

SANTOPRENE™ 121-73W175J - TPV

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, thermoforming or vacuum forming. 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
- 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

Characteristics

Applications	Automotive - Seals and Gaskets, Automotive - Weather Seals, Industrial - Expansion Joints, Industrial - Rail Pads and Rail Boots, Industrial - Residential Window and Door Seals, Industrial - Water Stops for Containment Structures
Uses	Automotive applications, Automotive exterior trim, Outdoor applications
UL File Number	E80017
Color	Black
Delivery Form	Pellets
Processing	Coextrusion, Extrusion, Profile extrusion, Sheet extrusion, Thermoforming, Vacuum forming

Physical properties	Value	Unit	Test Standard
Density	60.6	lb/ft ³	ASTM D792
Density	60.6	lb/ft ³	ISO 1183
Hardness	Value	Unit	
Shore A hardness-TPE, 15s	78		ISO 868
Mechanical properties	Value	Unit	Test Standard
Tensile stress at 100%, perpendicular	545	psi	ASTM D412
Tensile stress at 100%, perpendicular	545	psi	ISO 37
Tensile strength at break elast, perpendicular	1260	psi	ASTM D412
Tensile stress at break, perpendicular	1260	psi	ISO 37
Elongation at break elast, perpendicular	460	%	ASTM D412
Tensile strain at break, perpendicular	460	%	ISO 37
Tear strength, Method Ba, perpendicular	154	lb/in	ISO 34-1
Compression set, 70 °C, 22h, Type 1, Method B	34	%	ASTM D395
Compression set, 70 °C, 22h, Type A	34	%	ISO 815
Compression set, 125 °C, 70h, Type 1, Method B	42	%	ASTM D395
Compression set, 125 °C, 70h, Type A	42	%	ISO 815
Thermal properties	Value	Unit	Test Standard
Brittleness temperature	-60	°C	ASTM D746

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Electrical properties	Value	Unit	Test Standard
Dielectric Strength, 2.0 mm	686	V/mil	ASTM D149
Dielectric Constant 60Hz, 1.98 mm	2.7	-	ASTM D150
Dielectric Constant 60Hz, 1.98 mm	2.7	-	IEC 60250

Extrusion	Value	Unit
Drying temperature	180	°F
Drying time	3	h
Melt temperature	351 - 399	°F
Die head temperature	399	°F
Back pressure	725 - 2900	psi

Aging	Value	Unit	Test Standard
Change in Tensile Strength in Air @ 150 C, 168 h	-24.9	%	ASTM D573
Change in Tensile Strength in Air @ 150 C, 168 h	-24.9	%	ISO 188
Change in Ultimate Elongation in Air @ 150 C, 168 h	-23.4	%	ASTM D573
Change in Tensile Strain at Break in Air @ 150 C, 168 h	-23.4	%	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
Continuous Upper Temperature Resistance (CUTR) @ 1008 h	275	°F	SAE J2236

Flammability	Value	Unit
Flame rating, 1.0 mm	HB	UL 94
Flame rating, 1.5 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) 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. Do not exceed 15% drawdown.
