



**UL 94** 

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IEC 60695-11-10

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# SANTOPRENE® 8201-80

### **SANTOPRENE®**

A soft, 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.

**UL** recognition

**UL** recognition

Thickness tested

Burning Behav. at thickness h

Product information			
Resin Identification	TPV		ISO 1043
Part Marking Code	>TPV<		ISO 11469
•			
Rheological properties			
Moulding shrinkage, parallel	2.4 <sup>[1]</sup>	%	ISO 294-4, 2577
Moulding shrinkage, normal	1.1 <sup>[1]</sup>	%	ISO 294-4, 2577
[1]: 2.0 mm thickness, min. 24 hours after molding, per test method	TPE-X0080		
Typical mechanical properties			
Tensile stress at 100% elongation, perpendicular	4.2	MPa	ISO 37
Tensile stress at break, perpendicular	9.8	MPa	ISO 527-1/-2 or ISO 37
Elongation at break, perpendicular	630	%	ISO 527-1/-2 or ISO 37
Brittleness Temperature	-63	°C	ASTM D 746
Low temperature brittleness	-63	°C	ISO 812
Shore A hardness, 15s	85		ISO 48-4 / ISO 868
Compression set, 70°C, 24h	35	%	ISO 815
Compression set, 125°C, 70h	69	%	ISO 815
Thermal properties			
RTI, electrical, 1.5mm	100	°C	UL 746B
RTI, electrical, 3.0mm	100	°C	UL 746B
RTI, strength, 1.5mm	90	°C	UL 746B
RTI, strength, 3.0mm	95	°C	UL 746B
Flammability			
Burning Behav. at 1.5mm nom. thickn.	HR	class	IEC 60695-11-10
Thickness tested		mm	IEC 60695-11-10
	1.0		.== 55555 11 10

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yes

yes

HB class

1.1 mm

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





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### **SANTOPRENE®**

Hot Wire Ignition, 1.5mm

PLC 3 s

UL 746A

Hot Wire Ignition, 3mm

PLC 2 s

UL 746A

### 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 950 kg/m<sup>3</sup> 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	200	°C
Min. melt temperature	190	°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 191 - 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	-6	%	ISO 188
Change in Tensile Strain at Break	150°C, 168h	-19	%	ISO 188
Change in Shore A Hardness	150°C, 168h	1	-	ISO 188

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Change in 150 °C, 168h Mass	-8	%	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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