

Santoprene™ 121-80B265

Thermoplastic Vulcanizate

Product Description		Key Features	
<p>Santoprene™ 121-80B265 is a black thermoplastic vulcanizate (TPV) that combines low coefficient of friction with good bonding to TPV and EPDM rubber. This grade offers improved heat aging performance and excellent processability for injection molding of complex geometries with excellent surface aesthetics. It has low friction retention after heat aging without surface bleeding. It has been designed for corner molding and end cap of automotive extruded weather seals in TPV or in EPDM rubber.</p>		<ul style="list-style-type: none"> Low friction injection molding grade Specially formulated to replace thermoset EPDM rubber in automotive glass run channel (GRC) corner molding applications Designed for shorter processing cycle time compared to thermoset EPDM rubber Adheres to vulcanized EPDM rubber and TPV Built-in low coefficient of friction properties Good flowability with 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 		
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"> 03/26/2021 		
Physical			
Density	Typical Value (English)	Typical Value (SI)	Test Based On
	0.919 g/cm ³	0.919 g/cm ³	ISO 1183
Hardness			
Shore Hardness	Typical Value (English)	Typical Value (SI)	Test Based On
Shore A, 15 sec, 73°F (23°C)	82	82	ISO 868
Mechanical			
Tensile Strength at Break	Typical Value (English)	Typical Value (SI)	Test Based On
73°F (23°C), Across Flow	1100 psi	7.7 MPa	ExxonMobil Method
Tensile Stress at 100%	Typical Value (English)	Typical Value (SI)	Test Based On
73°F (23°C), Across Flow	530 psi	3.6 MPa	ExxonMobil Method
Elongation at Break	Typical Value (English)	Typical Value (SI)	Test Based On
73°F (23°C), Across Flow	512 %	512 %	ExxonMobil Method
Elastomers			
Tear Strength - Across Flow	Typical Value (English)	Typical Value (SI)	Test Based On
73°F (23°C), Method Ba, Angle (Unnicked)	183 lbf/in	32.0 kN/m	ISO 34-1
Compression Set			ISO 815
158°F (70°C), 22 hr, Type A	46 %	46 %	
212°F (100°C), 70 hr, Type A	49 %	49 %	
Thermal			
Brittleness Temperature	Typical Value (English)	Typical Value (SI)	Test Based On
	-83 °F	-64 °C	ISO 812

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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	20 %	20 %
Rear Temperature	302 to 392 °F	150 to 200 °C
Middle Temperature	356 to 446 °F	180 to 230 °C
Front Temperature	410 to 446 °F	210 to 230 °C
Nozzle Temperature	410 to 446 °F	210 to 230 °C
Processing (Melt) Temp	410 to 446 °F	210 to 230 °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

In order to obtain good bonding on an EPDM sponge profile, the injection speed should be fast (60 - 100mm/sec) and at a very high temperature in a warm mold.

- The injection pressure should be moderate and the holding pressure kept low in order to prevent profile deformation.
- The profile should be perfectly positioned in the mold and maintained without deformation to ensure maximum surface interaction with the melt.
- Cooling time should be longer than a typical TPV in order to initiate recrystallization at the contact interface.
- Santoprene™ TPV is incompatible with acetal and PVC. For more information regarding processing and molding design, please consult our Injection Molding Guide.

Aging	Typical Value (English)	Typical Value (SI)	Test Based On
Change in Tensile Strength in Air 212°F (100°C), 1008 hr	6.8 %	6.8 %	ExxonMobil Method
Change in Tensile Strain at Break in Air 212°F (100°C), 1008 hr	-15 %	-15 %	ExxonMobil Method
Change in Shore Hardness in Air Shore A, 212°F (100°C), 1008 hr	0.0	0.0	ISO 188

Flammability	Typical Value (English)	Typical Value (SI)	Test Based On
Burning Rate	1.3 in/min	33 mm/min	ISO 3795

Additional Information

Where applicable, test results based on fan gated injection molded plaques. Tensile strength, elongation and tensile stress are measured across the flow direction ISO type 1. Compression set at 25% deflection.

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 and Injection Molding Guide.

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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