

SANTOPRENE™ 121-50M100 - TPV

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.

Characteristics

Applications	Automotive - Glass Encapsulation, Automotive - HVAC Flapper Door Seals, Automotive - Seals and Gaskets, Automotive - Weather Seals
Uses	Automotive applications, Automotive exterior trim, Automotive interior trim, Automotive under the hood, Outdoor applications
Agency Ratings	UL QMFZ2, UL QMFZ8
UL File Number	E80017
Color	Black
Delivery Form	Pellets
Processing	Injection molding, Multi injection molding

Physical properties	Value	Unit	Test Standard
Density	0.915	g/cm ³	ASTM D792
Density	915	kg/m ³	ISO 1183

Hardness	Value	Unit
Shore A hardness-TPE, 15s	56	ISO 868

Mechanical properties	Value	Unit	Test Standard
Tensile stress at 100%, perpendicular	1.8	MPa	ASTM D412
Tensile stress at 100%, perpendicular	1.8	MPa	ISO 37
Tensile strength at break elast, perpendicular	4.39	MPa	ASTM D412
Tensile stress at break, perpendicular	4.39	MPa	ISO 37
Elongation at break elast, perpendicular	465	%	ASTM D412
Tensile strain at break, perpendicular	465	%	ISO 37
Tear strength, Die C, perpendicular	15	MPa	ASTM D624
Tear strength, Die C, perpendicular	15	MPa	ISO 34-1
Compression set, 70 °C, 22h, Type 1, Method B	31	%	ASTM D395
Compression set, 70 °C, 22h, Type A	31	%	ISO 815
Compression set, 125 °C, 70h, Type 1, Method B	42	%	ASTM D395
Compression set, 125 °C, 70h, Type A	42	%	ISO 815

Thermal properties	Value	Unit	Test Standard
Brittleness temperature	-60	°C	ASTM D746

Injection	Value	Unit
Drying temperature	82	°C
Drying time	3	h
Necessary low maximum residual moisture content	0.08	%
Suggested maximum regrind	20	%
Rear temperature	182	°C
Middle temperature	188	°C
Front temperature	193	°C
Nozzle temperature	199	°C

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Melt temperature	204 - 221	°C
Mold temperature	10 - 52	°C
Injection speed	fast	-
Back pressure	0.345 - 0.689	MPa
Screw Speed	100 - 200	RPM
Clamp tonnage	41 - 69	MPa
Cushion	3.18 - 6.35	mm
Screw L/D	20:1/*	-
Screw compression ratio	2.5:1/*	-
Vent depth	0.025	mm

Aging	Value	Unit	Test Standard
Change in Tensile Strength in Air @ 150 C, 168 h	-20	%	ASTM D573
Change in Tensile Strength in Air @ 150 C, 168 h	-20	%	ISO 188
Change in Ultimate Elongation in Air @ 150 C, 168 h	-3	%	ASTM D573
Change in Tensile Strain at Break in Air @ 150 C, 168 h	-3	%	ISO 188
Change in Durometer Hardness in Air @ 150 C, 168 h, Shore A	0	-	ASTM D573
Change in Shore Hardness in Air @ 150 C, 168 h, Shore A	0	-	ISO 188

Flammability	Value	Unit
Flame rating, 1.1 mm	HB	UL 94

Other text information

Processing Notes

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.

Other Approvals

OEM	Specification
Chrysler (FCA)	MS-AR-100 AMV
GM	GMW15812, Type 4M

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