# SANTOPRENE® 101-80

## SANTOPRENE®

A soft, black, 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; file #QMTT2.E86313, Polymeric Materials for Use in Wire, Cable and Flexible Lighting Products - Component
- Recommended for applications requiring excellent flex fatigue resistance
- Excellent ozone resistance

## Product information

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

## Typical mechanical properties

| | | | |
|---|---|---|---|
| Tensile stress at 100% elongation, perpendicular | 4.61 | MPa | ISO 37 |
| Stress at break, perpendicular | 10.4 | MPa | ISO 527-1/-2 or ISO 37 |
| Elongation at break, perpendicular | 526 | % | ISO 527-1/-2 or ISO 37 |
| Brittleness Temperature | -60 | °C | ASTM D 746 |
| Shore A hardness, 15s | 87 | | ISO 48-4 / ISO 868 |
| Compression set, 70°C, 24h | 36 | % | ISO 815 |
| Compression set, 125°C, 70h | 52 | % | ISO 815 |
| Tear strength, normal | 33 | kN/m | ISO 34-1 |

## Thermal properties

| | | | |
|---|---|---|---|
| RTI, electrical, 1.5mm | 90 | °C | UL 746B |
| RTI, electrical, 3.0mm | 90 | °C | UL 746B |
| RTI, strength, 1.5mm | 90 | °C | UL 746B |
| RTI, strength, 3.0mm | 95 | °C | UL 746B |

## Specific Application Suitability

| | | | |
|---|---|---|---|
| Continuous Upper Temperature Resistance, 1000h | 135 | °C | SAE J2236 |
| Detergent resistance | f3 | | UL 749 |
| Detergent resistance | f4 | | UL 2157 |
| Outdoor suitability | f1 | | UL 746C |

## 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 |
| Burning rate, Thickness 2 mm | 19.6 | mm/min | ISO 3795 (FMVSS 302) |

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| | | | |
|---|---|---|---|
| Hot Wire Ignition, 1.5mm | PLC 3 | s | UL 746A |
| Hot Wire Ignition, 3mm | PLC 2 | s | UL 746A |

## Electrical properties

| | | | |
|---|---|---|---|
| Relative permittivity, 60Hz | 2.6 | | IEC 62631-2-1 |
| Arc Resistance Performance Level Category | PLC 6 | class | UL 746B |
| Electric Strength, Short Time, 2mm | 30 | kV/mm | ASTM D 149 |
| High Amperage Arc Ignition Category, 1.5 mm | PLC 0 | class | UL 746A |

## Physical/Other properties

| | | | |
|---|---|---|---|
| Density | 960 | $kg/m^3$ | ISO 1183 |

## Injection

| | | |
|---|---|---|
| Max. regrind level | 20 | % |
| Back pressure | 0.517 | MPa |
| Ejection temperature | 93 | °C |

## Extrusion

| | | |
|---|---|---|
| Drying Temperature | 82 | °C |
| Drying Time, Dehumidified Dryer | 3 | h |
| Melt Temperature Range | 202 | °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.

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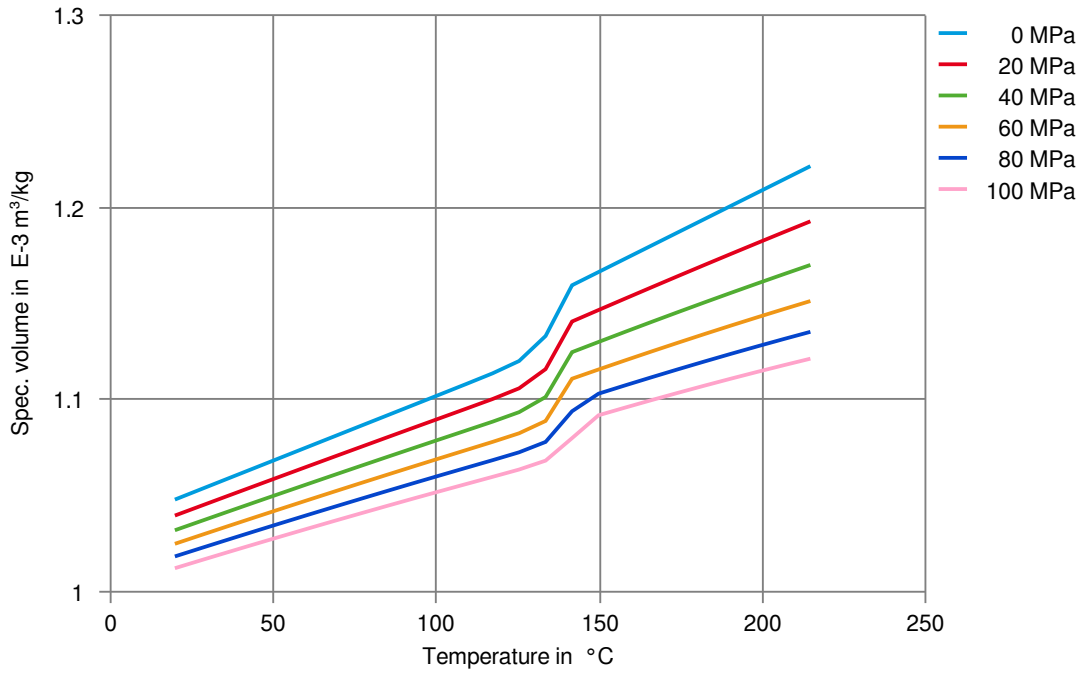
## Specific volume-temperature (pvT)



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