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Santoprene™ 121-62M100

Thermoplastic Vulcanizate

Product Description

A soft, black, UV resistant thermoplastic vulcanizate (TPV) in the thermoplastic elastomer (TPE) family. This material combines good physical properties and chemical resistance for use in difficult injection molding applications. This grade of Santoprene™ TPV is shear-dependent and can be processed on conventional thermoplastics equipment for injection molding. It is polyolefin based and recyclable within the manufacturing stream.

Key Features

- Designed for fast, easy injection molding, especially for complex part geometries.
- Used in sealing applications.
- Recommended for applications requiring improved part surface appearance.
- Designed to be injected at lower molding temperatures or at lower injection pressures.
- UL listed: file #QMFZ2.E80017, Plastics - Component; file #QMFZ8.E80017, Plastics Certified For Canada - Component.

General

Applications	• Automotive - HVAC Flapper Door Seals • Automotive - Interior Mat	• Automotive - Seals and Gaskets • Automotive - Weather Seals	
Uses	• Automotive Applications • Automotive Exterior Trim • Automotive Interior Trim • Automotive Under the Hood	• Flexible Grips • Lawn and Garden Equipment • Outdoor Applications • Power/Other Tools	• Seals • Sporting Goods • Thin-walled Parts
Agency Ratings	• UL QMFZ2	• UL QMFZ8	
RoHS Compliance	• RoHS Compliant		
Automotive Specifications	• CHRYSLER MS-AR-100 BMV	• GM GMW15812, Type 5M	
UL File Number	• E80017		
Color	• Black		
Form(s)	• Pellets		
Processing Method	• Injection Molding	• Multi Injection Molding	

Physical	Typical Value (English)	Typical Value (SI)	Test Based On
Density / Specific Gravity	0.915	0.915	ASTM D792
Density	0.915 g/cm³	0.915 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)	67	67	

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Elastomers	Typical Value (English)		Typical Value (SI)		Test Based On
Tensile Stress at 100% - Across Flow (73°F (23°C))	357	psi	2.46	MPa	ASTM D412
Tensile Stress at 100% - Across Flow (73°F (23°C))	357	psi	2.46	MPa	ISO 37
Tensile Strength at Break - Across Flow (73°F (23°C))	674	psi	4.65	MPa	ASTM D412
Tensile Stress at Break - Across Flow (73°F (23°C))	674	psi	4.65	MPa	ISO 37
Elongation at Break - Across Flow (73°F (23°C))	420	%	420	%	ASTM D412
Tensile Strain at Break - Across Flow (73°F (23°C))	420	%	420	%	ISO 37
Compression Set					ASTM D395B
158°F (70°C), 22 hr, Type 1	34	%	34	%	
257°F (125°C), 70 hr, Type 1	47	%	47	%	
Compression Set					ISO 815
158°F (70°C), 22 hr, Type A	34	%	34	%	
257°F (125°C), 70 hr, Type A	47	%	47	%	

Thermal	Typical Value (English)		Typical Value (SI)		Test Based On
Brittleness Temperature	-76	°F	-60	°C	ASTM D746
Brittleness Temperature	-76	°F	-60	°C	ISO 812

Injection	Typical Value (English)		Typical Value (SI)	
Drying Temperature	180	°F	82	°C
Drying Time	3.0	hr	3.0	hr
Suggested Max Moisture	0.080	%	0.080	%
Suggested Max Regrind	20	%	20	%
Rear Temperature	360	°F	182	°C
Middle Temperature	370	°F	188	°C
Front Temperature	380	°F	193	°C
Nozzle Temperature	390	°F	199	°C
Processing (Melt) Temp	400 to 430	°F	204 to 221	°C
Mold Temperature	50 to 125	°F	10 to 52	°C
Injection Rate	Fast		Fast	
Back Pressure	50.0 to 100	psi	0.345 to 0.689	MPa
Screw Speed	100 to 200	rpm	100 to 200	rpm
Clamp Tonnage	3.0 to 5.0	tons/in^2	41 to 69	MPa
Cushion	0.125 to 0.250	in	3.18 to 6.35	mm
Screw L/D Ratio	16.0:1.0 to 20.0:1.0		16.0:1.0 to 20.0:1.0	
Screw Compression Ratio	2.0:1.0 to 2.5:1.0		2.0:1.0 to 2.5:1.0	
Vent Depth	1.0E-3	in	0.025	mm

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Aging	Typical Value (English)	Typical Value (SI)	Test Based On
Change in Tensile Strength in Air			ASTM D573
302°F (150°C), 168 hr	-15 %	-15 %	
Change in Tensile Strength in Air			ISO 188
302°F (150°C), 168 hr	-15 %	-15 %	
Change in Ultimate Elongation in Air			ASTM D573
302°F (150°C), 168 hr	-19 %	-19 %	
Change in Tensile Strain at Break in Air			ISO 188
302°F (150°C), 168 hr	-19 %	-19 %	
Change in Durometer Hardness in Air			ASTM D573
Shore A, 302°F (150°C), 168 hr	4.0	4.0	
Change in Shore Hardness in Air			ISO 188
Shore A, 302°F (150°C), 168 hr	4.0	4.0	

Flammability	Typical Value (English)	Typical Value (SI)	Test Based On
Flame Rating (0.04 in (1.1 mm))	HB	HB	UL 94