

# SANTOPRENE® 103-40

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

## Typical mechanical properties

Stress at 100% elongation	9 MPa	ISO 527-1/-2 or ISO 37
Stress at break	20.7 MPa	ISO 527-1/-2 or ISO 37
Elongation at break	610 %	ISO 527-1/-2 or ISO 37
Shear Modulus	60.7 MPa	ISO 6721
Brittleness Temperature	-52 °C	ASTM D 746
Low temperature brittleness	-52 °C	ISO 812
Shore D hardness, 15s	41	ISO 48-4 / ISO 868
Shore D hardness, 168h at 150 °C	4	ISO 48-4 / ISO 868
Compression set at 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, strength, 1.5mm	85 °C	UL 746B

## Specific Application Suitability

Detergent resistance	f3	UL 749
Detergent resistance	f4	UL 2157

## Flammability

Burning Behav. at thickness h	HB class	UL 94
Thickness tested	3 mm	UL 94
UL recognition	yes	UL 94
Hot Wire Ignition, 1mm	PLC 4 s	UL 746A
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

Comparative tracking index	PLC 0	PLC	UL 746A
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
High Voltage Arc Tracking Rate	PLC 1	mm/min	UL 746A

## Other properties

Density	950	kg/m³	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	Internal
Max. mould temperature	10 - 52	°C	
Vent depth	25	µm	
Back pressure	0.345 - 0.689	MPa	
Injection speed	fast		

## Extrusion

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

## Processing Texts

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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## Other Approvals

Other Approvals	OEM	Specification	Additional Information
	Stellantis - Chrysler	MS-AR-100 FGN	
	Ford	WSD-M2D441-A	
	GM	GMW15813, Type 9	
	Stellantis - PSA Group	PMP 01994_10_00138	
	Mercedes-Benz Group (Daimler)	DBL 5562	

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Stellantis - FCA Group	55248/02	EMP-140
Hyundai	MS220-05, Type G	
Renault	FRM 18-27-134 /---	
Renault	UB02b	PMR2021
Renault	UM09g	PMR2021
VW Group	VW50123	
ZF Group	ZF 7832.050.153	

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