

## SANTOPRENE™ 8211-55 - TPV

### Product Description

A soft, colorable, non-hygroscopic thermoplastic vulcanizate (TPV) in the thermoplastic elastomer (TPE) family. This material combines good physical properties and chemical resistance for use in difficult injection molding applications. 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.

### Characteristics

<b>Applications</b>	Automotive - HVAC Flapper Door Seals, Automotive - Interior, Automotive - Interior Mat, Consumer - Electronics, Consumer - Floor Care, Consumer - Kitchen Tools, Seals and Gaskets, Soft Touch Grips
<b>Uses</b>	Automotive applications, Cell phones, Consumer applications, Flexible grips, Seals
<b>Agency Ratings</b>	UL QMFZ2, UL QMFZ8
<b>UL File Number</b>	E80017
<b>Color</b>	Natural color
<b>Delivery Form</b>	Pellets
<b>Processing</b>	Injection molding, Multi injection molding

Physical properties	Value	Unit	Test Standard
Density	0.93	g/cm <sup>3</sup>	ASTM D792
Density	930	kg/m <sup>3</sup>	ISO 1183

Hardness	Value	Unit
Shore A hardness-TPE, 15s	59	ISO 868

Mechanical properties	Value	Unit	Test Standard
Tensile stress at 100%, perpendicular	2.1	MPa	ASTM D412
Tensile stress at 100%, perpendicular	2.1	MPa	ISO 37
Tensile strength at break elast, perpendicular	4.6	MPa	ASTM D412
Tensile stress at break, perpendicular	4.6	MPa	ISO 37
Elongation at break elast, perpendicular	480	%	ASTM D412
Tensile strain at break, perpendicular	480	%	ISO 37
Compression set, 70 °C, 22h, Type 1, Method B	19	%	ASTM D395
Compression set, 70 °C, 22h, Type A	19	%	ISO 815
Compression set, 125 °C, 70h, Type 1, Method B	49	%	ASTM D395
Compression set, 125 °C, 70h, Type A	49	%	ISO 815

Thermal properties	Value	Unit	Test Standard
Brittleness temperature	-62	°C	ASTM D746
RTI Elec	100	°C	UL 746
RTI Str, 1.1 mm	90	°C	UL 746
RTI Str, 3.0 mm	95	°C	UL 746

Injection	Value	Unit
Necessary low maximum residual moisture content	0.08	%
Suggested maximum regrind	20	%
Rear temperature	177 - 191	°C
Middle temperature	179 - 193	°C
Front temperature	185 - 199	°C
Nozzle temperature	185 - 210	°C
Melt temperature	143 - 216	°C

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Mold temperature	24 - 52	°C
Injection speed	fast	-
Back pressure	0.345 - 0.689	MPa
Screw Speed	100 - 200	RPM
Clamp tonnage	41 - 69	MPa
Cushion	3.18 - 6.35	mm
Screw L/D	20:1/*	-
Screw compression ratio	2.5:1/*	-
Vent depth	0.025	mm

Aging	Value	Unit	Test Standard
Change in Tensile Strength in Air @ 150 C, 168 h	-11	%	ASTM D573
Change in Tensile Strength in Air @ 150 C, 168 h	-11	%	ISO 188
Change in Ultimate Elongation in Air @ 150 C, 168 h	-10	%	ASTM D573
Change in Tensile Strain at Break in Air @ 150 C, 168 h	-10	%	ISO 188
Change in Durometer Hardness in Air @ 150 C, 168 h, Shore A	1	-	ASTM D573
Change in Shore Hardness in Air @ 150 C, 168 h, Shore A	1	-	ISO 188

Flammability	Value	Unit
Flame rating, 1.1 mm	HB	UL 94
Flame rating, 3.0 mm	HB	UL 94

### Other text information

### Processing Notes

Desiccant drying for 3 hours at 80°C (180°F) can be performed if desired. Santoprene™ TPV has a wide temperature processing window from 175 to 230°C (350 to 450°F) and is incompatible with acetal and PVC.

### General Disclaimer

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. Colorants or other additives may cause significant variations in data values. Properties of molded 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. 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 equipment, processing technique or material mentioned in this publication should satisfy themselves that they can meet all applicable safety and health standards. We strongly recommend that users seek and adhere to the manufacturer's current instructions 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 additional technical information. Call Customer Services for the appropriate Materials Safety Data Sheets (MSDS) before attempting to process our products. The products mentioned herein are not intended for use in medical or dental implants.

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