Celanese
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SANTOPRENE® 203-50

A hard, 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, extrusion, blow molding, 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.
- Excellent ozone resistance.

Typical mechanical properties

Yield stress, perpendicular	12	MPa	ISO 527-1/-2 or ISO 37
Yield strain, perpendicular	31	%	ISO 527-1/-2 or ISO 37
Brittleness Temperature	-28	°C	ASTM D 746
Low temperature brittleness	-28	°C	ISO 812
Shore D hardness, 15s	51		ISO 48-4 / ISO 868
Shore D hardness, 168h at 150°C	5		ISO 48-4 / ISO 868
Compression set at 70°C, 24h	59	%	ISO 815
Compression Set, 125°C, 70h	74	%	ISO 815
Tear strength, normal	96	kN/m	ISO 34-1

Thermal properties

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

Specific Application Suitability

Detergent resistance	f3	UL 749
Detergent resistance	f4	UL 2157

Flammability

Burning Behav. at thickness h	HB	class	UL 94
Thickness tested	3	mm	UL 94
UL recognition	yes		UL 94
Hot Wire Ignition, 1mm	PLC 3	s	UL 746A
Hot Wire Ignition, 1.5mm	PLC 3	s	UL 746A
Hot Wire Ignition, 3mm	PLC 1	s	UL 746A

Electrical properties

Comparative tracking index	PLC 0	PLC	UL 746A
Arc Resistance Performance Level Category	PLC 5	class	UL 746B
Electric Strength, Short Time, 2mm	35	kV/mm	ASTM D 149
High Amperage Arc Ignition Category, 1.5 mm	PLC 0	class	UL 746A

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High Voltage Arc Tracking Rate	PLC 1	mm/min	UL 746A

Other properties

Density	950	kg/m³	ISO 1183

Injection

Drying Temperature	82	°C
Drying Time, Dehumidified Dryer	3	h
Processing Moisture Content	0.08	%
Max. regrind level	20	%
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
Melt Temperature Range	210	°C

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.

Other Approvals

Other Approvals

OEM	Specification
VW Group	VW50123

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