

# Santoprene™ 121-58W175

## Thermoplastic Vulcanizate

### Product Description

A soft, black, UV resistant thermoplastic vulcanizate (TPV) in the thermoplastic elastomer (TPE) family. This material combines good physical properties and chemical resistance, and is designed for thin wall or complex profile extrusion applications. This grade of Santoprene™ TPV is shear-dependent and can be processed on conventional thermoplastics equipment for extrusion. It is polyolefin based and recyclable within the manufacturing stream.

### Key Features

- Recommended for applications requiring excellent flex fatigue resistance.
- Excellent ozone resistance.
- Designed for improved UV resistance.
- Designed for extruding thin wall sections with excellent definition (down to 0.33 mm [0.013"] radius) and to maximize run length with minimal build-up of material on screen packs or narrow sections of dies.

### General

Availability <sup>1</sup>	▪ Africa & Middle East ▪ Asia Pacific	▪ Europe ▪ Latin America	▪ North America
Applications	▪ Automotive - Weather Seals		
Uses	▪ Automotive Applications	▪ Automotive Exterior Trim	▪ Outdoor Applications
RoHS Compliance	▪ RoHS Compliant		
Automotive Specifications	▪ CHRYSLER MS-AR-100 AGV	▪ FORD WSS-M2D378-B1	▪ GM GMW15812, Type 4E
Color	▪ Black		
Form(s)	▪ Pellets		
Processing Method	▪ Extrusion	▪ Profile Extrusion	▪ Sheet Extrusion
Revision Date	▪ 01/25/2019		

### Physical

	Typical Value (English)	Typical Value (SI)	Test Based On
Density / Specific Gravity	0.970	0.970	ASTM D792
Density	0.970 g/cm <sup>3</sup>	0.970 g/cm <sup>3</sup>	ISO 1183

### Hardness

	Typical Value (English)	Typical Value (SI)	Test Based On
Shore Hardness			ISO 868
Shore A, 15 sec, 73°F (23°C)	61	61	

### Elastomers

	Typical Value (English)	Typical Value (SI)	Test Based On
Tensile Stress at 100% - Across Flow (73°F (23°C))	289 psi	1.99 MPa	ASTM D412
Tensile Stress at 100% - Across Flow (73°F (23°C))	289 psi	1.99 MPa	ISO 37
Tensile Strength at Break - Across Flow (73°F (23°C))	738 psi	5.09 MPa	ASTM D412
Tensile Stress at Break - Across Flow (73°F (23°C))	738 psi	5.09 MPa	ISO 37
Elongation at Break - Across Flow (73°F (23°C))	460 %	460 %	ASTM D412
Tensile Strain at Break - Across Flow (73°F (23°C))	460 %	460 %	ISO 37
Tear Strength - Across Flow (73°F (23°C), Method Ba, Angle (Unnicked))	118 lbf/in	20.6 kN/m	ISO 34-1
Compression Set			ASTM D395B
158°F (70°C), 22 hr, Type 1	27 %	27 %	
257°F (125°C), 70 hr, Type 1	43 %	43 %	
Compression Set			ISO 815
158°F (70°C), 22 hr, Type A	27 %	27 %	
257°F (125°C), 70 hr, Type A	43 %	43 %	

### Thermal

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

## Santoprene™ 121-58W175

Thermoplastic Vulcanizate

Electrical	Typical Value (English)	Typical Value (SI)	Test Based On
Dielectric Strength 73°F (23°C), 0.0787 in (2.00 mm)	650 V/mil	26 kV/mm	ASTM D149
Dielectric Constant 73°F (23°C), 0.0760 in (1.93 mm)	2.70	2.70	ASTM D150
Dielectric Constant 73°F (23°C), 0.0760 in (1.93 mm)	2.70	2.70	IEC 60250

Extrusion	Typical Value (English)	Typical Value (SI)
Drying Temperature	180 °F	82 °C
Drying Time	3.0 hr	3.0 hr
Melt Temperature	350 to 400 °F	177 to 204 °C
Die Temperature	400 °F	204 °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 die design, please consult our Extrusion Molding Guide.

Aging	Typical Value (English)	Typical Value (SI)	Test Based On
Change in Tensile Strength in Air 302°F (150°C), 168 hr	-21 %	-21 %	ASTM D573
Change in Tensile Strength in Air 302°F (150°C), 168 hr	-21 %	-21 %	ISO 188
Change in Ultimate Elongation in Air 302°F (150°C), 168 hr	7.7 %	7.7 %	ASTM D573
Change in Tensile Strain at Break in Air 302°F (150°C), 168 hr	7.7 %	7.7 %	ISO 188
Change in Durometer Hardness in Air Shore A, 302°F (150°C), 168 hr	-3.0	-3.0	ASTM D573
Change in Shore Hardness in Air Shore A, 302°F (150°C), 168 hr	-3.0	-3.0	ISO 188
Continuous Upper Temperature Resistance 1008 hr	275 °F	135 °C	SAE J2236

### Additional Information

Where applicable, test results based on fan gated, 2.0 mm injection molded plaques. Tensile strength, elongation and tensile stress are measured across the flow direction. Test results are generated by ExxonMobil test methods that may not fully conform to the ASTM and/or ISO methods. Test methods are available upon request. 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.

### 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. For detailed Product Stewardship information, please contact Customer Service.

### 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. Do not exceed 15% drawdown. For more information, please consult our Safety Data Sheet and Extrusion Guide.

### Notes

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

<sup>1</sup> Product may not be available in one or more countries in the identified Availability regions. Please contact your Sales Representative for complete Country Availability.

Santoprene™ 121-58W175  
Thermoplastic Vulcanizate

For additional technical, sales and order assistance: [www.exxonmobilchemical.com/ContactUs](http://www.exxonmobilchemical.com/ContactUs)

©2020 ExxonMobil. ExxonMobil, the ExxonMobil logo, the interlocking "X" device and other product or service names used herein are trademarks of ExxonMobil, unless indicated otherwise. This document may not be distributed, displayed, copied or altered without ExxonMobil's prior written authorization. To the extent ExxonMobil authorizes distributing, displaying and/or copying of this document, the user may do so only if the document is unaltered and complete, including all of its headers, footers, disclaimers and other information. You may not copy this document to or reproduce it in whole or in part on a website. ExxonMobil does not guarantee the typical (or other) values. Any data included herein is based upon analysis of 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, freedom from patent infringement, 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. This document is not an endorsement of any non-ExxonMobil product or process, and we expressly disclaim any contrary implication. The terms "we," "our," "ExxonMobil Chemical" and "ExxonMobil" are each used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliate either directly or indirectly stewarded.

[exxonmobilchemical.com](http://exxonmobilchemical.com)