

Santoprene™ 8221-70

Thermoplastic Vulcanizate

Product Description

A soft, colorable, UV resistant 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 or blow molding. It is polyolefin based and recyclable within the manufacturing stream.

Key Features

- UL listed: file #QMFZ2.E80017, Plastics - Component; file #QMFZ8.E80017, Plastics Certified For Canada - Component.
- Neutral, easy coloring formulation.
- Used in sealing applications.

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
Applications	<ul style="list-style-type: none"> Industrial - Architectural and Construction 		
Uses	<ul style="list-style-type: none"> Construction Applications Expansion Joint 	<ul style="list-style-type: none"> Glazing Outdoor Applications 	
Agency Ratings	<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 		
UL File Number	<ul style="list-style-type: none"> E80017 		
Color	<ul style="list-style-type: none"> Natural Color 		
Form(s)	<ul style="list-style-type: none"> Pellets 		
Processing Method	<ul style="list-style-type: none"> Blow Molding Extrusion Blow Molding 	<ul style="list-style-type: none"> Injection Blow Molding Injection Molding 	<ul style="list-style-type: none"> Multi Injection Molding
Revision Date	<ul style="list-style-type: none"> 06/18/2018 		

Physical

	Typical Value (English)	Typical Value (SI)	Test Based On
Density / Specific Gravity	0.950	0.950	ASTM D792
Density	0.950 g/cm ³	0.950 g/cm ³	ISO 1183
Outdoor Suitability	f1	f1	UL 746C

Hardness

	Typical Value (English)	Typical Value (SI)	Test Based On
Shore Hardness			ISO 868
Shore A, 15 sec, 73°F (23°C)	75	75	
Shore Hardness ²			ISO 7619-1
Shore A, 15 sec, 73°F (23°C)	69	69	

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Elastomers	Typical Value (English)	Typical Value (SI)	Test Based On
Tensile Stress at 100% - Across Flow (73°F (23°C))	421 psi	2.90 MPa	ASTM D412
Tensile Stress at 100% - Across Flow (73°F (23°C))	421 psi	2.90 MPa	ISO 37
Tensile Strength at Break - Across Flow (73°F (23°C))	986 psi	6.80 MPa	ASTM D412
Tensile Stress at Break - Across Flow (73°F (23°C))	986 psi	6.80 MPa	ISO 37
Elongation at Break - Across Flow (73°F (23°C))	600 %	600 %	ASTM D412
Tensile Strain at Break - Across Flow (73°F (23°C))	600 %	600 %	ISO 37
Compression Set			ASTM D395B
158°F (70°C), 22 hr, Type 1	38 %	38 %	
257°F (125°C), 70 hr, Type 1	58 %	58 %	
Compression Set			ISO 815
158°F (70°C), 22 hr, Type A	38 %	38 %	
257°F (125°C), 70 hr, Type A	58 %	58 %	
Compression Set ³			3rd Party Test Method
257°F (125°C), 70 hr, Type A	48 %	48 %	
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	185 °F	85.0 °C	UL 746
Electrical	Typical Value (English)	Typical Value (SI)	Test Based On
Comparative Tracking Index (CTI)	PLC 0	PLC 0	UL 746
High Amp Arc Ignition (HAI)	PLC 1	PLC 1	UL 746
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	355 to 385 °F	179 to 196 °C	
Middle Temperature	365 to 390 °F	185 to 199 °C	
Front Temperature	375 to 400 °F	191 to 204 °C	
Nozzle Temperature	375 to 410 °F	191 to 210 °C	
Processing (Melt) Temp	390 to 420 °F	199 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	

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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)
Melt Temperature	365 to 430 °F	185 to 221 °C
Die Temperature	365 to 430 °F	185 to 221 °C

Flammability	Typical Value (English)	Typical Value (SI)	Test Based On
Flame Rating			UL 94
0.04 in (1.1 mm)	HB	HB	
0.06 in (1.6 mm)	HB	HB	
0.12 in (3.0 mm)	HB	HB	

Additional Information	Typical Value (English)	Typical Value (SI)
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This grade is certified by CSTB in Grade 5 class (Working temperature range: [-25°C; +75°C]) and is conforming with the characteristics defined in the certification reference system QB36 (see <http://evaluation.cstb.fr/fr/certifications-produits-services/produit/matieres-souples/>)

Where applicable, test results based on fan gated, injection molded plaques.

Tensile strength, elongation and tensile stress are measured across the flow direction - ISO type 1, ASTM die C.

Compression set at 25% deflection.

All products purchased directly from an ExxonMobil affiliate in Europe are REACH compliant. For products not imported into Europe by ExxonMobil, customers should assess their legal responsibilities under REACH.

MATIÈRES SOUPLES
FLEXIBLE MATERIALS



064-N051b₁

<http://evaluation.cstb.fr>

Legal Statement

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. For detailed Product Stewardship information, please contact Customer Service.

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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 Safety Data Sheet, Injection Molding Guide and Extrusion Guide.

Notes

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

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.

² on extruded tapes (x3)

³ on extruded tapes (x3), CSTB - QB36

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