

SANTOPRENE® 9101-85E

SANTOPRENE®

A soft, black, versatile thermoplastic vulcanizate (TPV) in the thermoplastic elastomer (TPE) family. This material combines good physical properties and chemical resistance for use in a wide range of applications. This grade of Santoprene® TPV is shear-dependent and can be processed on conventional thermoplastics equipment for injection molding, extrusion, blow molding, thermoforming or vacuum forming. It is polyolefin based and recyclable within the manufacturing stream.

Key Features

- Recommended for applications requiring excellent flex fatigue resistance
- Excellent ozone resistance

Product information

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

Typical mechanical properties

| | | |
|--|---------|------------------------|
| Tensile stress at 100% elongation, perpendicular | 3.9 MPa | ISO 37 |
| Tensile stress at break, perpendicular | 9 MPa | ISO 527-1/-2 or ISO 37 |
| Elongation at break, perpendicular | 553 % | ISO 527-1/-2 or ISO 37 |
| Shore A hardness, 15s | 83 | ISO 48-4 / ISO 868 |
| Compression set, 70 °C, 24h | 38 % | ISO 815 |
| Compression set, 125 °C, 70h | 50 % | ISO 815 |
| Tear strength, normal | 35 kN/m | ISO 34-1 |

Physical/Other properties

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|---------|-----------------------|----------|
| Density | 943 kg/m ³ | ISO 1183 |
|---------|-----------------------|----------|

Injection

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|----------------------|----------|
| Max. regrind level | 20 % |
| Back pressure | 0.52 MPa |
| Ejection temperature | 93 °C |

Extrusion

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|---------------------------------|--------|
| Drying Temperature | 82 °C |
| Drying Time, Dehumidified Dryer | 3 h |
| Melt Temperature Range | 200 °C |

Characteristics

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|---------------|-------------------------------|
| Processing | Injection Moulding, Extrusion |
| Delivery form | Pellets |

Additional information

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| Non Standard Data | Long Term Heat Aging Data |
|-------------------|---|

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| Property Name | Condition | Value | Unit | Standard |
|-----------------------------------|-------------|-------|------|----------|
| Change in Tensile Strength | 125°C, 168h | -5 | % | ISO 188 |
| Change in Tensile Strain at Break | 125°C, 168h | -12 | % | ISO 188 |
| Change in Shore A Hardness | 125°C, 168h | 0 | - | 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

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.