



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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Revised: 2025-04-21 Source: Celanese Materials Database

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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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Revised: 2025-04-21 Source: Celanese Materials Database

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