

# Santoprene® 201-55

Thermoplastic Vulcanizate

Celanese Corporation

**PROSPECTOR®**

www.ulprospector.com

## Technical Data

### Product Description

A soft, colorable, 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 or extrusion. 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

### General

Material Status	• Commercial: Active
Literature <sup>1</sup>	• <a href="#">Technical Datasheet</a>
UL Yellow Card <sup>2</sup>	• <a href="#">E80017-250517</a>
Search for UL Yellow Card	• <a href="#">Celanese Corporation</a> • <a href="#">Santoprene®</a>
Availability	• Africa & Middle East • Asia Pacific • Europe • Latin America • North America
Uses	• Automotive Applications • Profiles • Sheet
Appearance	• Natural Color
Forms	• Pellets
Processing Method	• Coextrusion • Extrusion • Injection Molding • Multi Injection Molding • Profile Extrusion • Sheet Extrusion

Physical	Nominal Value Unit	Test Method
Density / Specific Gravity	0.970 g/cm <sup>3</sup>	ASTM D792 ISO 1183
Detergent Resistance	f4	UL 2157
Detergent Resistance	f3	UL 749
Elastomers	Nominal Value Unit	Test Method
Tensile Stress - Across Flow (100% Strain)	2.10 MPa	ASTM D412 ISO 37
Tensile Strength - Across Flow (Break)	5.20 MPa	ASTM D412 ISO 37
Tensile Elongation - Across Flow (Break)	400 %	ASTM D412 ISO 37
Tear Strength - Across Flow	16.0 kN/m	ISO 34-1
Compression Set		
70°C, 22 hr <sup>4</sup>	22 %	ASTM D395B
125°C, 70 hr <sup>4</sup>	38 %	ASTM D395B
70°C, 24 hr	22 %	ISO 815
125°C, 70 hr	38 %	ISO 815
Hardness	Nominal Value Unit	Test Method
Shore Hardness (Shore A, 15 sec)	59	ISO 868



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Thermal	Nominal Value Unit	Test Method
Brittleness Temperature	-60.0 °C	ASTM D746 ISO 974
RTI Elec		UL 746B
1.5 mm	100 °C	
3.0 mm	100 °C	
RTI Str		UL 746B
1.0 mm	90.0 °C	
1.5 mm	95.0 °C	
3.0 mm	100 °C	
Aging	Nominal Value Unit	Test Method
Change in Tensile Strength in Air 150°C, 168 hr	-7.0 %	ASTM D573 ISO 188
Change in Ultimate Elongation in Air 150°C, 168 hr	13 %	ASTM D573 ISO 188
Change in Durometer Hardness in Air Shore A, 150°C, 168 hr	3.0	ASTM D573 ISO 188
Continuous Upper Temperature Resistance 1000 hr	135 °C	SAE J2236
Electrical	Nominal Value Unit	Test Method
Dielectric Strength (2.00 mm)	29 kV/mm	ASTM D149
Relative Permittivity (60 Hz)	2.30	IEC 60250
Arc Resistance	PLC 6	UL 746B
Comparative Tracking Index (CTI) <sup>5</sup>	PLC 0	UL 746A
High Amp Arc Ignition (HAI) (1.5 mm)	PLC 0	UL 746A
High Voltage Arc Tracking Rate (HVTR)	PLC 1	UL 746A
Hot-wire Ignition (HWI)		UL 746A
1.5 mm	PLC 3	
3.0 mm	PLC 2	
Flammability	Nominal Value Unit	Test Method
Flame Rating		UL 94
1.0 mm	HB	
1.5 mm	HB	
Injection	Nominal Value Unit	
Drying Temperature	82 °C	
Drying Time	3.0 hr	
Suggested Max Moisture	0.080 %	
Suggested Max Re grind	20 %	
Rear Temperature	177 °C	
Middle Temperature	182 °C	
Front Temperature	182 °C	
Nozzle Temperature	188 to 221 °C	
Processing (Melt) Temp	193 to 232 °C	
Mold Temperature	10 to 52 °C	
Injection Rate	Fast	
Back Pressure	0.345 to 0.689 MPa	



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Injection	Nominal Value Unit
Screw Speed	100 to 200 rpm
Clamp Tonnage	4.1 to 6.9 kN/cm <sup>2</sup>
Cushion	3.18 to 6.35 mm
Screw L/D Ratio	16.0:1.0 to 20.0:1.0
Screw Compression Ratio	2.0:1.0 to 2.5:1.0
Vent Depth	0.025 mm
Extrusion	Nominal Value Unit
Drying Temperature	82 °C
Drying Time	3.0 hr
Melt Temperature	196 °C
Die Temperature	199 °C
Back Pressure	5.00 to 20.0 MPa

## Notes

<sup>1</sup> These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.

<sup>2</sup> A UL Yellow Card contains UL-verified flammability and electrical characteristics. UL Prospector continually works to link Yellow Cards to individual plastic materials in Prospector, however this list may not include all of the appropriate links. It is important that you verify the association between these Yellow Cards and the plastic material found in Prospector. For a complete listing of Yellow Cards, visit the UL Yellow Card Search.

<sup>3</sup> Typical properties: these are not to be construed as specifications.

<sup>4</sup> Type 1

<sup>5</sup> 23°C

