing stream.

### Key Features

- Used in glass encapsulation applications.
- Designed for fast, easy injection molding, especially for complex part geometries.
- Used in sealing applications.
- Recommended for applications requiring improved part surface appearance.
- UL listed: file #QMFZ2.E80017, Plastics - Component; file #QMFZ8.E80017, Plastics Certified For Canada - Component.

### General

Applications	▪ Automotive - Interior Mat	▪ Automotive - Seals and Gaskets	▪ Automotive - Weather Seals
Uses	▪ Automotive Applications	▪ Automotive Interior Trim	▪ Outdoor Applications
	▪ Automotive Exterior Trim	▪ Automotive Under the Hood	
Agency Ratings	▪ UL QMFZ2	▪ UL QMFZ8	
RoHS Compliance	▪ RoHS Compliant		
Automotive Specifications	▪ CHRYSLER MS-AR-100 CMV	▪ GM GMW15812, Type 7M	
UL File Number	▪ E80017		
Color	▪ Black		
Form(s)	▪ Pellets		
Processing Method	▪ Injection Molding	▪ Multi Injection Molding	

Physical	Typical Value (English)	Typical Value (SI)	Test Based On
Density / Specific Gravity	0.930	0.930	ASTM D792
Density	0.920 g/cm <sup>3</sup>	0.920 g/cm <sup>3</sup>	ISO 1183

Hardness	Typical Value (English)	Typical Value (SI)	Test Based On
Shore Hardness			ISO 868
Shore A, 15 sec, 73°F (23°C)	80	80	

Elastomers	Typical Value (English)	Typical Value (SI)	Test Based On
Tensile Stress at 100% - Across Flow (73°F (23°C))	550 psi	3.79 MPa	ASTM D412
Tensile Stress at 100% - Across Flow (73°F (23°C))	550 psi	3.79 MPa	ISO 37
Tensile Strength at Break - Across Flow (73°F (23°C))	956 psi	6.59 MPa	ASTM D412
Tensile Stress at Break - Across Flow (73°F (23°C))	956 psi	6.59 MPa	ISO 37
Elongation at Break - Across Flow (73°F (23°C))	440 %	440 %	ASTM D412
Tensile Strain at Break - Across Flow (73°F (23°C))	440 %	440 %	ISO 37
Tear Strength - Across Flow 73°F (23°C), Method Ba, Angle (Unnicked)	150 lbf/in	26 kN/m	ISO 34-1
Compression Set 158°F (70°C), 22 hr, Type 1	42 %	42 %	ASTM D395B
257°F (125°C), 70 hr, Type 1	55 %	55 %	
Compression Set 158°F (70°C), 22 hr, Type A	42 %	42 %	ISO 815
257°F (125°C), 70 hr, Type A	55 %	55 %	



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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 °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 to 125 °F	10 to 52 °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 <sup>2</sup>	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	1.0E-3 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	-16 %	-16 %	ASTM D573
Change in Tensile Strength in Air 302°F (150°C), 168 hr	-16 %	-16 %	ISO 188
Change in Ultimate Elongation in Air 302°F (150°C), 168 hr	-27 %	-27 %	ASTM D573
Change in Tensile Strain at Break in Air 302°F (150°C), 168 hr	-27 %	-27 %	ISO 188
Change in Durometer Hardness in Air Shore A, 302°F (150°C), 168 hr	3.0	3.0	ASTM D573
Change in Shore Hardness in Air Shore A, 302°F (150°C), 168 hr	3.0	3.0	ISO 188

Flammability	Typical Value (English)	Typical Value (SI)	Test Based On
Flame Rating (0.04 in (1.1 mm))	HB	HB	UL 94

