

Santoprene™ 121-58W175

Thermoplastic Vulcanizate

Product Description

A soft, black, UV resistant thermoplastic vulcanizate (TPV) in the thermoplastic elastomer (TPE) family. This material combines good physical properties and chemical resistance, and is designed for thin wall or complex profile extrusion applications. This grade of Santoprene™ TPV is shear-dependent and can be processed on conventional thermoplastics equipment for extrusion. 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.
- Designed for extruding thin wall sections with excellent definition (down to 0.33 mm [0.013"] radius) and to maximize run length with minimal build-up of material on screen packs or narrow sections of dies.

General

Applications	▪ Automotive - Weather Seals		
Uses	▪ Automotive Applications	▪ Automotive Exterior Trim	▪ Outdoor Applications
RoHS Compliance	▪ RoHS Compliant		
Automotive Specifications	▪ CHRYSLER MS-AR-100 AGV	▪ FORD WSS-M2D378-B1	▪ GM GMW15812, Type 4E
Color	▪ Black		
Form(s)	▪ Pellets		
Processing Method	▪ Extrusion	▪ Profile Extrusion	▪ Sheet Extrusion

Physical	Typical Value (English)	Typical Value (SI)	Test Based On
Density / Specific Gravity	0.970	0.970	ASTM D792
Density	0.970 g/cm ³	0.970 g/cm ³	ISO 1183

Hardness	Typical Value (English)	Typical Value (SI)	Test Based On
Shore Hardness			ISO 868
Shore A, 15 sec, 73°F (23°C)	61	61	

Elastomers	Typical Value (English)	Typical Value (SI)	Test Based On
Tensile Stress at 100% - Across Flow (73°F (23°C))	289 psi	1.99 MPa	ASTM D412
Tensile Stress at 100% - Across Flow (73°F (23°C))	289 psi	1.99 MPa	ISO 37
Tensile Strength at Break - Across Flow (73°F (23°C))	738 psi	5.09 MPa	ASTM D412
Tensile Stress at Break - Across Flow (73°F (23°C))	738 psi	5.09 MPa	ISO 37
Elongation at Break - Across Flow (73°F (23°C))	460 %	460 %	ASTM D412
Tensile Strain at Break - Across Flow (73°F (23°C))	460 %	460 %	ISO 37
Tear Strength - Across Flow 73°F (23°C), Method Ba, Angle (Unnicked)	120 lbf/in	21 kN/m	ISO 34-1
Compression Set 158°F (70°C), 22 hr, Type 1	27 %	27 %	ASTM D395B
257°F (125°C), 70 hr, Type 1	43 %	43 %	
Compression Set 158°F (70°C), 22 hr, Type A	27 %	27 %	ISO 815
257°F (125°C), 70 hr, Type A	43 %	43 %	

Thermal	Typical Value (English)	Typical Value (SI)	Test Based On
Brittleness Temperature	-76 °F	-60 °C	ASTM D746
Brittleness Temperature	-76 °F	-60 °C	ISO 812



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Electrical	Typical Value (English)	Typical Value (SI)	Test Based On
Dielectric Strength 73°F (23°C), 0.0787 in (2.00 mm)	650 V/mil	26 kV/mm	ASTM D149
Dielectric Constant 73°F (23°C), 0.0760 in (1.93 mm)	2.70	2.70	ASTM D150
Dielectric Constant 73°F (23°C), 0.0760 in (1.93 mm)	2.70	2.70	IEC 60250

Extrusion	Typical Value (English)	Typical Value (SI)	
Drying Temperature	180 °F	82 °C	
Drying Time	3.0 hr	3.0 hr	
Melt Temperature	350 to 400 °F	177 to 204 °C	
Die Temperature	400 °F	204 °C	
Back Pressure	725 to 2900 psi	5.00 to 20.0 MPa	

Extrusion Notes

Santoprene™ TPV is incompatible with acetal and PVC. For more information regarding processing and die design, please consult our Extrusion Molding Guide.

Aging	Typical Value (English)	Typical Value (SI)	Test Based On
Change in Tensile Strength in Air 302°F (150°C), 168 hr	-21 %	-21 %	ASTM D573
Change in Tensile Strength in Air 302°F (150°C), 168 hr	-21 %	-21 %	ISO 188
Change in Ultimate Elongation in Air 302°F (150°C), 168 hr	7.7 %	7.7 %	ASTM D573
Change in Tensile Strain at Break in Air 302°F (150°C), 168 hr	7.7 %	7.7 %	ISO 188
Change in Durometer Hardness in Air Shore A, 302°F (150°C), 168 hr	-3.0	-3.0	ASTM D573
Change in Shore Hardness in Air Shore A, 302°F (150°C), 168 hr	-3.0	-3.0	ISO 188
Continuous Upper Temperature Resistance 1008 hr	275 °F	135 °C	SAE J2236

