

SANTOPRENE™ 241-55 - TPV

Product Description

A soft, colorable, specialty thermoplastic vulcanizate (TPV) in the thermoplastic elastomer (TPE) family. It is designed for use in plumbing applications requiring potable water contact and also for food processing equipment. This grade of Santoprene™ TPV is shear-dependent and can be processed on conventional thermoplastics equipment for injection molding or extrusion. It is polyolefin based and recyclable within the manufacturing stream.

Characteristics

Applications	Plumbing - Potable Water Seals and Gaskets, Tubing
Uses	Plumbing parts
Agency Ratings	NSF 51, NSF 61, UL QMFZ2, UL QMFZ8
UL File Number	E80017
Color	Natural color
Delivery Form	Pellets
Processing	Coextrusion, Extrusion, Injection molding, Multi injection molding, Profile extrusion, Sheet extrusion

Physical properties	Value	Unit	Test Standard
Density	0.96	g/cm ³	ASTM D792
Density	960	kg/m ³	ISO 1183

Hardness	Value	Unit
Shore A hardness-TPE, 15s	59	ISO 868

Mechanical properties	Value	Unit	Test Standard
Tensile stress at 100%, perpendicular	1.7	MPa	ASTM D412
Tensile stress at 100%, perpendicular	1.7	MPa	ISO 37
Tensile strength at break elast, perpendicular	4.5	MPa	ASTM D412
Tensile stress at break, perpendicular	4.5	MPa	ISO 37
Elongation at break elast, perpendicular	450	%	ASTM D412
Tensile strain at break, perpendicular	450	%	ISO 37

Thermal properties	Value	Unit	Test Standard
RTI Elec	100	°C	UL 746
RTI Str	90	°C	UL 746

Electrical properties	Value	Unit
Comparative tracking index	PLC 0	UL 746
High amp arc ignition (HAI)	PLC 0	UL 746
High voltage arc resistance to ignition (HVAR)	PLC 6	UL 746
High voltage arc tracking rate (HVTR)	PLC 3	UL 746
Hot wire ignition	PLC 2	UL 746

Injection	Value	Unit
Drying temperature	82	°C
Drying time	3	h
Necessary low maximum residual moisture content	0.08	%
Suggested maximum regrind	20	%
Rear temperature	177	°C
Middle temperature	182	°C

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Front temperature	182	°C
Nozzle temperature	188 - 221	°C
Melt temperature	193 - 232	°C
Mold temperature	10 - 52	°C
Injection speed	fast	-
Back pressure	0.345 - 0.689	MPa
Screw Speed	100 - 200	RPM
Clamp tonnage	41 - 69	MPa
Cushion	3.18 - 6.35	mm
Screw L/D	20:1/*	-
Screw compression ratio	2.5:1/*	-
Vent depth	0.025	mm

Extrusion	Value	Unit
Drying temperature	82	°C
Drying time	3	h
Melt temperature	196	°C
Die head temperature	199	°C
Back pressure	5 - 20	MPa

Flammability	Value	Unit
Flame rating, 1.0 mm	HB	UL 94
Flame rating, 1.5 mm	HB	UL 94
Flame rating, 3.0 mm	HB	UL 94

Other text information

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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