



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

Chem-Durance® Bio Tubing

- Excellent chemical resistance
- Excellent pumping life
- Low spallation
- USP Class VI specifications
- Masterflex exclusive

GORE® High Resilience Style 400 **NEW**

- 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

Continuous pressures up to 10.2 bar!

L/S® High-Pressure Pump System

See page 1231 for details and to order our High-Pressure Norprene® and PharMed® BPT tubing.



Where to Order TUBING

C/L® Tubing	1193
L/S® Tubing	1211–1217
I/P® Tubing	1254–1258
B/T® Tubing	1278



MASTERFLEX® Exclusive

Pump tubing formulation	Norprene® (A 60 G)	Norprene® Food (A 60 F)	Chem-Durance® Bio	GORE® Style 400	Viton®	
Series number	06404	06402	06442	06439 NEW	96412	
Advantages	Best choice for vacuum/pressure applications. Offers longest pump tubing life. Heat, ambient ozone resistant. Good resistance to acids/alkalies. 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/alkalies. Heat sealable, nonaging, and nonoxidizing. High dielectric constant.	Excellent chemical resistance. Excellent life and durability under pressure. Low spallation. Plasticizer-free inner liner. High dielectric constant. Excellent biocompatibility.	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.	Requires high starting torque.	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	Excellent	Excellent	Excellent	
Alkalies	Good	Good	Excellent	Excellent	Excellent	
Organic solvents	Not recommended	Not recommended	Good	Variable—test before using	Variable—test before using	
Pressure	Excellent	Excellent	Excellent	Excellent	Good	
Vacuum	Excellent	Excellent	Excellent	Good	Good	
Viscous fluids	Excellent	Excellent	Excellent	Good	Good	
Sterile fluids	Not recommended	Good	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.	Thermoplastic elastomer (for outer jacket). Plasticizer-free inner liner. Firm (stiff) material. Opaque, beige.	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	–60 to 270°F (–59 to 132°C)	–60 to 270°F (–59 to 132°C)	–71 to 165°F (–60 to 74°C)	52 to 390°F (0 to 200°C)	–25 to 400°F (–32 to 205°C)
	Dynamic (pumping)	–4 to 212°F (–20 to 100°C)	–4 to 212°F (–20 to 100°C)	32 to 104°F (0 to 40°C)	32 to 302°F (0 to 150°C)	32 to 302°F (0 to 150°C)
Meets classifications	NSF-listed (Standard 51)	FDA 21 CFR 177.2600 NSF-listed (Standard 51)	FDA 21 CFR 177.2600 USP Class VI	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 : 745 H ₂ : — O ₂ : 200 N ₂ : 80	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 with ethylene oxide (ETO) radiation or autoclave. To autoclave: Coil loosely in nonlinting cloth or paper, autoclave at 250°F (121°C) 1 kg/cm ² (15 psi) for 30 minutes; air dry at 150°F (66°C) for 2 to 2½ hours. Radiation: 25 kGy (2.5 Mrads).	For industrial use.	—	