

SANTOPRENE® 8271-55

SANTOPRENE®

A soft, colorable, specialty, non-hygroscopic thermoplastic vulcanizate (TPV) in the thermoplastic elastomer (TPE) family. It is designed for use in non fatty food contact applications. This grade of Santoprene® TPV is shear-dependent and can be processed on conventional thermoplastics equipment for injection molding or blow molding. It is polyolefin based and recyclable within the manufacturing stream.

Key Features

- This product, in principle, can be used in food contact applications in the USA (FDA). Migration or use limitations may apply.
- Certified by NSF to NSF/ANSI Standard 51: Food Equipment Materials - Plastics, materials and components used in food equipment.
- UL listed: file #QMFZ2.E80017, Plastics - Component; file #QMFZ8.E80017, Plastics Certified For Canada - Component.
- Recommended for applications requiring excellent flex fatigue resistance.
- Non-hygroscopic product; requires little to no drying before processing.
- Neutral, easy coloring formulation.

Product information

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

Typical mechanical properties

Shore A hardness, 15s	60	ISO 48-4 / ISO 868
Tensile stress at 100% elongation, perpendicular	2 MPa	ISO 37
Tensile stress at break, perpendicular	4.5 MPa	ISO 527-1/-2 or ISO 37
Elongation at break, perpendicular	430 %	ISO 527-1/-2 or ISO 37
Brittleness Temperature	-63 °C	ASTM D 746
Low temperature brittleness	-63 °C	ISO 812
Compression set, 70 °C, 24h	20 %	ISO 815
Compression set, 125 °C, 70h	46 %	ISO 815

Thermal properties

RTI, electrical, 1.5mm	100 °C	UL 746B
RTI, electrical, 3.0mm	100 °C	UL 746B
RTI, strength, 1.5mm	85 °C	UL 746B
RTI, strength, 3.0mm	85 °C	UL 746B

Flammability

Burning Behav. at thickness h	HB class	IEC 60695-11-10
Thickness tested	1.1 mm	IEC 60695-11-10
UL recognition	yes	UL 94

Physical/Other properties

Density	960 kg/m³	ISO 1183
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Injection

Drying Recommended	no
Drying Temperature	80 °C
Drying Time, Dehumidified Dryer	≥3 h
Processing Moisture Content	≤0.08 %
Max. regrind level	20 %
Melt Temperature Optimum	200 °C
Min. melt temperature	185 °C
Max. melt temperature	215 °C
Mold Temperature Optimum	35 °C
Min. mould temperature	20 °C
Max. mould temperature	50 °C

Characteristics

Processing	Injection Molding, Multi Injection Molding, Blow Molding, Injection Blow Molding, Extrusion Blow Molding, Extrusion - small Tubing
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Additional information

Injection molding	Holding pressure should be about 50 to 75% of the actual injection pressure. A high screw RPM (100 to 200) is recommended. Back pressure is not always needed, however, a back pressure of 0.3 to 0.7 MPa may be used to ensure a homogeneous melt and maintain a consistent shot size. A higher back pressure is normally employed when using masterbatches.
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Processing Notes

Processing Notes

If desired, desiccant drying for 3 hours at 80 °C (180 °F) can be performed. Santoprene® TPV has a wide temperature processing window from 175 to 230 °C (350 to 450 °F) and is incompatible with acetal and PVC.

Santoprene® TPV has a relatively high melt viscosity at low shear rates. Viscosity decreases as the shear rate increases.

Increasing temperature has little effect on TPV melt viscosity. Smaller gates and higher shear rates keep melt viscosity low and improve melt flow. Please also refer to the injection molding guide.