

Santoprene™ 201-87

Thermoplastic Vulcanizate

Product Description	Key Features		
A hard, colorable, versatile 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, extrusion, blow molding, thermoforming or vacuum forming. It is polyolefin based and completely recyclable.	<ul style="list-style-type: none"> • UL listed: file #QMFZ2.E80017, Plastics - Component; file #QMFZ8.E80017, Plastics Certified For Canada - Component. • Recommended for applications requiring excellent flex fatigue resistance. • Excellent ozone resistance. • EU Directive 2002/95/EC (RoHS) compliant. 		
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 • South America
Applications	<ul style="list-style-type: none"> • Automotive - Boots and Bellows for Steering and Suspension 		
Uses	<ul style="list-style-type: none"> • Appliance Components • Automotive Applications • Automotive Under the Hood 	<ul style="list-style-type: none"> • Consumer Applications • Diaphragms • Electrical Parts 	<ul style="list-style-type: none"> • Living Hinges • Tubing
Agency Ratings	<ul style="list-style-type: none"> • EU 2003/11/EC 	<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 		
Automotive Specifications	<ul style="list-style-type: none"> • CHRYSLER MS-AR100 EGN • DELPHI 8519 • DELPHI M-6069 	<ul style="list-style-type: none"> • FORD WSD-M2D382-A1 • GM GMP.E/P.005 • TRW TMS-P-10,342 	<ul style="list-style-type: none"> • VALEO VMS-7023
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 • Coextrusion • Extrusion • Extrusion Blow Molding 	<ul style="list-style-type: none"> • Injection Blow Molding • Injection Molding • Multi Injection Molding • Profile Extrusion 	<ul style="list-style-type: none"> • Sheet Extrusion • Thermoforming • Vacuum Forming
Revision Date	<ul style="list-style-type: none"> • 11/27/2007 		

Physical	Typical Value (English)	Typical Value (SI)	Test Based On
Specific Gravity	0.960	0.960	ASTM D792
Density	0.960 g/cm ³	0.960 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), 0.0787 in (2.00 mm)	93	93	

Elastomers	Typical Value (English)	Typical Value (SI)	Test Based On
Tensile Stress at 100% - Across Flow (73°F (23°C))	1030 psi	7.10 MPa	ASTM D412
Tensile Stress at 100% - Across Flow (73°F (23°C))	1030 psi	7.10 MPa	ISO 37
Tensile Strength at Break - Across Flow (73°F (23°C))	2550 psi	17.6 MPa	ASTM D412
Tensile Stress at Break - Across Flow (73°F (23°C))	2550 psi	17.6 MPa	ISO 37

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

© 2010 ExxonMobil. To the extent the user is entitled to disclose and distribute this document, the user may forward, distribute, and/or photocopy this copyrighted document only if unaltered and complete, including all of its headers, footers, disclaimers, and other information. You may not copy this document to a Web site. ExxonMobil does not guarantee the typical (or other) values. Analysis may be performed on representative samples and not the actual product shipped. The information in this document relates only to the named product or materials when not in combination with any other product or materials. We based the information on data believed to be reliable on the date compiled, but we do not represent, warrant, or otherwise guarantee, expressly or impliedly, the merchantability, fitness for a particular purpose, suitability, accuracy, reliability, or completeness of this information or the products, materials, or processes described. The user is solely responsible for all determinations regarding any use of material or product and any process in its territories of interest. We expressly disclaim liability for any loss, damage, or injury directly or indirectly suffered or incurred as a result of or related to anyone using or relying on any of the information in this document. There is no endorsement of any product or process, and we expressly disclaim any contrary implication. The terms, "we", "our", "ExxonMobil Chemical", or "ExxonMobil" are used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates they directly or indirectly steward. ExxonMobil, the ExxonMobil Logo, the Interlocking "X" Device, and all other product names used herein are trademarks of ExxonMobil unless indicated otherwise.

**ExxonMobil Chemical Santoprene™ 201-87
Thermoplastic Vulcanizate**

Elastomers	Typical Value (English)	Typical Value (SI)	Test Based On
Elongation at Break - Across Flow (73°F (23°C))	580 %	580 %	ASTM D412
Tensile Strain at Break - Across Flow (73°F (23°C))	580 %	580 %	ISO 37
Tear Strength - Across Flow (73°F (23°C), Die C)	308 lbf/in	54.0 kN/m	ASTM D624
Tear Strength - Across Flow 73°F (23°C), Method Bb, Angle (Nicked)	310 lbf/in	54 kN/m	ISO 34-1
Compression Set 158°F (70°C), 22.0 hr, Type 1 257°F (125°C), 70.0 hr, Type 1	36 % 44 %	36 % 44 %	ASTM D395B
Compression Set 158°F (70°C), 22.0 hr, Type A 257°F (125°C), 70.0 hr, Type A	36 % 44 %	36 % 44 %	ISO 815

Thermal	Typical Value (English)	Typical Value (SI)	Test Based On
Brittleness Temperature	-65 °F	-54 °C	ASTM D746
Brittleness Temperature	-65 °F	-54 °C	ISO 812

Electrical	Typical Value (English)	Typical Value (SI)	Test Based On
Dielectric Strength (0.0800 in (2.03 mm))	870 V/mil	34 kV/mm	ASTM D149
Dielectric Constant 73°F (23°C), 0.0780 in (1.98 mm)	2.40	2.40	ASTM D150
Dielectric Constant 73°F (23°C), 0.0780 in (1.98 mm)	2.40	2.40	IEC 60250

Injection	Typical Value (English)	Typical Value (SI)
Drying Temperature	180 °F	82.2 °C
Drying Time	3.0 hr	3.0 hr
Suggested Max Moisture	0.080 %	0.080 %
Suggested Max Regrind	20 %	20 %
Rear Temperature	360 °F	182 °C
Middle Temperature	370 °F	188 °C
Front Temperature	380 °F	193 °C
Nozzle Temperature	390 to 455 °F	199 to 235 °C
Processing (Melt) Temp	400 to 450 °F	204 to 232 °C
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

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

© 2010 ExxonMobil. To the extent the user is entitled to disclose and distribute this document, the user may forward, distribute, and/or photocopy this copyrighted document only if unaltered and complete, including all of its headers, footers, disclaimers, and other information. You may not copy this document to a Web site. ExxonMobil does not guarantee the typical (or other) values. Analysis may be performed on representative samples and not the actual product shipped. The information in this document relates only to the named product or materials when not in combination with any other product or materials. We based the information on data believed to be reliable on the date compiled, but we do not represent, warrant, or otherwise guarantee, expressly or impliedly, the merchantability, fitness for a particular purpose, suitability, accuracy, reliability, or completeness of this information or the products, materials, or processes described. The user is solely responsible for all determinations regarding any use of material or product and any process in its territories of interest. We expressly disclaim liability for any loss, damage, or injury directly or indirectly suffered or incurred as a result of or related to anyone using or relying on any of the information in this document. There is no endorsement of any product or process, and we expressly disclaim any contrary implication. The terms, "we", "our", "ExxonMobil Chemical", or "ExxonMobil" are used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates they directly or indirectly steward. ExxonMobil, the ExxonMobil Logo, the Interlocking "X" Device, and all other product names used herein are trademarks of ExxonMobil unless indicated otherwise.

ExxonMobil Chemical Santoprene™ 201-87 Thermoplastic Vulcanizate

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)
Drying Temperature	180 °F	82.2 °C
Drying Time	3.0 hr	3.0 hr
Melt Temperature	400 °F	204 °C
Die Temperature	410 °F	210 °C
Back Pressure	725 to 2900 psi	5.00 to 20.0 MPa

Extrusion Notes

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

Aging	Typical Value (English)	Typical Value (SI)	Test Based On
Change in Tensile Strength in Air 302°F (150°C), 168 hr	-15 %	-15 %	ASTM D573
Change in Tensile Strength in Air 302°F (150°C), 168 hr	-15 %	-15 %	ISO 188
Change in Ultimate Elongation in Air 302°F (150°C), 168 hr	-16 %	-16 %	ASTM D573
Change in Tensile Strain at Break in Air 302°F (150°C), 168 hr	-16 %	-16 %	ISO 188
Change in Durometer Hardness in Air Shore A, 302°F (150°C), 168 hr	2.0	2.0	ASTM D573
Change in Shore Hardness in Air Shore A, 302°F (150°C), 168 hr	2.0	2.0	ISO 188
Continuous Upper Temperature Resistance	275 °F	135 °C	SAE J2236

Additional Information

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.

Legal Statement

For detailed Product Stewardship information, please contact Customer Service.

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.

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 Material Safety Data Sheet, Injection Molding Guide, Extrusion Guide and Blow Molding Guide.

Notes

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.

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

© 2010 ExxonMobil. To the extent the user is entitled to disclose and distribute this document, the user may forward, distribute, and/or photocopy this copyrighted document only if unaltered and complete, including all of its headers, footers, disclaimers, and other information. You may not copy this document to a Web site. ExxonMobil does not guarantee the typical (or other) values. Analysis may be performed on representative samples and not the actual product shipped. The information in this document relates only to the named product or materials when not in combination with any other product or materials. We based the information on data believed to be reliable on the date compiled, but we do not represent, warrant, or otherwise guarantee, expressly or impliedly, the merchantability, fitness for a particular purpose, suitability, accuracy, reliability, or completeness of this information or the products, materials, or processes described. The user is solely responsible for all determinations regarding any use of material or product and any process in its territories of interest. We expressly disclaim liability for any loss, damage, or injury directly or indirectly suffered or incurred as a result of or related to anyone using or relying on any of the information in this document. There is no endorsement of any product or process, and we expressly disclaim any contrary implication. The terms, "we", "our", "ExxonMobil Chemical", or "ExxonMobil" are used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates they directly or indirectly steward. ExxonMobil, the ExxonMobil Logo, the Interlocking "X" Device, and all other product names used herein are trademarks of ExxonMobil unless indicated otherwise.

ExxonMobil Chemical Santoprene™ 201-87 Thermoplastic Vulcanizate

For additional technical, sales and order assistance:

Worldwide and the Americas
ExxonMobil Chemical Company
13501 Katy Freeway
Houston, TX 77079-1398
USA
1-281-870-6050

Asia Pacific
ExxonMobil Chemical Singapore Pte. Ltd.
1 HarbourFront Place
#06-00 HarbourFront Tower One
Singapore 098633
66-2163-8444

Europe, Middle East and Africa
ExxonMobil Chemical Europe
Hermeslaan 2
1831 Machelen, Belgium
420-239-016-274

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

© 2010 ExxonMobil. To the extent the user is entitled to disclose and distribute this document, the user may forward, distribute, and/or photocopy this copyrighted document only if unaltered and complete, including all of its headers, footers, disclaimers, and other information. You may not copy this document to a Web site. ExxonMobil does not guarantee the typical (or other) values. Analysis may be performed on representative samples and not the actual product shipped. The information in this document relates only to the named product or materials when not in combination with any other product or materials. We based the information on data believed to be reliable on the date compiled, but we do not represent, warrant, or otherwise guarantee, expressly or impliedly, the merchantability, fitness for a particular purpose, suitability, accuracy, reliability, or completeness of this information or the products, materials, or processes described. The user is solely responsible for all determinations regarding any use of material or product and any process in its territories of interest. We expressly disclaim liability for any loss, damage, or injury directly or indirectly suffered or incurred as a result of or related to anyone using or relying on any of the information in this document. There is no endorsement of any product or process, and we expressly disclaim any contrary implication. The terms, "we", "our", "ExxonMobil Chemical", or "ExxonMobil" are used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates they directly or indirectly steward. ExxonMobil, the ExxonMobil Logo, the Interlocking "X" Device, and all other product names used herein are trademarks of ExxonMobil unless indicated otherwise.