

OTHER INDUSTRIAL AND FOOD-GRADE TUBING

Norprene® Tubing

- ▶ Up to 10,000 hours of tubing life
- ▶ Best choice for pressure/vacuum applications
- ▶ Resists heat, ozone, acids, and alkalis
- ▶ Heat sealable and bondable
- ▶ Nonaging, nonoxidizing

Norprene® Food Tubing

- ▶ Ideal for high-temperature food and beverage applications
- ▶ Similar characteristics as Norprene® tubing
- ▶ Meets FDA and NSF standards

GORE® High-Resilience Tubing, Style 100SC

- ▶ Long life at continuous pressure up to 4 bar (60 psi)
- ▶ Excellent flow stability
- ▶ Spallation-free
- ▶ Low gas permeability

GORE® High-Resilience Tubing, Style 500

- ▶ Very similar to Style 100SC, plus:
- ▶ Excellent chemical resistance
- ▶ Compatible with many inorganic and organic chemicals

WHERE TO ORDER TUBING
C/L® TUBING 32-35
L/S® TUBING 66-71
I/P® TUBING 126-130
B/T® TUBING 153

GORE® High-Resilience Tubing, Style 400

- ▶ Long life under pressure
- ▶ Minimal break-in period
- ▶ Excellent chemical compatibility
- ▶ Ideal for industrial applications

Viton® Tubing

- ▶ Excellent chemical resistance
- ▶ Resists corrosives, solvents, and oils at elevated temperatures

Pump tubing formulation	Norprene® (A 60 G)	Norprene® Food (A 60 F)	GORE® Style 100SC	GORE® Style 500	GORE® Style 400	Viton®
Series number	06404	06402	96190 New	96191 New	06439 New	96412
Advantages	Best choice for vacuum/pressure applications. Offers longest pump tubing life. Heat, ambient ozone resistant. Good resistance to acids/alkalis. Black color hides dirt and dust. Heat sealable, nonaging, and nonoxidizing. High dielectric constant. High-pressure version available.	Similar to Norprene® (06404) but with FDA approval. Excellent for food/dairy applications. Longest life, good flow consistency. Heat and ozone resistant. Good resistance to acids/alkalis. Heat sealable, nonaging, and nonoxidizing. High dielectric constant.	Long life, even under pressures up to 4 bar (60 psi). Excellent flow stability; <1% change in flow rate as tubing wears. No break-in period required. Spallation-free. Excellent biocompatibility. Low extractables.	Similar to STA-PURE® PCS tubing but with enhanced chemical resistance. Resistant to many organic and inorganic fluids. Long life at pressure up to 60 psi (4 bar). Spallation-free. Excellent biocompatibility. Low gas permeability.	Long life under pressure. Excellent tubing life. Minimal break-in period. Spallation-free. Excellent chemical compatibility. Ideal for industrial applications.	Perfect for food and lab applications where FDA compliance is required. Excellent chemical resistance. Resistant to corrosives, solvents, and oils at elevated temperatures. Low gas permeability.
Limitations	Potential leaching of USP mineral oil or blend material.	Potential leaching of USP mineral oil or blend material.	Sold as tube elements only; no continuous lengths available.	Sold as tube elements only; no continuous lengths available.	Does not meet either USP or FDA classifications. Limited temperature range. Sold as tube elements only. No continuous lengths available.	Limited pumping life.
Application suitability:						
Acids	Good	Good	Not recommended	Excellent	Excellent	Excellent
Alkalis	Good	Good	Not recommended	Good	Excellent	Excellent
Organic solvents	Not recommended	Not recommended	Not recommended	Excellent	Variable—test before using	Variable—test before using
Pressure	Excellent	Excellent	Excellent	Excellent	Excellent	Good
Vacuum	Excellent	Excellent	Good	Good	Good	Good
Viscous fluids	Excellent	Excellent	Good	Good	Good	Good
Sterile fluids	Not recommended	Good	Excellent	Excellent	Not recommended	Fair
Physical characteristics and composition	Thermoplastic elastomer. Polypropylene-based material with USP mineral oil. Excellent tensile strength. Firm (stiff) material. Opaque, black.	Thermoplastic elastomer. Polypropylene-based material with USP mineral oil. Excellent tensile strength. Firm (stiff) material. Opaque, beige.	ePTFE (expanded PTFE) and platinum-cured silicone. Excellent tensile strength. Firm (stiff) material. Opaque, white.	ePTFE (expanded PTFE) and fluoroelastomer. Excellent tensile strength. Firm (stiff) material. Opaque, white.	ePTFE and Viton® type F fluoroelastomer (FKM). Excellent tensile and tear strength. Opaque, beige.	Thermal set rubber. Viton B (67% fluorine). Firm (stiff) material. Opaque, black.
Temperature range	Static	-59 to 132°C (-60 to 270°F)	-40 to 150°C (-40 to 302°F)	-80 to 200°C (-112 to 392°F)	0 to 200°C (52 to 390°F)	-32 to 205°C (-25 to 400°F)
	Dynamic (pumping)	-20 to 100°C (-4 to 212°F)	-20 to 100°C (-4 to 212°F)	-40 to 150°C (-40 to 302°F)	-40 to 150°C (-40 to 302°F)	0 to 150°C (32 to 302°F)
Meets classifications	NSF-listed (Standard 51)	FDA 21 CFR 177.2600 NSF-listed (Standard 51)	RoHs Compliant REACH Compliant	RoHs Compliant REACH Compliant	RoHS Compliant	FDA 21 CFR 177.2600 ADCF Compliant
Gas permeability cc x mm (cm ² x sec x cm Hg) x 10 ⁻¹⁰	CO ₂ : 1200 H ₂ : — O ₂ : 200 N ₂ : 80	CO ₂ : 1200 H ₂ : — O ₂ : 200 N ₂ : 80	CO ₂ : 20,132 H ₂ : 6579 O ₂ : 7961 N ₂ : 2763	CO ₂ : 76 to 79 H ₂ : — O ₂ : — N ₂ : 4.3	CO ₂ : 77 H ₂ : — O ₂ : 14 N ₂ : 4.3	CO ₂ : 76 to 79 H ₂ : — O ₂ : 13 to 15 N ₂ : 4.3
Cleaning/sterilization	Sterilize by autoclave, ETO, and gamma. Repeated sterilization will not affect overall life.	Sterilize by autoclave. Repeated autoclaving will not affect overall life.	Sterilize by ETO, autoclave or SIP (steam in place). Repeated autoclaving will not affect overall life. N/A: For industrial use only.	Sterilize by ETO, autoclave or SIP (steam in place). Repeated autoclaving will not affect overall life. N/A: For industrial use only.	N/A: For industrial use only.	—