

Santoprene™ 121-50E500

Thermoplastic Vulcanizate

| Product Description | Key Features |
|--|--|
| 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 completely recyclable. | <ul style="list-style-type: none"> • Designed for applications requiring good elastic recovery. • Designed for improved UV resistance. • Recommended for applications requiring superior part surface appearance. • EU and China 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 - Weather Seals | | |
| Uses | <ul style="list-style-type: none"> • Automotive Applications | <ul style="list-style-type: none"> • Automotive Exterior Trim | |
| Agency Ratings | <ul style="list-style-type: none"> • EU Annex XVII of Regulation (EC) No 1907/2006 | | |
| RoHS Compliance | <ul style="list-style-type: none"> • RoHS Compliant | | |
| Automotive Specifications | <ul style="list-style-type: none"> • GM GMN7692 | <ul style="list-style-type: none"> • GM GMP.E/P.109 | |
| Color | <ul style="list-style-type: none"> • Black | | |
| Form(s) | <ul style="list-style-type: none"> • Pellets | | |
| Processing Method | <ul style="list-style-type: none"> • Extrusion | <ul style="list-style-type: none"> • Profile Extrusion | |
| Revision Date | <ul style="list-style-type: none"> • 03/10/2009 | | |

| Physical | Typical Value (English) | Typical Value (SI) | Test Based On |
|------------------|-------------------------|-------------------------|---------------|
| Specific Gravity | 0.910 | 0.910 | ASTM D792 |
| Density | 0.910 g/cm ³ | 0.910 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) | 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 |

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

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**ExxonMobil Chemical Santoprene™ 121-50E500
Thermoplastic Vulcanizate**

| Elastomers | Typical Value (English) | Typical Value (SI) | Test Based On |
|--------------------------------|-------------------------|--------------------|---------------|
| Compression Set | | | ASTM D395B |
| 158°F (70°C), 22.0 hr, Type 1 | 23 % | 23 % | |
| 257°F (125°C), 70.0 hr, Type 1 | 41 % | 41 % | |
| Compression Set | | | ISO 815 |
| 158°F (70°C), 22.0 hr, Type A | 23 % | 23 % | |
| 257°F (125°C), 70.0 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 mold design, please consult our Extrusion Guide.

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

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. 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 Material Safety Data Sheet and Extrusion 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.

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