ExxonMobil

Santoprene™ 241-73W236

Thermoplastic Vulcanizate

Product Description

A soft, colorable, specialty thermoplastic vulcanizate (TPV) in the thermoplastic elastomer (TPE) family. It is designed for use in plumbing applications in contact with potable water. 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

- Certified by NSF to NSF/ANSI Standard 61: Drinking Water System Components - Health Effects.
- Contains a stabilization system for protection against copper and other metal-catalyzed degradation.

General

Applications	▪ Plumbing - Potable Water Seals and Gaskets	▪ Tubing	
Uses	▪ Plumbing Parts		
Agency Ratings	▪ NSF STD-61		
RoHS Compliance	▪ RoHS Compliant		
Color	▪ Natural Color		
Form(s)	▪ Pellets		
Processing Method	▪ Blow Molding ▪ Coextrusion ▪ Extrusion ▪ Extrusion Blow Molding	▪ Injection Blow Molding ▪ Injection Molding ▪ Multi Injection Molding ▪ Profile Extrusion	▪ Sheet Extrusion ▪ Thermoforming ▪ Vacuum Forming

Physical	Typical Value (English)		Typical Value (SI)		Test Based On
Density / Specific Gravity	0.970		0.970		ASTM D792
Density	0.970	g/cm³	0.970	g/cm³	ISO 1183

Hardness	Typical Value (English)		Typical Value (SI)		Test Based On
Shore Hardness					ISO 868
Shore A, 15 sec, 73°F (23°C)	79		79		

Elastomers	Typical Value (English)		Typical Value (SI)		Test Based On
Tensile Stress at 100% - Across Flow (73°F (23°C))	522	psi	3.60	MPa	ASTM D412
Tensile Stress at 100% - Across Flow (73°F (23°C))	522	psi	3.60	MPa	ISO 37
Tensile Strength at Break - Across Flow (73°F (23°C))	1280	psi	8.80	MPa	ASTM D412
Tensile Stress at Break - Across Flow (73°F (23°C))	1280	psi	8.80	MPa	ISO 37
Elongation at Break - Across Flow (73°F (23°C))	490	%	490	%	ASTM D412
Tensile Strain at Break - Across Flow (73°F (23°C))	490	%	490	%	ISO 37
Compression Set					ASTM D395B
73°F (23°C), 168 hr, Type 1	25	%	25	%	
212°F (100°C), 168 hr, Type 1	57	%	57	%	
Compression Set					ISO 815
73°F (23°C), 168 hr, Type A	25	%	25	%	
212°F (100°C), 168 hr, Type A	57	%	57	%	

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Injection	Typical Value	(English)	Typical Value	(SI)
Drying Temperature	180	°F	82	°C
Drying Time	3.0	hr	3.0	hr
Suggested Max Moisture	0.080	%	0.080	%
Suggested Max Regrind	20	%	20	%
Rear Temperature	350	°F	177	°C
Middle Temperature	360	°F	182	°C
Front Temperature	370	°F	188	°C
Nozzle Temperature	380 to 440	°F	193 to 227	°C
Processing (Melt) Temp	390 to 450	°F	199 to 232	°C
Mold Temperature	50 to 125	°F	10 to 52	°C
Injection Rate	Fast		Fast	
Back Pressure	50.0 to 100	psi	0.345 to 0.689	MPa
Screw Speed	100 to 200	rpm	100 to 200	rpm
Clamp Tonnage	3.0 to 5.0	tons/in^2	41 to 69	MPa
Cushion	0.125 to 0.250	in	3.18 to 6.35	mm
Screw L/D Ratio	16.0:1.0 to 20.0:1.0		16.0:1.0 to 20.0:1.0	
Screw Compression Ratio	2.0:1.0 to 2.5:1.0		2.0:1.0 to 2.5:1.0	
Vent Depth	1.0E-3	in	0.025	mm

Injection Notes

Santoprene TPV is incompatible with acetal and PVC. For more information regarding processing and mold design, please consult our Injection Molding Guide and Technical Literature (TL) on "Resistance of Santoprene Rubber to Copper Catalyzed Oxidative Attack".

Extrusion	Typical Value	(English)	Typical Value	(SI)
Drying Temperature	180	°F	82	°C
Drying Time	3.0	hr	3.0	hr
Melt Temperature	395	°F	202	°C
Die Temperature	400	°F	204	°C
Back Pressure	725 to 2900	psi	5.00 to 20.0	MPa