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SANTOPRENE® 121-50E500

SANTOPRENE®

A soft, black, UV resistant thermoplastic vulcanizate (TPV) in the thermoplastic elastomer (TPE) family. This material has controlled rheology for robotic or specialty extrusion applications. This grade of Santoprene® TPV is shear-dependent and can be processed on conventional thermoplastics equipment for extrusion. It is polyolefin based and recyclable within the manufacturing stream.

Key Features

- Designed for applications requiring good elastic recovery
- Designed for improved UV resistance
- Recommended for applications requiring superior part surface appearance

Product information

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

Typical mechanical properties

Tensile stress at 100% elongation, perpendicular	1.7	MPa	ISO 37
Tensile stress at break, perpendicular	4	MPa	ISO 527-1/-2 or ISO 37
Elongation at break, perpendicular	450	%	ISO 527-1/-2 or ISO 37
Brittleness Temperature	-61	°C	ASTM D 746
Low temperature brittleness	-61	°C	ISO 812
Shore A hardness, 15s	56		ISO 48-4 / ISO 868
Compression set, 70°C, 24h	23	%	ISO 815
Compression set, 125°C, 70h	41	%	ISO 815

Physical/Other properties

Density	910	kg/m³	ISO 1183

Characteristics

Processing	Extrusion
Delivery form	Pellets
Special characteristics	U.V. stabilised or stable to weather

Additional information

Non Standard Data

Property Name	Condition	Value	Unit	Standard
Change in Tensile Strength	135°C, 168h	-5	%	ISO 188
Change in Tensile Strain at Break	135°C, 168h	-5	%	ISO 188
Change in Shore A	135°C, 168h	-1	-	ISO 188

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	Hardness				

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. 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.

Automotive

OEM	STANDARD
Mercedes-Benz	DBL5562
VW Group	VW 50123

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