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	• Africa • Asia • Australia • Europe • Latin America	• Middle East • North America • Pacific Rim • South America
Test Standards Available	• ASTM • ISO	
Uses	• Consumer Applications • Grips, Flexible • Hinges, Living • Industrial Applications	• Low Temperature Applications • Parts, Thin-walled • Toys • Writing Instruments
Agency Ratings	• EU 2003/11/EC • RoHS Compliant	• UL QMFZ2 • UL QMFZ8
RoHS Compliance	• RoHS Compliant	
Color	• Natural Color	
Forms	• Pellets	
Processing Method	• Injection Molding • Injection Molding, Multi	

Physical

Hardness	Typical Value (English)	Typical Value (SI)	Test Based On
Durometer Hardness			ASTM D2240
A Scale, 0.120 in (3.05 mm), 73.0 °F (22.8 °C)	75	75	
Shore Hardness			ISO 868
Shore A, 0.0787 in (2.00 mm), 73.4 °F (23.0 °C)	80	80	

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/cm³	0.930 g/cm³	ISO 1183

Mechanical

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

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/in²	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			ASTM D573
302 °F (150 °C), 168 hr	-17 %	-17 %	
Change in Tensile Strength in Air			ISO 188
302 °F (150 °C), 168 hr	-17 %	-17 %	
Change in Ultimate Elongation in Air			ASTM D573
302 °F (150 °C), 168 hr	-39 %	-39 %	
Change in Tensile Strain at Break in Air			ISO 188
302 °F (150 °C), 168 hr	-39 %	-39 %	

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:

ADVANCED ELASTOMER SYSTEMS
388 S. Main Street
Akron, OH 44311-1065

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U.S. AnswerPerson(SM):	800.305.8070 option 2
North America AnswerPerson(SM):	330.849.5272
Europe AnswerPerson(SM):	32.2.706.3511
Japan AnswerPerson(SM):	81.44.288.9920
Asia-Pacific AnswerPerson(SM):	65.9677.6704
PRC/HK/Taiwan AnswerPerson(SM):	800.6773.1616

www.santoprene.com/answer