

# SANTOPRENE® 103-40

## SANTOPRENE®

A hard, 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

- UL listed: file #QMFZ2.E80017, Plastics - Component; file #QMFZ8.E80017, Plastics Certified For Canada - Component
- Excellent ozone resistance

### Product information

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

### Typical mechanical properties

Tensile stress at 100% elongation, perpendicular	9 MPa	ISO 37
Stress at break, perpendicular	20.7 MPa	ISO 527-1/-2 or ISO 37
Elongation at break, perpendicular	610 %	ISO 527-1/-2 or ISO 37
Brittleness Temperature	-52 °C	ASTM D 746
Shore D hardness, 15s	41	ISO 48-4 / ISO 868
Compression set, 70 °C, 24h	54 %	ISO 815
Compression set, 125 °C, 70h	61 %	ISO 815
Tear strength, normal	64 kN/m	ISO 34-1

### Thermal properties

RTI, electrical, 1.5mm	85 °C	UL 746B
RTI, electrical, 3.0mm	85 °C	UL 746B
RTI, strength, 1.5mm	85 °C	UL 746B
RTI, strength, 3.0mm	85 °C	UL 746B

### Specific Application Suitability

Detergent resistance	f3	UL 749
Detergent resistance	f4	UL 2157

### 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 5 class	UL 746B
Electric Strength, Short Time, 2mm	32 kV/mm	ASTM D 149
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
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### Injection

Drying Temperature	82 °C
Drying Time, Dehumidified Dryer	3 h
Processing Moisture Content	≤0.08 %
Max. regrind level	20 %
Melt Temperature Optimum	215 °C
Min. melt temperature	165 °C
Max. melt temperature	265 °C
Mold Temperature Optimum	50 °C
Min. mould temperature	20 °C
Max. mould temperature	80 °C
Back pressure	0.517 MPa
Ejection temperature	95 °C

### Extrusion

Drying Temperature	82 °C
Drying Time, Dehumidified Dryer	3 h
Melt Temperature Range	210 °C

### Additional information

Processing Notes

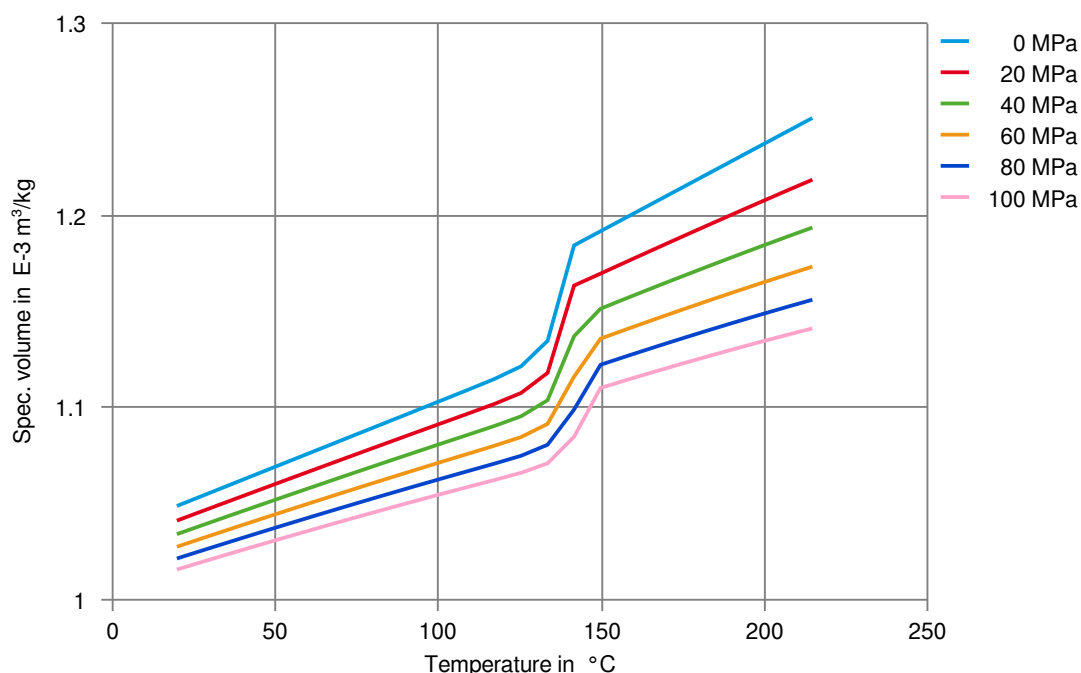
### Processing Notes

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.

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Specific volume-temperature (pvT)



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