

Santoprene™ 121-40B265

Thermoplastic Vulcanizate

Product Description

Santoprene™ 121-40B265 is a soft, black thermoplastic vulcanizate (TPV) that combines a low coefficient of friction with good bonding to TPV and EPDM rubber, in particular EPDM sponge profiles. This grade offers easy processability due to a high shear thinning behavior for injection molding of complex geometries and excellent surface aesthetics, without surface bleeding after heat or UV aging. This grade has been designed to offer excellent UV resistance performance to fulfill most of the global auto OEM's specifications. This grade has been primarily designed for soft corner molding, sails, muckets and end caps of automotive dense and sponge weatherseals.

Key Features

- High flow injection molding grade
- Exterior UV stabilized fulfilling SAEJ2527 3.5MJ/m² and PV3930 5.8MJ/m².
- Built-in low coefficient of friction properties.
- Specially formulated to replace thermoset EPDM rubber in automotive weather seal and general molding applications
- Designed for shorter processing cycle time compared to thermoset EPDM rubber
- Adheres to vulcanized EPDM rubber (dense and sponge) and TPV Excellent surface aspect

General

Availability ¹	<ul style="list-style-type: none"> ▪ Asia Pacific ▪ Europe 	<ul style="list-style-type: none"> ▪ Latin America ▪ North America
Applications	<ul style="list-style-type: none"> ▪ Automotive - Corner Molding and End Caps 	<ul style="list-style-type: none"> ▪ Automotive - Weather Seals
Uses	<ul style="list-style-type: none"> ▪ Outdoor Applications 	
RoHS Compliance	<ul style="list-style-type: none"> ▪ RoHS Compliant 	
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"> ▪ Injection Molding 	<ul style="list-style-type: none"> ▪ Multi Injection Molding
Revision Date	<ul style="list-style-type: none"> ▪ 11/03/2020 	

Physical	Typical Value (English)	Typical Value (SI)	Test Based On
Density (73°F (23°C))	0.908 g/cm ³	0.908 g/cm ³	ISO 1183

Hardness	Typical Value (English)	Typical Value (SI)	Test Based On
Shore Hardness Shore A, 15 sec, 73°F (23°C)	41	41	ISO 868

Elastomers	Typical Value (English)	Typical Value (SI)	Test Based On
Tensile Stress at 100% - Across Flow (73°F (23°C))	158 psi	1.09 MPa	ISO 37
Tensile Stress at Break - Across Flow (73°F (23°C))	540 psi	3.72 MPa	ISO 37
Tensile Strain at Break - Across Flow (73°F (23°C))	580 %	580 %	ISO 37
Compression Set			ASTM D395
73°F (23°C), 22 hr, Type A	16 %	16 %	
158°F (70°C), 22 hr, Type A	33 %	33 %	

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Injection	Typical Value (English)	Typical Value (SI)
Drying Temperature	176 °F	80 °C
Drying Time	3.0 hr	3.0 hr
Suggested Max Moisture	0.080 %	0.080 %
Suggested Max Regrind	10 %	10 %
Rear Temperature	302 to 392 °F	150 to 200 °C
Middle Temperature	356 to 410 °F	180 to 210 °C
Front Temperature	410 to 455 °F	210 to 235 °C
Nozzle Temperature	410 to 464 °F	210 to 240 °C
Processing (Melt) Temp	410 to 464 °F	210 to 240 °C
Mold Temperature	104 to 140 °F	40 to 60 °C
Injection Rate	Fast	Fast
Screw L/D Ratio	16.0:1.0 to 20.0:1.0	16.0:1.0 to 20.0:1.0

Injection Notes

Santoprene is incompatible with acetal and PVC.

To obtain a good bonding on EPDM sponge profile, the injection speed should be fast, at very high temperature in a warm mold.

In order to prevent a deformation of the sponge profile, the injection pressure should be moderate, keeping the holding pressure low.

The EPDM profile should be perfectly positioned in the mold, and maintained without deformation, to insure a maximum of surface interaction with the melt.

Cooling time should be longer than a typical TPV, to initiate recrystallization at contact interface.

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. 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, Injection Molding Guide and Technical Literature (TL) on "Injection Molding of Corners and End Caps to EPDM Weatherseals".

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.

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