

# SANTOPRENE® 101-80 ECO-R

## SANTOPRENE®

A soft, black, versatile thermoplastic vulcanizate (TPV) grade in the thermoplastic elastomer (TPE) family made using minimum 15% post-consumer recycled (PCR) materials. It is a general-purpose product well suiting needs of extrusion, co-extrusion applications, particularly that of static foot of automotive weather seal systems like glass run channels. This grade of Santoprene® TPV is shear-dependent and can be processed on conventional thermoplastics equipment for extrusion or thermoforming. It is polyolefin based and recyclable within the manufacturing stream.

### Product information

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

### Typical mechanical properties

Tensile stress at 100% elongation, perpendicular	4.5 MPa	ISO 37
Tensile stress at break, perpendicular	8.7 MPa	ISO 527-1/-2 or ISO 37
Elongation at break, perpendicular	560 %	ISO 527-1/-2 or ISO 37
Shore A hardness, 15s	83	ISO 48-4 / ISO 868
Compression set, 23°C, 24h	26 %	ISO 815
Compression set, 70°C, 24h	38 %	ISO 815
Initial Tear Resist., Die C	42 kN/m	ISO 34-1

### Physical/Other properties

Density	974 kg/m <sup>3</sup>	ISO 1183
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### Injection

Drying Recommended	yes
Drying Temperature	80 °C
Drying Time, Dehumidified Dryer	≥3 h
Processing Moisture Content	≤0.08 %
Melt Temperature Optimum	205 °C
Min. melt temperature	190 °C
Max. melt temperature	220 °C
Mold Temperature Optimum	30 °C
Min. mould temperature	10 °C
Max. mould temperature	50 °C

### Extrusion

Drying Temperature	82 °C
Drying Time, Dehumidified Dryer	3 h
Melt Temperature Range	175 - 205 °C

### Characteristics

Processing	Injection Moulding, Multi Injection Moulding, Extrusion, Sheet Extrusion, Coextrusion, Other Extrusion, Calendering, Thermoforming, Compression moulding, Foam processing
Delivery form	Pellets
Sustainability	Recycled Content

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### 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.

#### Processing Notes

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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.