

Santoprene™ 8281-55MED

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 medical and healthcare applications. This grade of Santoprene TPV is shear-dependent and can be processed on conventional thermoplastics equipment for injection molding. It is polyolefin based and recyclable within the manufacturing stream.

Key Features

- Based on a series of biocompatibility tests conducted on representative grades, this grade should meet the USP (U.S. Pharmacopeia) Class VI requirements for plastics.
- Additionally some ISO 10993 tests have been conducted.
- Each medical grade undergoes annual testing for cytotoxicity and heavy metals.
- Drug master file maintained with the FDA.

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"> ▪ Medical - Soft Touch Grips, USP Class VI Seals and Gaskets 		
Uses	<ul style="list-style-type: none"> ▪ Medical/Healthcare Applications 		
Agency Ratings	<ul style="list-style-type: none"> ▪ USP Class VI 		
RoHS Compliance	<ul style="list-style-type: none"> ▪ RoHS Compliant 		
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"> ▪ Injection Molding 	<ul style="list-style-type: none"> ▪ Multi Injection Molding 	
Revision Date	<ul style="list-style-type: none"> ▪ 06/20/2014 		

Physical	Typical Value (English)	Typical Value (SI)	Test Based On
Density / Specific Gravity	0.920	0.920	ASTM D792
Density	0.920 g/cm ³	0.920 g/cm ³	ISO 1183

Hardness	Typical Value (English)	Typical Value (SI)	Test Based On
Shore Hardness			ISO 868
Shore A, 15 sec, 73°F (23°C)	59	59	

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Thermoplastic Vulcanizate

Elastomers	Typical Value (English)	Typical Value (SI)	Test Based On
Tensile Stress at 100% - Across Flow (73°F (23°C))	290 psi	2.00 MPa	ASTM D412
Tensile Stress at 100% - Across Flow (73°F (23°C))	290 psi	2.00 MPa	ISO 37
Tensile Strength at Break - Across Flow (73°F (23°C))	754 psi	5.20 MPa	ASTM D412
Tensile Stress at Break - Across Flow (73°F (23°C))	754 psi	5.20 MPa	ISO 37
Elongation at Break - Across Flow (73°F (23°C))	430 %	430 %	ASTM D412
Tensile Strain at Break - Across Flow (73°F (23°C))	430 %	430 %	ISO 37
Tear Strength - Across Flow			ASTM D624
73°F (23°C), Die C	79.9 lbf/in	14.0 kN/m	
212°F (100°C), Die C	28.6 lbf/in	5.00 kN/m	
Tear Strength - Across Flow			ISO 34-1
73°F (23°C), Method Bb, Angle (Nicked)	80 lbf/in	14 kN/m	
212°F (100°C), Method Bb, Angle (Nicked)	29 lbf/in	5.0 kN/m	
Compression Set			ASTM D395B
73°F (23°C), 168 hr, Type 1	14 %	14 %	
Compression Set			ISO 815
73°F (23°C), 168 hr, Type A	14 %	14 %	

Injection	Typical Value (English)	Typical Value (SI)
Suggested Max Moisture	0.080 %	0.080 %
Suggested Max Re grind	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.

Additional Information

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.

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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) can be performed if desired. 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.

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.

For additional technical, sales and order assistance: www.exxonmobilchemical.com/ContactUs

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