



SANTOPRENE® 103-50

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 Part Marking Code	TPV >TPV<	ISO 1043 ISO 11469
Typical mechanical properties		
Yield stress, perpendicular	12 MPa	ISO 527-1/-2 or ISO 37
Yield strain, perpendicular	31 %	ISO 527-1/-2 or ISO 37
Brittleness Temperature	-41 °C	ASTM D 746
Low temperature brittleness	-41 °C	ISO 812
Shore D hardness, 15s	51	ISO 48-4 / ISO 868
Compression set, 70°C, 24h	59 %	ISO 815
Compression set, 125°C, 70h	74 %	ISO 815
Tear strength, normal	93 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
FMVSS Class	В	ISO 3795 (FMVSS 302)
Burning rate, Thickness 2 mm	35 mm/min	ISO 3795 (FMVSS 302)
Hot Wire Ignition, 1.5mm	PLC 3 s	UL 746A
Hot Wire Ignition, 3mm	PLC3 s	UL 746A

Printed: 2025-05-30 Page: 1 of 3

Revised: 2025-05-15 Source: Celanese Materials Database





SANTOPRENE® 103-50

SANTOPRENE®

Electrical properties

Relative permittivity, 60Hz

Comparative tracking index, 23 °C

Arc Resistance Performance Level Category

High Amperage Arc Ignition Category, 1.5 mm

2.4

0 PLC

0 PLC

UL 746A

UL 746B

PLC 0 class

UL 746A

Physical/Other properties

Density 950 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	220 °C
Min. melt temperature	205 °C
Max. melt temperature	230 °C
Mold Temperature Optimum	30 °C
Min. mould temperature	10 °C
Max. mould temperature	50 °C

Extrusion

Drying Temperature	82 °C
Drying Time, Dehumidified Dryer	3 h
Melt Temperature Range	210 °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	-32	%	ISO 188
Change in Tensile Strain at Break	150°C, 168h	-27	%	ISO 188
Change in Shore D Hardness	150°C, 168h	5	-	ISO 188

Printed: 2025-05-30 Page: 2 of 3

Revised: 2025-05-15 Source: Celanese Materials Database

(+) 18816996168 Ponciplastics.com



SANTOPRENE® 103-50

SANTOPRENE®

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.

Automotive

VW Group

OEM STANDARD ADDITIONAL INFORMATION

Chery Q/SQR.04.1195-2011

General Motors GMW15813P-TPV-(EPDM+PP)-Type 10 N/A

VW 50123

Hyundai MS220-05 Type H

Mercedes-Benz DBL5562

Renault FRM 18-27-034 /--B, No Spec, Special Part

Approval, See Your CE Account Manager.

Stellantis B62 0300 / 61(only 2000/53/EC CPN3230;B63 0300 / 01378_23_00028;B62

conformity)/213M/215E-/13/C1B 0300 / 01994_10_00137;MS-AR-100

GGN;Coolant hose celanese TPV1hose-125

Stellantis B63 0300 / TPV1hose-125 CPN3230;B63 0300 / 01378_23_00028;B62

0300 / 01994_10_00137;MS-AR-100

GGN;Coolant hose celanese TPV1hose-125

SANTOPRENE103-50_VW 50123 2023-01-05.pdf

Printed: 2025-05-30 Page: 3 of 3

Revised: 2025-05-15 Source: Celanese Materials Database

NOTICE TO USERS: Values shown are based on testing of laboratory test specimens and represent data that fall within the standard range of properties for natural material. These values alone do not represent a sufficient basis for any part design and are not intended for use in establishing maximum, minimum, or ranges of values for specification purposes. Colourants or other additives may cause significant variations in data values. Properties of moulded parts can be influenced by a wide variety of factors including, but not limited to, material selection, additives, part design, processing conditions and environmental exposure. Other than those products expressly identified as medical grade (including by MT® product designation or otherwise), Celanese's products are not intended for use in medical or dental implants. Regardless of any such product designation, any determination of the suitability of a particular material and part design for any use contemplated by the users and the manner of such use is the sole responsibility of the users, who must assure themselves that the material as subsequently processed meets the needs of their particular product or use. To the best of our knowledge, the information contained in this publication is accurate; however, we do not assume any liability whatsoever for the accuracy and completeness of such information. The information contained in this publication should not be construed as a promise or guarantee of specific properties of our products. It is the sole responsibility of the users to investigate whether any existing patents are infringed by the use of the materials mentioned in this publication. Moreover, there is a need to reduce human exposure to many materials to the lowest practical limits in view of possible adverse effects. To the extent that any hazards may have been mentioned in this publication, we neither suggest nor guarantee that such hazards are the only ones that exist. We recommend that persons intending to rely on any recommendation or to use any e

© 2025 Celanese or its affiliates. All rights reserved. Celanese®, registered C-ball design and all other trademarks identified herein with ®, TM, SM, unless otherwise noted, are trademarks of Celanese or its affiliates. Fortron is a registered trademark of Fortron Industries LLC.