

SANTOPRENE® 121-40B265

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Santoprene® 121-40B265 is a soft, black thermoplastic vulcanizate (TPV) that combines a low coefficient of friction with good bonding to TPV and EPDM rubber, in particular EPDM sponge profiles. This grade offers easy processability due to a high shear thinning behavior for injection molding of complex geometries and excellent surface aesthetics, without surface bleeding after heat or UV aging. This grade has been designed to offer excellent UV resistance performance to fulfill most of the global auto OEMs specifications. This grade has been primarily designed for soft corner molding, sails, muckets and end caps of automotive dense and sponge weatherseals.

Key Features

- High flow injection molding grade
- Exterior UV stabilized fulfilling SAEJ2527 3.5MJ/m² and PV3930 5.8MJ/m²
- Built-in low coefficient of friction properties
- Specially formulated to replace thermoset EPDM rubber in automotive weather seal and general molding applications
- Designed for shorter processing cycle time compared to thermoset EPDM rubber
- Adheres to vulcanized EPDM rubber (dense and sponge) and TPV Excellent surface aspect

Product information

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

Typical mechanical properties

Tensile stress at 100% elongation, perpendicular	1.09 MPa	ISO 37
Tensile stress at break, perpendicular	3.72 MPa	ISO 527-1/-2 or ISO 37
Elongation at break, perpendicular	578 %	ISO 527-1/-2 or ISO 37
Shore A hardness, 15s	40.5	ISO 48-4 / ISO 868
Compression set, 23 °C, 24h	16 %	ISO 815
Compression set, 70 °C, 24h	33 %	ISO 815

Physical/Other properties

Density	908 kg/m ³	ISO 1183
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Injection

Drying Recommended	yes
Drying Temperature	65 °C
Drying Time, Dehumidified Dryer	≥3 h
Processing Moisture Content	≤0.08 %
Max. regrind level	10 %
Melt Temperature Optimum	225 °C
Min. melt temperature	210 °C
Max. melt temperature	240 °C
Mold Temperature Optimum	50 °C
Min. mould temperature	40 °C
Max. mould temperature	60 °C

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Characteristics

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

Additional information

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.
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Processing Notes

Processing Notes

Santoprene® is incompatible with acetal and PVC. 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). To obtain a good bonding on EPDM sponge profile, the injection speed should be fast, at very high temperature in a warm mold. In order to prevent a deformation of the sponge profile, the injection pressure should be moderate, keeping the holding pressure low. The EPDM profile should be perfectly positioned in the mold, and maintained without deformation, to insure a maximum of surface interaction with the melt. Cooling time should be longer than a typical TPV, to initiate recrystallization at contact interface.

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.