

SANTOPRENE® 203-50

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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.

Product information

| | | |
|----------------------|-------|-----------|
| Resin Identification | TPV | ISO 1043 |
| Part Marking Code | >TPV< | ISO 11469 |

Typical mechanical properties

| | | |
|------------------------------|---------|--------------------|
| Brittleness Temperature | -28 °C | ASTM D 746 |
| Shore D hardness, 15s | 51 | ISO 48-4 / ISO 868 |
| Compression set, 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, electrical, 3.0mm | 85 °C | UL 746B |
| RTI, strength, 1.5mm | 85 °C | UL 746B |
| RTI, strength, 3.0mm | 85 °C | UL 746B |

Specific Application Suitability

| | | |
|----------------------|----|---------|
| Detergent resistance | f3 | UL 749 |
| Detergent resistance | f4 | UL 2157 |

Flammability

| | | |
|--------------------------------------|----------|-----------------|
| Burning Behav. at 1.5mm nom. thickn. | HB class | IEC 60695-11-10 |
| Thickness tested | 1.5 mm | IEC 60695-11-10 |
| UL recognition | yes | UL 94 |
| Burning Behav. at thickness h | HB class | IEC 60695-11-10 |
| Thickness tested | 1 mm | IEC 60695-11-10 |
| UL recognition | yes | UL 94 |
| Hot Wire Ignition, 1.5mm | PLC 3 s | UL 746A |
| Hot Wire Ignition, 3mm | PLC 1 s | UL 746A |

Electrical properties

| | | |
|---|-------------|---------------|
| Relative permittivity, 60Hz | 2.3 | IEC 62631-2-1 |
| 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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Physical/Other properties

| | | |
|---------|-----------------------|----------|
| Density | 950 kg/m ³ | ISO 1183 |
|---------|-----------------------|----------|

Injection

| | |
|---------------------------------|-----------|
| Drying Temperature | 82 °C |
| Drying Time, Dehumidified Dryer | 3 h |
| Processing Moisture Content | ≤0.08 % |
| Max. regrind level | 20 % |
| Min. mould temperature | 10 °C |
| Max. mould temperature | 52 °C |
| Back pressure | 0.517 MPa |

Extrusion

| | |
|---------------------------------|--------|
| Drying Temperature | 82 °C |
| Drying Time, Dehumidified Dryer | 3 h |
| Melt Temperature Range | 210 °C |

Additional information

Processing Notes

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.