ExxonMobil

Santoprene™ 8271-75

Thermoplastic Vulcanizate

Product Description

A soft, colorable, specialty, non-hygroscopic thermoplastic vulcanizate (TPV) in the thermoplastic elastomer (TPE) family. It is designed for use in non fatty food contact applications. This grade of Santoprene TPV is shear-dependent and can be processed on conventional thermoplastics equipment for injection molding or blow molding. It is polyolefin based and recyclable within the manufacturing stream.

Key Features

- This product, in principle, can be used in food contact applications in the USA (FDA). Migration or use limitations may apply.
- Certified by NSF to NSF/ANSI Standard 51: Food Equipment Materials - Plastics, materials and components used in food equipment.
- UL listed: file #QMFZ2.E80017, Plastics - Component; file #QMFZ8.E80017, Plastics Certified For Canada - Component.
- Recommended for applications requiring excellent flex fatigue resistance.
- Non-hygroscopic product; requires little to no drying before processing.
- Neutral, easy coloring formulation.

General

Applications	• Consumer - FDA Seals and Closures • Consumer - Packaging	• Consumer - Small Appliance • Consumer - Soft Touch Grips	• Industrial - Seals and Gaskets • Tubing
Uses	• Flexible Grips • Food Containers • Kitchenware	• Living Hinges • Non-specific Food Applications • Seals	• White Goods & Small Appliances
Agency Ratings	• FDA Food Contact, Unspecified Rating • NSF STD-51	• UL QMFZ2 • UL QMFZ8	
RoHS Compliance	• RoHS Compliant		
UL File Number	• E80017		
Color	• Natural Color		
Form(s)	• Pellets		
Processing Method	• Blow Molding • Extrusion Blow Molding	• Injection Blow Molding • Injection Molding	• Multi Injection Molding

Physical	Typical Value (English)	Typical Value (SI)	Test Based On
Density / Specific Gravity	0.940	0.940	ASTM D792
Density	0.940 g/cm³	0.940 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)	81	81	

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Elastomers	Typical Value (English)		Typical Value (SI)		Test Based On
Tensile Stress at 100% - Across Flow (73°F (23°C))	566	psi	3.90	MPa	ASTM D412
Tensile Stress at 100% - Across Flow (73°F (23°C))	566	psi	3.90	MPa	ISO 37
Tensile Strength at Break - Across Flow (73°F (23°C))	1200	psi	8.30	MPa	ASTM D412
Tensile Stress at Break - Across Flow (73°F (23°C))	1200	psi	8.30	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
Compression Set					ASTM D395B
158°F (70°C), 22 hr, Type 1	37	%	37	%	
257°F (125°C), 70 hr, Type 1	75	%	75	%	
Compression Set					ISO 815
158°F (70°C), 22 hr, Type A	37	%	37	%	
257°F (125°C), 70 hr, Type A	75	%	75	%	

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
RTI Elec	212	°F	100	°C	UL 746
RTI Str	185	°F	85.0	°C	UL 746

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.

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	