



SANTOPRENE® 8201-90

SANTOPRENE®

A hard, colorable, non-hygroscopic 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

- · Non-hygroscopic product, requires little to no drying before processing.
- · Neutral, easy coloring formulation.
- Recommended for applications requiring excellent ozone resistance.
- · Used in sealing applications.
- Recommended for applications requiring excellent flex fatigue resistance.
- · UL listed: file #QMFZ2.E80017, Plastics Component; file #QMFZ8.E80017, Plastics Certified For Canada Component.

Product information

Resin Identification Part Marking Code	TPV >TPV<		ISO 1043 ISO 11469
Typical mechanical properties			
Tensile stress at 100% elongation, perpendicular Tensile stress at break, perpendicular Elongation at break, perpendicular Brittleness Temperature Low temperature brittleness Shore A hardness, 15s		°C	ISO 37 ISO 527-1/-2 or ISO 37 ISO 527-1/-2 or ISO 37 ASTM D 746 ISO 812 ISO 48-4 / ISO 868
Compression set, 70°C, 24h	52	%	ISO 815
Thermal properties RTI, electrical, 1.5mm	100	°C	UL 746B
RTI, electrical, 3.0mm RTI, strength, 1.5mm RTI, strength, 3.0mm	100 90		UL 746B UL 746B UL 746B
Flammability			
Burning Behav. at 1.5mm nom. thickn. Thickness tested UL recognition		class mm	IEC 60695-11-10 IEC 60695-11-10 UL 94
Burning Behav. at thickness h Thickness tested UL recognition FMVSS Class		class mm	IEC 60695-11-10 IEC 60695-11-10 UL 94 ISO 3795 (FMVSS 302)
Burning rate, Thickness 2 mm Hot Wire Ignition, 1.5mm Hot Wire Ignition, 3mm	16.6 PLC 3 PLC 2		ISO 3795 (FMVSS 302) UL 746A UL 746A

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Electrical properties

Comparative tracking index, 23°C	0 PLC	UL 746A
Arc Resistance Performance Level Category	PLC 5 class	UL 746B
High Amperage Arc Ignition Category, 1.5 mm	PLC 0 class	UL 746A

Physical/Other properties

Density 940 kg/m³ ISO 1183

Injection

Drying Recommended	yes
Drying Temperature	80 °C
Drying Time, Dehumidified Dryer	≥3 h
Processing Moisture Content	≤0.08 %
Max. regrind level	20 %
Melt Temperature Optimum	205 °C
Min. melt temperature	195 °C
Max. melt temperature	215 °C
Mold Temperature Optimum	35 °C
Min. mould temperature	20 °C
Max. mould temperature	50 °C

Extrusion

Melt Temperature Range 196 - 224 °C

Characteristics

Processing Injection Moulding, Multi Injection Moulding, Extrusion, Sheet Extrusion,

Coextrusion, Blow Moulding, Thermoforming

Delivery form Pellets

Additional information

Non Standard Data

Property Name	Condition	Value	Unit	Standard
Change in Tensile Strength	150°C, 168h	1	%	ISO 188
Change in Tensile Strain at Break	150°C, 168h	-15	%	ISO 188
Change in Shore A Hardness	150°C, 168h	1	-	ISO 188
Change in Mass	150°C, 168h	-7	%	ISO 188

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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.

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