ExxonMobil

Santoprene™ 121-80B265

Thermoplastic Vulcanizate

Product Description

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 EDPM rubber.

Key Features

- 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 EDPM rubber
- Adheres to vulcanized EPDM rubber and TPV
- Built-in low coefficient of friction properties
- Good flowability with excellent surface aspect

General		
Availability [1]	▪ Asia Pacific ▪ Europe	▪ Latin America ▪ North America
Applications	▪ Automotive - Corner Molding and End Caps	▪ Automotive - Weather Seals
Uses	▪ Outdoor Applications	
Color	▪ Black	
Form(s)	▪ Pellets	
Processing Method	▪ Injection Molding	▪ Multi Injection Molding
Revision Date	▪ 03/26/2021	

Physical	Typical Value (English)		Typical Value (SI)		Test Based On
Density	0.919	g/cm³	0.919	g/cm³	ISO 1183

Hardness	Typical Value (English)		Typical Value (SI)		Test Based On
Shore Hardness					ISO 868
Shore A, 15 sec, 73°F (23°C)	82		82		

Mechanical	Typical Value (English)		Typical Value (SI)		Test Based On
Tensile Strength at Break					ExxonMobil Method
73°F (23°C), Across Flow	1100	psi	7.7	MPa	
Tensile Stress at 100%					ExxonMobil Method
73°F (23°C), Across Flow	530	psi	3.6	MPa	
Elongation at Break					ExxonMobil Method
73°F (23°C), Across Flow	512	%	512	%	

Elastomers	Typical Value (English)		Typical Value (SI)		Test Based On
Tear Strength - Across Flow					ISO 34-1
73°F (23°C), Method Ba, Angle (Unnicked)	183	lbf/in	32.0	kN/m	
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	Typical Value (English)		Typical Value (SI)		Test Based On
Brittleness Temperature	-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.

For additional technical, sales and order assistance: www.exxonmobilchemical.com/ContactUs

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