

## SANTOPRENE® 101-73

## **SANTOPRENE®**

A soft, 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
- Recommended for applications requiring excellent flex fatigue resistance
- Excellent ozone resistance

### **Product information**

| Resin Identification Part Marking Code                              | TPV<br>>TPV<       |      | ISO 1043<br>ISO 11469  |
|---|--------------------|------|------------------------|
| •   | ,                  |      |                        |
| Rheological properties  | ***                |      |                        |
| Moulding shrinkage, parallel  | 2.6 <sup>[1]</sup> | , -  | ISO 294-4, 2577        |
| Moulding shrinkage, normal  | 0.8 <sup>[1]</sup> | %    | ISO 294-4, 2577        |
| [1]: 2.0 mm thickness, min. 24 hours after molding, per test method | od TPE-X0080       |      |                        |
| Typical mechanical properties                                       |                    |      |                        |
| Tensile stress at 100% elongation, perpendicular                    | 3.44               | MPa  | ISO 37                 |
| Stress at break, perpendicular                                      | 7.98               | MPa  | ISO 527-1/-2 or ISO 37 |
| Elongation at break, perpendicular                                  | 478                | %    | ISO 527-1/-2 or ISO 37 |
| Shore A hardness, 15s   | 78                 |      | ISO 48-4 / ISO 868     |
| Compression set, 70°C, 24h  | 27                 | %    | ISO 815                |
| Compression set, 125°C, 70h   | 41                 | %    | ISO 815                |
| Tear strength, normal   | 25                 | kN/m | ISO 34-1               |
| 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                |

Printed: 2024-11-21 Page: 1 of 3

Revised: 2024-11-19 Source: Celanese Materials Database



# SANTOPRENE® 101-73

## **SANTOPRENE®**

#### Flammability

Burning Behav. at 1.5mm nom. thickn. IEC 60695-11-10 HB class Thickness tested IEC 60695-11-10 1.5 mm **UL** recognition **UL 94** yes Burning Behav. at thickness h HB class IEC 60695-11-10 Thickness tested 1 mm IEC 60695-11-10 **UL** recognition **UL 94** yes Burning rate, Thickness 2 mm 19.9 mm/min ISO 3795 (FMVSS 302) PLC3 s Hot Wire Ignition, 1.5mm **UL 746A** Hot Wire Ignition, 3mm PLC3 s **UL 746A** 

### **Electrical properties**

Relative permittivity, 60Hz

Arc Resistance Performance Level Category

High Amperage Arc Ignition Category, 1.5 mm

2.5

PLC 6 class

UL 746B

UL 746A

### Physical/Other properties

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

#### Injection

Max. regrind level20 %Back pressure0.517 MPaEjection temperature94 °C

#### Extrusion

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

#### Characteristics

Processing Injection Moulding, Multi Injection Moulding, Extrusion, Sheet Extrusion,

Coextrusion, Blow Moulding, Thermoforming

Delivery form Pellets

#### Additional information

Non Standard Data

| Property<br>Name                        | Condition   | Value | Unit | Standard |
|---|-------------|-------|------|----------|
| Change in<br>Tensile<br>Strength        | 150°C, 168h | -8    | %    | ISO 188  |
| Change in<br>Tensile Strain<br>at Break | 150°C, 168h | -7.7  | %    | ISO 188  |
| Change in                               | 150°C, 168h | 1.7   | -    | ISO 188  |

Printed: 2024-11-21 Page: 2 of 3

Revised: 2024-11-19 Source: Celanese Materials Database



# SANTOPRENE® 101-73

#### **SANTOPRENE®**

| Shore A  |  |  |
|----------|--|--|
| Hardness |  |  |

**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.

#### **Automotive**

OEM STANDARD ADDITIONAL INFORMATION

BMW GS93042

Ford WSD-M2D380-A1

General Motors GMW15813P-TPV-(EPDM+PP)-Type 6 N/A

Hyundai MS220-05 Type C Hyundai MS220-31 Type A2

MAN M3236 A7

MAN MAN M3236 SANTOPRENE101-73\_MAN

M3236\_2022-04-01.pdf

Mercedes-Benz DBL5562

Renault FRM 18-27-021 /---, No Spec, Special Part

Approval, See Your CE Account Manager.

Stellantis 55248\_02 EMP90 01378\_23\_00029; MS-AR-100 CGN; Coolant

hose celanese TPV1hose-125

Stellantis B63 0300 / TPV1hose-125 01378\_23\_00029; MS-AR-100 CGN; Coolant

hose celanese TPV1hose-125

VW Group VW 50123

Printed: 2024-11-21 Page: 3 of 3

Revised: 2024-11-19 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

© 2024 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. KEPITAL is a registered trademark of Korea Engineering Plastics Company, Ltd.