

# SANTOPRENE® 121-80

## SANTOPRENE®

A soft, black, UV resistant 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

- UL listed: file #QMFZ2.E80017, Plastics - Component; file #QMFZ8.E80017, Plastics Certified For Canada - Component
- Recommended for applications requiring excellent flex fatigue resistance
- Excellent ozone resistance
- Designed for improved UV resistance

### Product information

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

### Typical mechanical properties

Tensile stress at 100% elongation, perpendicular	4.6 MPa	ISO 527-1/-2 or ISO 37
Stress at break, perpendicular	11 MPa	ISO 527-1/-2 or ISO 37
Elongation at break, perpendicular	560 %	ISO 527-1/-2 or ISO 37
Brittleness Temperature	-59 °C	ASTM D 746
Shore A hardness, 15s	85	ISO 48-4 / ISO 868
Compression set, 23 °C, 24h	25 %	ISO 815

### Thermal properties

RTI, electrical, 1.5mm	90 °C	UL 746B
RTI, electrical, 3.0mm	90 °C	UL 746B
RTI, strength, 1.5mm	90 °C	UL 746B
RTI, strength, 3.0mm	95 °C	UL 746B

### Specific Application Suitability

Continuous Upper Temperature Resistance, 1000h	135 °C	SAE J2236
Detergent resistance	f3	UL 749
Detergent resistance	f4	UL 2157
Outdoor suitability	f1	UL 746C

### Flammability

Burning Behav. at 1.5mm nom. thickn.	HB class	IEC 60695-11-10
Thickness tested	1.5 mm	IEC 60695-11-10
UL recognition	yes	UL 94
Burning Behav. at thickness h	HB class	IEC 60695-11-10
Thickness tested	1 mm	IEC 60695-11-10
UL recognition	yes	UL 94
Hot Wire Ignition, 1.5mm	PLC 3 s	UL 746A
Hot Wire Ignition, 3mm	PLC 2 s	UL 746A

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### Electrical properties

Relative permittivity, 60Hz	2.6	IEC 62631-2-1
Arc Resistance Performance Level Category	PLC 6 class	UL 746B
Electric Strength, Short Time, 2mm	28 kV/mm	ASTM D 149
High Amperage Arc Ignition Category, 1.5 mm	PLC 0 class	UL 746A

### Physical/Other properties

Density	970 kg/m <sup>3</sup>	ISO 1183
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### Injection

Drying Temperature	82 °C
Drying Time, Dehumidified Dryer	3 h
Processing Moisture Content	≤0.08 %
Max. regrind level	20 %
Min. mould temperature	10 °C
Max. mould temperature	52 °C
Back pressure	0.517 MPa

### Extrusion

Drying Temperature	82 °C
Drying Time, Dehumidified Dryer	3 h
Melt Temperature Range	202 °C

### Additional information

#### 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.