

# Santoprene™ 121-50E500

## Thermoplastic Vulcanizate

### Product Description

A soft, black, UV resistant thermoplastic vulcanizate (TPV) in the thermoplastic elastomer (TPE) family. This material has controlled rheology for robotic or specialty 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

- Designed for applications requiring good elastic recovery.
- Designed for improved UV resistance.
- Recommended for applications requiring superior part surface appearance.

### General

Availability <sup>1</sup>	<ul style="list-style-type: none"> <li>▪ Africa &amp; Middle East</li> <li>▪ Asia Pacific</li> </ul>	<ul style="list-style-type: none"> <li>▪ Europe</li> <li>▪ Latin America</li> </ul>	<ul style="list-style-type: none"> <li>▪ North America</li> </ul>
Applications	<ul style="list-style-type: none"> <li>▪ Automotive - Weather Seals</li> </ul>		
Uses	<ul style="list-style-type: none"> <li>▪ Automotive Applications</li> </ul>	<ul style="list-style-type: none"> <li>▪ Automotive Exterior Trim</li> </ul>	<ul style="list-style-type: none"> <li>▪ Outdoor Applications</li> </ul>
RoHS Compliance	<ul style="list-style-type: none"> <li>▪ RoHS Compliant</li> </ul>		
Color	<ul style="list-style-type: none"> <li>▪ Black</li> </ul>		
Form(s)	<ul style="list-style-type: none"> <li>▪ Pellets</li> </ul>		
Processing Method	<ul style="list-style-type: none"> <li>▪ Extrusion</li> </ul>	<ul style="list-style-type: none"> <li>▪ Profile Extrusion</li> </ul>	
Revision Date	<ul style="list-style-type: none"> <li>▪ 06/20/2014</li> </ul>		

Physical	Typical Value (English)	Typical Value (SI)	Test Based On
Density / Specific Gravity	0.910	0.910	ASTM D792
Density	0.910 g/cm <sup>3</sup>	0.910 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)	56	56	

Elastomers	Typical Value (English)	Typical Value (SI)	Test Based On
Tensile Stress at 100% - Across Flow (73°F (23°C))	247 psi	1.70 MPa	ASTM D412
Tensile Stress at 100% - Across Flow (73°F (23°C))	247 psi	1.70 MPa	ISO 37
Tensile Strength at Break - Across Flow (73°F (23°C))	580 psi	4.00 MPa	ASTM D412
Tensile Stress at Break - Across Flow (73°F (23°C))	580 psi	4.00 MPa	ISO 37
Elongation at Break - Across Flow (73°F (23°C))	450 %	450 %	ASTM D412
Tensile Strain at Break - Across Flow (73°F (23°C))	450 %	450 %	ISO 37
Compression Set			ASTM D395B
158°F (70°C), 22 hr, Type 1	23 %	23 %	
257°F (125°C), 70 hr, Type 1	41 %	41 %	
Compression Set			ISO 815
158°F (70°C), 22 hr, Type A	23 %	23 %	
257°F (125°C), 70 hr, Type A	41 %	41 %	

Thermal	Typical Value (English)	Typical Value (SI)	Test Based On
Brittleness Temperature	-78 °F	-61 °C	ASTM D746
Brittleness Temperature	-78 °F	-61 °C	ISO 812

### Extrusion Notes

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

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Aging	Typical Value (English)	Typical Value (SI)	Test Based On
Change in Tensile Strength in Air 275°F (135°C), 168 hr	-5.0 %	-5.0 %	ASTM D573
Change in Tensile Strength in Air 275°F (135°C), 168 hr	-5.0 %	-5.0 %	ISO 188
Change in Ultimate Elongation in Air 275°F (135°C), 168 hr	-5.0 %	-5.0 %	ASTM D573
Change in Tensile Strain at Break in Air 275°F (135°C), 168 hr	-5.0 %	-5.0 %	ISO 188
Change in Durometer Hardness in Air Shore A, 275°F (135°C), 168 hr	-1.0	-1.0	ASTM D573
Change in Shore Hardness in Air Shore A, 275°F (135°C), 168 hr	-1.0	-1.0	ISO 188

#### 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

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) is recommended. This grade of Santoprene TPV has a wide temperature processing window from 190 to 230°C (375 to 445°F) and is incompatible with acetal and PVC. 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.

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

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