SANTOPRENE® 251-70W232

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.

Key Features

- UL listed: file #QMFZ2.E80017, Plastics - Component; file #QMFZ8.E80017, Plastics Certified For Canada - Component.
- Recommended for applications requiring a flame retardant material - UL 94 Vertical Flame rated.
- Recommended for applications requiring excellent flex fatigue resistance.
- Recommended for applications requiring excellent ozone resistance.

Typical mechanical properties

Stress at 100% elongation	2.7	MPa	ISO 527-1/-2 or ISO 37
Stress at break	6.3	MPa	ISO 527-1/-2 or ISO 37
Elongation at break	550	%	ISO 527-1/-2 or ISO 37
Shear Modulus	14.3	MPa	ISO 6721
Shore A hardness, 15s	75		ISO 48-4 / ISO 868

Thermal properties

RTI, electrical, 1.5mm	90	°C	UL 746B
RTI, strength, 1.5mm	85	°C	UL 746B
RTI, strength, 3mm	90	°C	UL 746B

Flammability

Burning Behav. at thickness h	V-0	class	UL 94
Thickness tested	3	mm	UL 94
UL recognition	yes		UL 94
Oxygen index	26	%	ISO 4589-1/-2
Hot Wire Ignition, 1.5mm	PLC 3	s	UL 746A

Electrical properties

Comparative tracking index	PLC 0	PLC	UL 746A
Arc Resistance Performance Level Category	PLC 6	class	UL 746B
Electric Strength, Short Time, 2mm	31	kV/mm	ASTM D 149
High Amperage Arc Ignition Category, 1.5 mm	PLC 0	class	UL 746A
High Voltage Arc Tracking Rate	PLC 2	mm/min	UL 746A

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Other properties

Density	1240	kg/m³	ISO 1183

Injection

Drying Temperature	82	°C	
Drying Time, Dehumidified Dryer	3	h	
Processing Moisture Content	0.08	%	
Max. regrind level	20	%	
Melt Temperature Optimum	215	°C	Internal
Max. mould temperature	10 - 52	°C	
Vent depth	25	µm	
Back pressure	0.345 - 0.689	MPa	
Injection speed	fast		

Extrusion

Drying Temperature	82	°C
Drying Time, Dehumidified Dryer	3	h

Processing Texts

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.

Revised: 2023-07-10 Source: Celanese Materials Database