



Other Biopharmaceutical Tubing

In addition to silicone, we also carry other pump tubing formulations that are biocompatible and well-suited to biotech and pharmaceutical laboratory or production applications.

PharMed® BPT Tubing

- Over 10,000 hours of tubing life
- Resists ozone and UV radiation
- Noncytotoxic and nonhemolytic
- Ideal for tissue and cell culture work
- Heat sealable and bondable

PharmaPure® Tubing

- Biocompatibility similar to PharMed® BPT
- Long life under continuous pressure up to 40 psi (2.7 bar)
- Very low spallation and low extractables

GORE® STA-PURE® PCS Tubing

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

GORE® STA-PURE® PFL Tubing

- Very similar to STA-PURE PCS, plus:
- Excellent chemical resistance
- Compatible with many inorganic and organic chemicals

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.



PTFE Tubing

- Chemically inert; best chemical resistance of any pump tubing
- Sold in molded pump tubing elements
- Use with PTFE tubing pump head

Pump tubing formulation		PharMed® BPT	PharmaPure®	GORE® STA-PURE® PCS	GORE® STA-PURE® PFL	PTFE
Series number		06508	06435	96211	96212	77390
Advantages		Great for tissue and cell work—nontoxic and nonhemolytic. Long service life minimizes risk of fluid exposure; reduces tubing costs and pump downtime. Opaque to UV and visible light to protect light-sensitive fluids. Low gas permeability. High-pressure 10.3 bar (150 psi) version available.	Nontoxic and nonhemolytic (similar to PharMed® BPT); biocompatible. Long life even under pressure; up to 1000 hours at 40 psi (2.7 bar). Very low spallation—protects fluid purity. Low extractables. Low gas permeability.	Long life, even under pressures up to 60 psi (4 bar). 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.	Chemically inert. Excellent chemical resistance. Will not leach into or absorb out of fluid being pumped. Extremely low gas permeability. Nontoxic. Virtually nonporous. Low coefficient of friction.
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.	Limited pumping life. Sold as tube elements only; no continuous lengths available.
Application suitability:						
Acids		Good	Good	Not recommended	Excellent	Excellent
Alkalies		Good	Good	Not recommended	Good	Excellent
Organic solvents		Not recommended	Not recommended	Not recommended	Excellent	Excellent
Pressure		Good	Good	Excellent	Excellent	Good
Vacuum		Good	Good	Good	Good	Good
Viscous fluids		Excellent	Excellent	Good	Good	Excellent
Sterile fluids		Excellent	Excellent	Excellent	Excellent	Good
Physical characteristics and composition		Thermoplastic elastomer. Polypropylene-based material with USP mineral oil. Excellent tensile strength. Firm (stiff) material. Opaque, beige.	Thermoplastic elastomer. Polypropylene-based material with USP mineral oil. Excellent tensile strength. Firm (stiff) material. Opaque, off-white.	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.	Polytetrafluoroethylene. Rigid material. Translucent, white.
Temperature range	Static	-60 to 270°F (-51 to 132°C)	-60 to 270°F (-51 to 132°C)	-40 to 302°F (-40 to 150°C)	-112 to 392°F (-80 to 200°C)	-400 to 500°F (-240 to 260°C)
	Dynamic (pumping)	-4 to 212°F (-20 to 100°C)	-4 to 212°F (-20 to 100°C)	-40 to 302°F (-40 to 150°C)	-40 to 302°F (-40 to 150°C)	-40 to 302°F (-40 to 150°C)
Meets classifications		USP Class VI FDA 21 CFR 177.2600 NSF-listed (Standard 51). European Pharmacopoeia (EP)	USP Class VI FDA 21 CFR 177.2600 European Pharmacopoeia (EP)	USP Class VI FDA 21 CFR 177.2600 European Pharmacopoeia (EP) RoHs Compliant REACH Compliant ADCF Compliant	USP Class VI FDA 21 CFR 177.1550 RoHs Compliant REACH Compliant ADCF Compliant	USP Class VI FDA 21 CFR 177.1500
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 : 6.8 H ₂ : — O ₂ : — N ₂ : 1.0
Cleaning/sterilization		Sterilize by ETO, autoclave, or gamma radiation up to 2.5 Mrad. Repeated autoclaving will not affect overall life.	Sterilize by ETO, autoclave or gamma radiation up to 2.5 Mrad. Repeated autoclaving will not affect overall life.	Sterilize by ETO, autoclave or SIP (steam in place). Repeated autoclaving will not affect overall life.	Sterilize by ETO, autoclave or SIP (steam in place). Repeated autoclaving will not affect overall life.	Sterilize by ETO, autoclave or dry heat.