

SANTOPRENE® 151-70W256

A soft, black, flame retardant thermoplastic vulcanizate (TPV) in the thermoplastic elastomer (TPE) family. This material has been designed to meet the Underwriter Laboratories (UL) Subjects 6703, 6703A, 3730 and 1703 material requirements for both junction boxes and connectors (both enclosure and insulation) for use in photovoltaic systems. The flame retardants used are RoHS compliant and provide UL 94 flammability classifications of V-1 down to a thickness of 1.5 mm and 5VA down to a thickness of 1.8 mm. The material has an elevated Relative Thermal Index (RTI) of 90C and meets the requirements for suitability for outdoor use with an (f1) rating. This grade of Santoprene® TPV is shear-dependent and can be processed on conventional thermoplastics equipment for injection molding. 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
- RTI of 90°C per UL 746B
- Suitability for outdoor use (f1) rating per UL 746C
- UL 94 V-1 flammability rating down to 1.5 mm
- UL 94 5VA flammability rating down to 1.8 mm
- UL 746A Inclined-Plane Tracking time of 107 min at 2.5 kV

Typical mechanical properties

21 1 1			
Stress at 100% elongation		MPa	ISO 527-1/-2 or ISO 37
Stress at break	4.8	MPa	ISO 527-1/-2 or ISO 37
Elongation at break	480	%	ISO 527-1/-2 or ISO 37
Shore A hardness, 15s	75		ISO 48-4 / ISO 868
Thermal properties			
RTI, electrical, 1.5mm	90	°C	UL 746B
RTI, strength, 1.5mm	90	°C	UL 746B
Specific Application Suitability			
Outdoor suitability	f1		UL 746C
Flammability			
Burning Behav. at thickness h	5VA	class	UL 94
Thickness tested	3	mm	UL 94
UL recognition	yes		UL 94
Oxygen index	•	%	ISO 4589-1/-2
Hot Wire Ignition, 1.5mm	PLC 2	S	UL 746A
Hot Wire Ignition, 3mm	PLC 1	S	UL 746A



SANTOPRENE® 151-70W256

Electrical properties

Comparative tracking index	PLC 1 PLC	UL 746A
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
Other properties Density	1260 kg/m³	ISO 1183
Processing Texts		

Processing Notes

Desiccant drying for 3 hours at $80 \degree C$ ($180 \degree F$) is recommended. Santoprene® TPV has a wide temperature processing window from 175 to $230 \degree C$ (350 to $450 \degree F$) and is incompatible with acetal and PVC.

Printed: 2023-08-08

Revised: 2023-07-10 Source: Celanese Materials Database

Page: 2 of 2

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, 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 as a promise or guarantee of specific properties of our groucts. 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 he 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 equipment, processing technique or material inductions for handling each material they use, and entrust the handling of such material to adequately trained personnel only. Please call the telephone numbers listed for addi

© 2023 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.