

SANTOPRENE® 121-87

SANTOPRENE®

A hard, black, UV resistant 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

- · Recommended for applications requiring excellent flex fatigue resistance
- Excellent ozone resistance
- Designed for improved UV resistance

Product information

Typical mechanical properties Tensile stress at 100% elongation, perpendicular Stress at break, perpendicular Elongation at break, perp	Resin Identification Part Marking Code	TPV >TPV<		ISO 1043 ISO 11469
Stress at break, perpendicular Elongation at break, perpendicular Elongation at break, perpendicular Brittleness Temperature -58 °C ASTM D 746 Shore A hardness, 15s Scompression set, 23 °C, 24h Compression set, 125 °C, 70h Specific Application Suitability Continuous Upper Temperature Resistance, 1000h Temperature Resistance, 1000h Specific Application Suitability Continuous Upper Temperature Resistance, 1000h 135 °C SAE J2236 Flammability Burning rate, Thickness 2 mm 26.1 mm/min ISO 3795 (FMVSS 302) Electrical properties Relative permittivity, 60Hz Electric Strength, Short Time, 2mm 26 kV/mm ASTM D 149 Physical/Other properties Density Injection	Typical mechanical properties			
Stress at break, perpendicular Elongation at break, perpendicular Elongation at break, perpendicular Brittleness Temperature Shore A hardness, 15s Compression set, 23°C, 24h Compression set, 23°C, 24h Compression set, 125°C, 70h Specific Application Suitability Continuous Upper Temperature Resistance, 1000h Table 135 °C SAE J2236 Flammability Burning rate, Thickness 2 mm Burning rate, Thickness 2 mm Compression Set, 23°C, 24h Electrical properties Relative permittivity, 60Hz Electric Strength, Short Time, 2mm Physical/Other properties Density Properties Density Properties Density Properties Density Properties Density Properties Burning rate, Thickness 2 mm Burning rate, Thickness	Tensile stress at 100% elongation, perpendicular	6.8	MPa	ISO 37
Brittleness Temperature Shore A hardness, 15s Specific Application Suitability Continuous Upper Temperature Resistance, 1000h Flammability Burning rate, Thickness 2 mm Electrical properties Relative permittivity, 60Hz Electric Strength, Short Time, 2mm Physical/Other properties Density ISO 48-4 / ISO 868 LSO 48-5 / ISO 815 B 93 B ISO 48-4 / ISO 868 B ISO 815 B 93 B ISO 815 B 93 B ISO 815 B 96 B 97	3	15.2	MPa	ISO 527-1/-2 or ISO 37
Shore A hardness, 15s Compression set, 23 °C, 24h Compression set, 125 °C, 70h Begin by Specific Application Suitability Continuous Upper Temperature Resistance, 1000h Burning rate, Thickness 2 mm Burning rate, Thickness 2 mm Belectrical properties Relative permittivity, 60Hz Electric Strength, Short Time, 2mm Burning ty Physical/Other properties Density Brish Agriculture Resistance, 1000h Belectrical properties Belectric Strength, Short Time, 2mm Belectric Strength, 3mm Belectric Strength, 3mm Belectric Strength, 3mm Belectric	Elongation at break, perpendicular	600	%	ISO 527-1/-2 or ISO 37
Compression set, 23°C, 24h Compression set, 125°C, 70h 65 % Specific Application Suitability Continuous Upper Temperature Resistance, 1000h 135 °C SAE J2236 Flammability Burning rate, Thickness 2 mm 26.1 mm/min ISO 3795 (FMVSS 302) Electrical properties Relative permittivity, 60Hz Electric Strength, Short Time, 2mm 26 kV/mm Physical/Other properties Density 970 kg/m³ ISO 1183 Injection	Brittleness Temperature	-58	°C	
Compression set, 125 °C, 70h 65 % ISO 815 Specific Application Suitability Continuous Upper Temperature Resistance, 1000h 135 °C SAE J2236 Flammability Burning rate, Thickness 2 mm 26.1 mm/min ISO 3795 (FMVSS 302) Electrical properties Relative permittivity, 60Hz 2.7 IEC 62631-2-1 Electric Strength, Short Time, 2mm 26 kV/mm ASTM D 149 Physical/Other properties Density 970 kg/m³ ISO 1183 Injection				
Specific Application Suitability Continuous Upper Temperature Resistance, 1000h 135 °C SAE J2236 Flammability Burning rate, Thickness 2 mm 26.1 mm/min ISO 3795 (FMVSS 302) Electrical properties Relative permittivity, 60Hz Electric Strength, Short Time, 2mm Physical/Other properties Density 970 kg/m³ ISO 1183	• • • • • • • • • • • • • • • • • • • •			
Continuous Upper Temperature Resistance, 1000h 135 °C SAE J2236 Flammability Burning rate, Thickness 2 mm 26.1 mm/min ISO 3795 (FMVSS 302) Electrical properties Relative permittivity, 60Hz Electric Strength, Short Time, 2mm Physical/Other properties Density 970 kg/m³ ISO 1183	Compression set, 125°C, 70h	65	%	ISO 815
Continuous Upper Temperature Resistance, 1000h 135 °C SAE J2236 Flammability Burning rate, Thickness 2 mm 26.1 mm/min ISO 3795 (FMVSS 302) Electrical properties Relative permittivity, 60Hz Electric Strength, Short Time, 2mm Physical/Other properties Density 970 kg/m³ ISO 1183	Specific Application Suitability			
Flammability Burning rate, Thickness 2 mm 26.1 mm/min ISO 3795 (FMVSS 302) Electrical properties Relative permittivity, 60Hz Electric Strength, Short Time, 2mm Physical/Other properties Density 970 kg/m³ ISO 1183		135	°C	SAF J2236
Burning rate, Thickness 2 mm 26.1 mm/min ISO 3795 (FMVSS 302) Electrical properties Relative permittivity, 60Hz Electric Strength, Short Time, 2mm Physical/Other properties Density 970 kg/m³ ISO 3795 (FMVSS 302) IEC 62631-2-1 26 kV/mm ASTM D 149 Physical/Other properties Density Injection	Commission Opportunity (Composition Commission Composition Composi			5.12 5225
Electrical properties Relative permittivity, 60Hz Electric Strength, Short Time, 2mm Physical/Other properties Density 970 kg/m³ IEC 62631-2-1 ASTM D 149 Physical/Other properties Density 1SO 1183	Flammability			
Relative permittivity, 60Hz Electric Strength, Short Time, 2mm Physical/Other properties Density 970 kg/m³ IEC 62631-2-1 ASTM D 149 Physical/Other properties IsO 1183	Burning rate, Thickness 2 mm	26.1	mm/min	ISO 3795 (FMVSS 302)
Electric Strength, Short Time, 2mm 26 kV/mm ASTM D 149 Physical/Other properties Density 970 kg/m³ ISO 1183 Injection	Electrical properties			
Electric Strength, Short Time, 2mm 26 kV/mm ASTM D 149 Physical/Other properties Density 970 kg/m³ ISO 1183 Injection	Relative permittivity, 60Hz	2.7		IEC 62631-2-1
Density 970 kg/m³ ISO 1183 Injection			kV/mm	
Density 970 kg/m³ ISO 1183 Injection	Dhysical/Other preparties			
Injection				
	Density	970	kg/m³	ISO 1183
Max. regrind level 20 %	Injection			
	Max. regrind level	20	%	
Back pressure 0.517 MPa	<u> </u>			

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Revised: 2024-07-12 Source: Celanese Materials Database



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Extrusion

Drying Temperature 82 °C
Drying Time, Dehumidified Dryer 3 h
Melt Temperature Range 204 °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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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

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