

SANTOPRENE™ 251-70W232 - TPV

Product Description

A soft, colorable, flame retardant thermoplastic vulcanizate (TPV) in the thermoplastic elastomer (TPE) family. This material has good fluid resistance and contains non-ether brominated flame retardants. It does not contain metal deactivators. This grade of Santoprene™ TPV is shear-dependent and can be processed on conventional thermoplastics equipment for injection molding, extrusion or blow molding. It is polyolefin based and recyclable within the manufacturing stream.

Characteristics

Applications	Automotive - Flame Retardant Connectors and Seals, Electrical - Flame Retardant Connectors and Seals
Uses	Automotive applications, Cable jacketing, Flexible cord jacketing, Wire & cable applications
Agency Ratings	UL QMFZ2, UL QMFZ8
UL File Number	E80017
Color	Natural color
Delivery Form	Pellets
Processing	Blow molding, Extrusion, Extrusion blow molding, Injection blow molding, Injection molding, Multi injection molding, Profile extrusion, Sheet extrusion

Physical properties	Value	Unit	Test Standard
Density	1.24	g/cm ³	ASTM D792
Density	1240	kg/m ³	ISO 1183
Hardness	Value	Unit	
Shore A hardness-TPE, 15s	75		ISO 868
Mechanical properties	Value	Unit	Test Standard
Tensile stress at 100%, perpendicular	2.7	MPa	ASTM D412
Tensile stress at 100%, perpendicular	2.7	MPa	ISO 37
Tensile strength at break elast, perpendicular	6.3	MPa	ASTM D412
Tensile stress at break, perpendicular	6.3	MPa	ISO 37
Elongation at break elast, perpendicular	550	%	ASTM D412
Tensile strain at break, perpendicular	550	%	ISO 37
Thermal properties	Value	Unit	Test Standard
Limiting oxygen index (LOI)	26	%	ASTM D2863
Limiting oxygen index (LOI)	26	%	ISO 4589-1/-2
RTI Elec	90	°C	UL 746
RTI Str, 1.5 mm	85	°C	UL 746
RTI Str, 3.0 mm	90	°C	UL 746
Electrical properties	Value	Unit	Test Standard
Dielectric Strength, 2.0 mm	31	kV/mm	ASTM D149
Dielectric Constant 60Hz, 1.98 mm	2.5	-	ASTM D150
Dielectric Constant 60Hz, 1.98 mm	2.5	-	IEC 60250
Comparative tracking index	PLC 0	-	UL 746
High amp arc ignition (HAI)	PLC 0	-	UL 746
High voltage arc resistance to ignition (HVAR)	PLC 6	-	UL 746
High voltage arc tracking rate (HVTR)	PLC 2	-	UL 746
Hot wire ignition	PLC 3	-	UL 746

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Injection	Value	Unit
Drying temperature	82	°C
Drying time	3	h
Necessary low maximum residual moisture content	0.08	%
Suggested maximum regrind	20	%
Mold temperature	10 - 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

Extrusion	Value	Unit
Drying temperature	82	°C
Drying time	3	h

Aging	Value	Unit	Test Standard
Change in Tensile Strength in Air @ 150 C, 168 h	-21	%	ASTM D573
Change in Tensile Strength in Air @ 150 C, 168 h	-21	%	ISO 188
Change in Ultimate Elongation in Air @ 150 C, 168 h	-25	%	ASTM D573
Change in Tensile Strain at Break in Air @ 150 C, 168 h	-25	%	ISO 188

Flammability	Value	Unit
Flame rating, 1.0 mm	V-2	UL 94
Flame rating, 1.5 mm	V-0	UL 94
Flame rating, 3.0 mm	V-0	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.

Other Approvals

OEM	Specification
GM	GMW15702-250028

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