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SANTOPRENE® 121-85M100

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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 recycled within the manufacturing stream.

Key Features

- Used in applications for exterior trims and spoilers for injection molding
- Designed for fast, easy injection molding, especially for complex part geometries
- Used in sealing applications
- Recommended for applications requiring improved part surface appearance
- UL listed: file #QMFZ2.E80017, Plastics - Component; file #QMFZ8.E80017, Plastics Certified For Canada - Component

Product information

Resin Identification	TPV	ISO 1043
Part Marking Code	>TPV<	ISO 11469

Typical mechanical properties

Tensile stress at 100% elongation, perpendicular	5.36	MPa	ISO 37
Tensile stress at break, perpendicular	7.28	MPa	ISO 527-1/-2 or ISO 37
Elongation at break, perpendicular	390	%	ISO 527-1/-2 or ISO 37
Brittleness Temperature	-52	°C	ASTM D 746
Low temperature brittleness	-52	°C	ISO 812
Shore A hardness, 15s	89		ISO 48-4 / ISO 868
Compression set, 70°C, 24h	49	%	ISO 815
Compression set, 125°C, 70h	76	%	ISO 815
Tear strength, normal	33	kN/m	ISO 34-1

Flammability

Burning Behav. at thickness h	HB	class	IEC 60695-11-10
Thickness tested	1.1	mm	IEC 60695-11-10
UL recognition	yes		UL 94

Physical/Other properties

Density	910	kg/m³	ISO 1183

Injection

Drying Recommended	yes	
Drying Temperature	80	°C
Drying Time, Dehumidified Dryer	≥3	h
Processing Moisture Content	≤0.08	%
Melt Temperature Optimum	215	°C
Min. melt temperature	195	°C
Max. melt temperature	240	°C
Mold Temperature Optimum	30	°C
Min. mould temperature	10	°C

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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	3	%	ISO 188
Change in Tensile Strain at Break	150 °C, 168h	-24	%	ISO 188
Change in Shore A Hardness	150 °C, 168h	1	-	ISO 188

Injection molding

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

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. For physical foaming, a specially modified thermoplastic extruder equipped with an adapted foaming agent dosing device is required. For mechanical foaming, a 30:1 extruder is recommended.

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 8M	N/A
Mercedes-Benz	DBL5562	
Renault	FRM 18-27-118 /---, No Spec, Special Part Approval, See Your CE Account Manager.	
Stellantis - Chrysler	MS-AR-100 DMV	Black
VW Group	VW 50123	