

SANTOPRENE[®] 121-50M100

SANTOPRENE®

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

Product information

Resin Identification Part Marking Code	TPV >TPV<	ISO 1043 ISO 11469
Typical mechanical properties		
Tensile stress at 100% elongation, perpendicular Tensile stress at break, perpendicular Elongation at break, perpendicular Brittleness Temperature Low temperature brittleness Shore A hardness, 15s Compression set, 70°C, 24h Compression set, 125°C, 70h Initial Tear Resist., Die C	1.8 MPa 4.39 MPa 465 % -60 °C -60 °C 56 31 % 42 % 15 kN/m	ISO 37 ISO 527-1/-2 or ISO 37 ISO 527-1/-2 or ISO 37 ASTM D 746 ISO 812 ISO 48-4 / ISO 868 ISO 815 ISO 815 ISO 34-1
Flammability		
Burning Behav. at thickness h Thickness tested UL recognition FMVSS Class Burning rate, Thickness 2 mm	HB class 1.1 mm yes B 32.2 mm/min	IEC 60695-11-10 IEC 60695-11-10 UL 94 ISO 3795 (FMVSS 302) ISO 3795 (FMVSS 302)
Physical/Other properties		
Density	915 kg/m ³	ISO 1183
Injection		
Drying Recommended Drying Temperature Drying Time, Dehumidified Dryer Processing Moisture Content Max. regrind level Melt Temperature Optimum Min. melt temperature	yes 80 °C ≥3 h ≤0.08 % 20 % 210 °C 200 °C	



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Max. melt temperature	220	°C
Mold Temperature Optimum	30	°C
Min. mould temperature	10	°C
Max. mould temperature	50	°C

Characteristics

Processing	Injection Moulding, Multi Injection Moulding
Delivery form	Pellets
Special characteristics	U.V. stabilised or stable to weather, High Flow

Additional information

Non Standard Data

Property Name	Condition	Value	Unit	Standard
Change in Tensile Strength	150°C, 168h	-20	%	ISO 188
Change in Tensile Strain at Break	150°C, 168h	-3	%	ISO 188
Change in Shore A Hardness	150°C, 168h	0	-	ISO 188

Injection molding

Processing Notes

Holding pressure should be about 50 to 75% of the actual injection pressure. A high screw RPM (100 to 200) is recommended.

Back pressure is not always needed, however, a back pressure of 0.3 to 0.7 MPa may be used to ensure a homogeneous melt and maintain a consistent shot size. A higher back pressure is normally employed when using masterbatches.

Processing Notes

Desiccant drying for 3 hours at $80 \degree C$ ($180 \degree F$) is recommended. Santoprene® TPV has a wide temperature processing window from 175 to $230 \degree C$ (350 to $450 \degree F$) and is incompatible with acetal and PVC.

Santoprene® TPV has a relatively high melt viscosity at low shear rates. Viscosity decreases as the shear rate increases.

Increasing temperature has little effect on TPV melt viscosity. Smaller gates and higher shear rates keep melt viscosity low and improve melt flow. Please also refer to the injection molding guide.





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Automotive

OEM	STANDARD	ADDITIONAL INFORMATION
General Motors	GMW15812P-TPV(EPDM+PP)-Type 4M	N/A
Hyundai	MS220-05 Type K	
Li Auto	Q/LiA5310057	2021 (V2)
MAN	M 3236-A-5	
Mercedes-Benz	DBL5562	
Renault	FRM 18-27-082 /, No Spec, Special Part Approval, See Your CE Account Manager.	
Stellantis	55248_02 EMP50	MS-AR-100 AMV
VW Group	VW 50123	

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