



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.

Tuesday, March 06, 2007

Santoprene™ TPV 281-87MED

Advanced Elastomer Systems - *Thermoplastic Elastomer*

Unit System:

Actions

[Legend \(Open\)](#)



General Information

Product Description

A hard, colorable, specialty thermoplastic vulcanizate (TPV) in the thermoplastic elastomer (TPE) family. USP Class VI Certificates of Compliance exist for representative samples of our medical grades. Prior to release, each medical grade lot undergoes a Cytotoxicity study using the ISO elution method and a Physico-Chemical - Elastomeric Closures test for heavy metals such as lead. This grade of Santoprene TPV is shear-dependent and can be processed on conventional thermoplastics equipment for injection molding, extrusion or blow molding. It is polyolefin based and completely recyclable.

General

Material Status . Commercial: Active

Availability . Africa . Middle East
 . Asia . North
 . Australia America
 . Europe . Pacific Rim
 . Latin . South
 America America

Test Standards Available . ASTM
 . ISO

Uses . Hospital Goods . Medical
 . Hypodermic Syringe Applications
 Parts . Prosthetics
 . Medical Appliances . Seals

Agency Ratings . EU 2003/11/EC
 . RoHS Compliant
 . USP Class VI

Color . Natural Color

Forms . Pellets

Processing Method . Blow Molding . Extrusion, Sheet
 . Coextrusion . Injection Blow Molding
 . Extrusion . Injection Molding
 . Extrusion Blow Molding . Injection Molding, Multi
 . Extrusion, Profile

Properties ¹

Hardness	Nominal Value Unit	Test Method
Durometer Hardness (A Scale, 0.120 in)	88	ASTM D2240
Physical	Nominal Value Unit	Test Method
Density -Specific Gravity	0.95 sp gr 23/23°C	ASTM D792
Elastomers	Nominal Value Unit	Test Method
Tensile Set	28 %	ASTM D412
Tensile Stress @ 100%	Across Flow: 990 psi	ASTM D412
Tensile Str @ Break Elast (73 °F)	Across Flow: 2260 psi	ASTM D412
Elongation @ Break Elast	Across Flow: 560 %	ASTM D412
Tear Strength		ASTM D624
(73 °F, Die C)	Across Flow: 257 lbf/in	
(212 °F, Die C)	Across Flow: 143 lbf/in	
Compression Set		ASTM D395
(73 °F, 168 hr)	33 %	
(212 °F, 168 hr)	48 %	
Aging	Nominal Value Unit	Test Method
Change in Tensile Strength in Air (212 °F, 168 hr)	-11 %	ASTM D573
Change in Ultimate Elongation in Air (212 °F, 168 hr)	-9 %	ASTM D573

Key Features

- USP Class VI Certificates of Compliance for representative samples - in addition, representative materials passed the ISO 10993, ISO Maximization Sensitization study. - Prior to release, each medical grade lot undergoes the following two tests: . MEM elution cytotoxicity to L-929 mouse fibroblast cells; ISO 10993-5 test method; test unit measured in % cell lysis; typical value 0. . Physico-Chemical - Elastomeric Closures; USP method 381; heavy metals such as lead tested; test unit measured in ppm; typical value <1 ppm. - Drug Master File maintained with the FDA. - 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) is recommended. Santoprene TPVr has a wide temperature processing window from 175 to 230°C (350 to 450°F) and is incompatible with acetal and PVC in the molten state. For more information, please consult our Material Safety Data Sheet, Injection Molding Guide, Extrusion Guide and Blow Molding Guide.

Revision Date

03/10/2006

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.

Processing Information

Injection Notes

Santoprene TPV is incompatible with acetal and PVC in the molten state. For more information regarding processing and mold design, please consult our Injection Molding Guide.

Extrusion Notes

Santoprene TPV is incompatible with acetal and PVC in the molten state. For more information regarding processing and mold design, please consult our Extrusion Guide.

Notes

¹ Typical properties: these are not to be construed as specifications.

For additional technical, sales and order assistance:

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