

TPE TUBING

When a single drop of fluid can make the difference in someone’s health, you need smart fluid handling solutions that get the job done safely. Manufacturers worldwide rely on connector products that improve yield, cut costs and reduce time to market.

FlowLinX® TPE tubing offers a breakthrough in bioprocessing tubing solutions, combining advanced functionality with a commitment to sustainability. Engineered for seamless compatibility with AdvantaFlex® and C-Flex® tubing, FlowLinX® TPE ensures smooth integration into your existing operations without compromising performance. Manufactured using 40% first-generation biomass, FlowLinX® TPE tubing delivers a reduced carbon footprint that’s 25% lower than traditional TPE tubing. Advance your process performance while contributing to a more sustainable future for bioprocessing.

REGULATORY OVERVIEW:

Material of Construction

TPE (Thermoplastic elastomer)

Biocompatibility

USP <85>, Bacterial Endotoxin

USP <88>, Biological Reactivity Tests, Class VI, In Vivo

USP <87>, Biological Reactivity Tests, Class VI, In Vitro

ISO 10993-4, Hemolysis

ISO 10993-10, Irritation and Sensitization

ISO 10993-11, Systemic Toxicity

Physicochemical

USP <661>, Plastic Packaging Systems

EP 3.2.9, Rubber Closures for Containers

FDA 21CFR 177.2600, Rubber Articles Intended for Repeated Use

Extractables

Per USP <665>

Particulate

USP <788>

Legislation

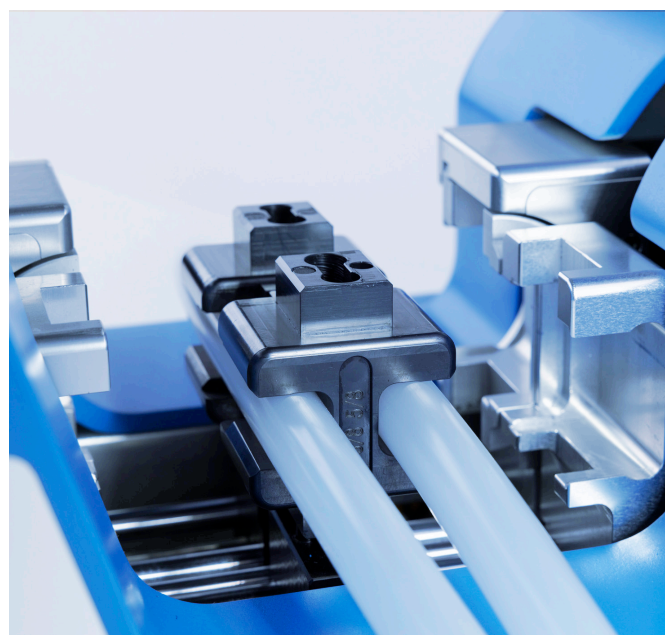
REACH

RoHS

Conflict Mineral

Shelf Life

5 Years, Non-Sterile/Non-Irradiated



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SUSTAINABLE INNOVATION IN EVERY CONNECTION



FlowLinX® TPE redefines what’s possible in bioprocess tubing by blending performance excellence with environmental responsibility. Our advanced TPE tubing is manufactured with 40% first-generation biomass, offering a sustainable alternative that does not sacrifice the form, fit and function you expect from a trusted product.



By reducing its carbon footprint by 25% compared to traditional TPE, FlowLinX® tubing empowers companies to meet their operational goals while making measurable strides towards sustainability. For example, a small biotech using 215,000 feet (65,500 meters) of TPE tubing annually, can reduce it’s emissions by 5.80 tons of CO₂ annually simply by switching to FlowLinX®.

Key Data	FlowLinX® TPE Tubing	Traditional TPE Tubing	Savings with FlowLinX®
Material Composition	40% First-Generation Biomass	100% Standard Petroleum-Based	Eco-Friendly Biomass Blend
Carbon Footprint (per foot)	0.077 kg CO ₂ /ft (0.254 kg CO ₂ /m)	0.112 kg CO ₂ /ft (0.367 kg CO ₂ /m)	25% Lower Carbon Emissions
Annual CO ₂ Emissions (in feet)	16.56 tons (215,000 ft)	22.36 tons (215,000 ft)	5.80 tons saved annually
Annual CO ₂ Emissions (in meters)	16.56 tons (65,231 m)	22.36 tons (65,231 m)	5.80 tons saved annually
Environmental Impact (example) ¹	Equivalent to driving 14,758 fewer miles/9,170 fewer kilometers	Higher Emissions	Significant Reduction

¹) Environmental Protection Agency (EPA) estimates that 1 gallon of gasoline burned produces 8.89 kg (19.6 pounds) of CO₂ for a vehicle that averages 22.6 miles per gallon.

WELDING PERFORMANCE COMPARISON

FlowLinX® TPE tubing demonstrates reliable performance for bioprocessing applications, particularly when compared to C-Flex® and AdvantaFlex®, in a series of welding studies. The study focused on welding compatibility with both gamma irradiation and autoclave sterilization methods, using a range of tubing welder parameter settings (AdvantaFlex® and C-Flex® settings). FlowLinX® TPE exhibited excellent welding results across these treatment types, showing consistent weld strength and integrity, making it a reliable alternative to traditional TPE options in critical bioprocessing environments. This performance, coupled with its sustainable composition and reduced carbon footprint, makes FlowLinX® TPE an ideal choice for the bioprocessing industry, offering both environmental benefits and reliable, high-quality performance.

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WELDING PERFORMANCE COMPARISON

Tubing Weld Combination	Welder Setting	Treatment Type ¹	Pressure Hold Test (36 psi) ²	Average Burst Pressure (psi) ³
F-Flex to F-Flex	AdvantaFlex	Gamma Irradiated	Pass	65
F-Flex to F-Flex	C-Flex	Gamma Irradiated	Pass	66
F-Flex to F-Flex	AdvantaFlex	Autoclaved	Pass	67
F-Flex to F-Flex	C-Flex	Autoclaved	Pass	72
F-Flex to F-Flex	AdvantaFlex	Gamma/Autoclaved	Pass	67
F-Flex to F-Flex	C-Flex	Gamma/Autoclaved	Pass	67
F-Flex to AdvantaFlex	AdvantaFlex	Gamma Irradiated	Pass	65
F-Flex to AdvantaFlex	AdvantaFlex	Autoclaved	Pass	70
F-Flex to C-Flex	C-Flex	Gamma Irradiated	Pass	63
F-Flex to C-Flex	C-Flex	Autoclaved	Pass	65
F-Flex to AdvantaFlex	AdvantaFlex	Gamma/Autoclaved	Pass	67
F-Flex to C-Flex	C-Flex	Gamma/Autoclaved	Pass	67

1) Gamma irradiation was at a dose >25 kGy and Autoclave settings were 121° C for 20 minutes
 2) Test pressure was set to 36 psi (1.5x working pressure) for 2 minutes. Working pressure for 3/8" x 5/8" TPE is 24 psi.
 3) Burst pressure was defined as when the tubing began to balloon, not rupture.

PART NUMBERS

ID (INCH)	ID (MM)	OD (INCH)	OD (MM)	WALL (INCH)	WALL (MM)	WORKING PRESSURE (PSI)	COIL SIZE	
							50 FT (15 M)	100 FT (30 M)
1/8	3.2	1/4	6.4	1/16	1.6	30	F-FLEX-0125-0250-C50	F-FLEX-0125-0250-C100
3/16	4.8	5/16	8	1/16	1.6	23	F-FLEX-0188-0313-C50	F-FLEX-0188-0313-C100
3/16	4.8	3/8	9.6	3/32	2.4	32	F-FLEX-0188-0375-C50	F-FLEX-0188-0375-C100
1/4	6.4	3/8	9.6	1/16	1.6	20	F-FLEX-0250-0375-C50	F-FLEX-0250-0375-C100
1/4	6.4	7/16	11.2	3/32	2.4	23	F-FLEX-0250-0438-C50	F-FLEX-0250-0438-C100
1/4	6.4	1/2	12.8	1/8	3.2	30	F-FLEX-0250-0500-C50	F-FLEX-0250-0500-C100
5/16	8	7/16	11.2	1/16	1.6	21	F-FLEX-0313-0438-C50	F-FLEX-0313-0438-C100
5/16	8	1/2	12.8	3/32	2.4	24	F-FLEX-0313-0500-C50	F-FLEX-0313-0500-C100
3/8	9.6	1/2	12.8	1/16	1.6	18	F-FLEX-0375-0500-C50	F-FLEX-0375-0500-C100
3/8	9.6	9/16	14.3	3/32	2.4	23	F-FLEX-0375-0563-C50	F-FLEX-0375-0563-C100
3/8	9.6	5/8	15.9	1/8	3.2	24	F-FLEX-0375-0625-C50	F-FLEX-0375-0625-C100
1/2	12.8	3/4	19	1/8	3.2	22	F-FLEX-0500-0750-C50	F-FLEX-0500-0750-C100
5/8	15.9	7/8	22.3	1/8	3.2	18	F-FLEX-0625-0875-C50	F-FLEX-0625-0875-C100
3/4	19	1	25.4	1/8	3.2	17	F-FLEX-0750-1000-C50	F-FLEX-0750-1000-C100
3/4	19	1 1/8	34.9	3/16	4.8	18	F-FLEX-0750-1125-C50	F-FLEX-0750-1125-C100
1	25.4	1 3/8	34.9	3/16	4.8	18	F-FLEX-1000-1375-C50	F-FLEX-1000-1375-C100

