

Santoprene™ 8211-45

Thermoplastic Vulcanizate

Product Description

A soft, colorable, non-hygroscopic 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

- Non-hygroscopic product, requires little to no drying before processing.
- Neutral, easy coloring formulation.
- Recommended for applications requiring excellent ozone resistance.
- Used in sealing applications.
- Recommended for applications requiring excellent flex fatigue resistance.
- UL listed: file #QMFZ2.E80017, Plastics - Component; file #QMFZ8.E80017, Plastics Certified For Canada - Component.

General

Applications	▪ Automotive - HVAC Flapper Door Seals ▪ Automotive - Interior ▪ Automotive - Interior Mat	▪ Consumer - Electronics ▪ Consumer - Floor Care ▪ Consumer - Kitchen Tools	▪ Seals and Gaskets ▪ Soft Touch Grips
Uses	▪ Automotive Applications ▪ Cell Phones	▪ Consumer Applications ▪ Flexible Grips	▪ Seals
Agency Ratings	▪ UL QMFZ2	▪ UL QMFZ8	
RoHS Compliance	▪ RoHS Compliant		
Automotive Specifications	▪ GM GMW15702-250034		
UL File Number	▪ E80017		
Color	▪ Natural Color		
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	0.930 g/cm ³	0.930 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)	49	49	

Elastomers

	Typical Value (English)	Typical Value (SI)	Test Based On
Tensile Stress at 100% - Across Flow (73°F (23°C))	218 psi	1.50 MPa	ASTM D412
Tensile Stress at 100% - Across Flow (73°F (23°C))	218 psi	1.50 MPa	ISO 37
Tensile Strength at Break - Across Flow (73°F (23°C))	522 psi	3.60 MPa	ASTM D412
Tensile Stress at Break - Across Flow (73°F (23°C))	522 psi	3.60 MPa	ISO 37
Elongation at Break - Across Flow (73°F (23°C))	410 %	410 %	ASTM D412
Tensile Strain at Break - Across Flow (73°F (23°C))	410 %	410 %	ISO 37
Compression Set			ASTM D395B
158°F (70°C), 22 hr, Type 1	25 %	25 %	
Compression Set			ISO 815
158°F (70°C), 22 hr, Type A	25 %	25 %	



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Thermal	Typical Value (English)	Typical Value (SI)	Test Based On
Brittleness Temperature	-80 °F	-62 °C	ASTM D746
Brittleness Temperature	-80 °F	-62 °C	ISO 812
RTI Elec	212 °F	100 °C	UL 746
RTI Str			UL 746
0.04 in (1.1 mm)	194 °F	90.0 °C	
0.12 in (3.0 mm)	203 °F	95.0 °C	

Injection	Typical Value (English)	Typical Value (SI)
Suggested Max Moisture	0.080 %	0.080 %
Suggested Max Regrind	20 %	20 %
Rear Temperature	350 to 375 °F	177 to 191 °C
Middle Temperature	355 to 380 °F	179 to 193 °C
Front Temperature	365 to 390 °F	185 to 199 °C
Nozzle Temperature	365 to 410 °F	185 to 210 °C
Processing (Melt) Temp	290 to 420 °F	143 to 216 °C
Mold Temperature	75 to 125 °F	24 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 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	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	-10 %	-10 %	ASTM D573
Change in Tensile Strength in Air 302°F (150°C), 168 hr	-10 %	-10 %	ISO 188
Change in Ultimate Elongation in Air 302°F (150°C), 168 hr	-26 %	-26 %	ASTM D573
Change in Tensile Strain at Break in Air 302°F (150°C), 168 hr	-26 %	-26 %	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			UL 94
0.04 in (1.1 mm)	HB	HB	
0.12 in (3.0 mm)	HB	HB	

