

Santoprene™ 8000 TPV 8211-75
Advanced Elastomer Systems - Thermoplastic Vulcanizate

Tuesday, October 23, 2007

All values included in this document are for reference purposes only and should not be construed as material specifications. The test methods on this Product Data Sheet indicate the internationally recognized standards upon which the manufacturer's work instructions are based.

General

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 8000 TPV is shear-dependent and can be processed on conventional thermoplastics equipment for injection molding. It is polyolefin based and completely recyclable.

General

Material Status	• Commercial: Active
Availability	<ul style="list-style-type: none"> • Africa • Asia • Australia • Europe • Latin America • Middle East • North America • Pacific Rim • South America
Test Standards Available	<ul style="list-style-type: none"> • ASTM • ISO
Uses	<ul style="list-style-type: none"> • Consumer Applications • Grips, Flexible • Hinges, Living • Industrial Applications • Low Temperature Applications • Parts, Thin-walled • Toys • Writing Instruments
Agency Ratings	<ul style="list-style-type: none"> • EU 2003/11/EC • RoHS Compliant • UL QMFZ2 • UL QMFZ8
RoHS Compliance	• RoHS Compliant
Color	• Natural Color
Forms	• Pellets
Processing Method	<ul style="list-style-type: none"> • Injection Molding • Injection Molding, Multi

Physical

Hardness	Typical Value (English)	Typical Value (SI)	Test Based On
Durometer Hardness A Scale, 0.120 in (3.05 mm), 73.0 °F (22.8 °C)	75	75	ASTM D2240
Shore Hardness Shore A, 0.0787 in (2.00 mm), 73.4 °F (23.0 °C)	80	80	ISO 868
Physical	Typical Value (English)	Typical Value (SI)	Test Based On
Density -Specific Gravity	0.930 sp gr 23/23°C	0.930 sp gr 23/23°C	ASTM D792
Density	0.930 g/cm ³	0.930 g/cm ³	ISO 1183

Mechanical

Mechanical	Typical Value (English)	Typical Value (SI)	Test Based On
Tensile Stress @ 100% 73.0 °F (22.8 °C) - Across Flow	550 psi	3.79 MPa	ASTM D412
Tensile Stress at 100% 73 °F (23 °C) - Across Flow	551 psi	3.80 MPa	ISO 37
Tensile Str @ Break Elast 73 °F (23 °C) - Across Flow	1020 psi	7.03 MPa	ASTM D412
Tensile Stress at Break 73 °F (23 °C) - Across Flow	1020 psi	7.00 MPa	ISO 37
Elongation @ Break Elast 73.0 °F (22.8 °C) - Across Flow	520 %	520 %	ASTM D412
Tensile Strain at Break 73 °F (23 °C) - Across Flow	520 %	520 %	ISO 37
Compression Set ¹ 158 °F (70 °C), 22.0 hr	36 %	36 %	ASTM D395
Compression Set ² 158 °F (70 °C), 22.0 hr	36 %	36 %	ISO 815

Thermal

Thermal	Typical Value (English)	Typical Value (SI)	Test Based On
Brittle Temperature	-76 °F	-60 °C	ASTM D746
Brittleness Temperature	-76 °F	-60 °C	ISO 812

Processing

Injection	Typical Value (English)	Typical Value (SI)
Suggested Max Moisture	0.080 %	0.080 %
Suggested Max Regrind	20 %	20 %
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 8000 TPV is incompatible with acetal and PVC. For more information regarding processing and mold design, please consult our Injection Molding Guide.

Other

Aging	Typical Value (English)	Typical Value (SI)	Test Based On
Change in Tensile Strength in Air 302 °F (150 °C), 168 hr	-17 %	-17 %	ASTM D573
Change in Tensile Strength in Air 302 °F (150 °C), 168 hr	-17 %	-17 %	ISO 188
Change in Ultimate Elongation in Air 302 °F (150 °C), 168 hr	-39 %	-39 %	ASTM D573
Change in Tensile Strain at Break in Air 302 °F (150 °C), 168 hr	-39 %	-39 %	ISO 188

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.
- Compliant to EU Directive 2003/11/EC regarding marketing and use of certain dangerous substances and preparations, specifically pentabromodiphenyl ether or octabromodiphenyl ether.
- EU Directive 2002/95/EC (RoHS) compliant.

Processing Statement

Desiccant drying for 3 hours at 80°C (180°F) can be performed if desired. Santoprene 8000 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.

Revision Date

03/22/2006

Additional Properties

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.
Not recommended for hot oil.

Notes

¹ Type 1

² Type A

For additional technical, sales and order assistance:

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