

Liveo™ Pharma TPE Tubing

Pharmaceutical-grade thermoplastic elastomer (TPE) tubing dedicated to fluid transport and single-use bioprocessing applications.

APPLICATIONS

DuPont™ Liveo™ Pharma TPE Tubing is a sterilizable, weldable TPE tubing for biopharmaceutical processing for fluid transport and single-use bioprocessing applications:

- Fluid, media and solvent transport in biopharmaceutical processes and biotechnology
- Single-use assemblies
- Peristaltic pump applications
- Aseptic connection and disconnection without connectors (e.g., sampling)
- Applications where compatibility with industry benchmark TPE tubing is needed

FEATURES & BENEFITS

- Improved heat-welding, both to itself and to competitive offerings
- High tensile strength and burst resistance before and after welding
- Low extractables
- Good chemical resistance
- Minimal spallation after 24 hours of pumping
- Good clarity; stable clarity after sterilization
- Manufactured in ISO Class 7 cleanroom
- Comprehensive data package to accelerate qualification and validation under the form of a qualification guide

Liveo™ Pharma TPE Tubing

Common tubing product sizes and burst properties

Inner diameter (ID)		Outer diameter (OD)		Wall		Burst pressure			
inches	mm	inches	mm	inches	mm	Autoclave ¹		Gamma ²	
						psi	bar	psi	bar
1/8	3.2	1/4	6.4	1/16	1.6	94	6.5	89	6.1
3/8	9.5	5/8	15.9	1/8	3.2	87	6.0	85	5.9
1/2	12.7	3/4	19.1	1/8	3.2	71	4.9	70	4.8

Note: Burst pressure values are typical values not intended for writing specifications. Test method is based on ASTM D380-14.

¹Autoclave sterilization at 121°C for 30 minutes.

²Gamma treated 50 kGy dose.

SPECIAL NEEDS

DuPont has the capabilities to customize products to your specifications. Customization includes sizes, tolerances, cut lengths, bulk packaging and spooling. For easy identification, DuPont™ Liveo™ Pharma TPE Tubing also is available marked with product name and size. Please contact your DuPont representative to discuss your specific requirements.

Manufacturing environment

Liveo™ Pharma TPE Tubing is manufactured in the USA in an ISO Class 7 cleanroom at an ISO 13485:2016 certified site.

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Characteristics

Delivery form	Tubing
Special characteristics	Translucent
Regulatory data package	USP <665> (Extractables and Leachables)* USP <85> (Endotoxins) USP <788> (Particulates) ISO 11737-1 (Bioburdens) ISO 10993 Biocompatibility tests (5: Cytotoxicity, 6: Muscle Implantation, 11: Acute Systemic Toxicity, 23: Intracutaneous Irritation) USP Class VI (Intracutaneous Reactivity, Acute Systemic Injection, Intramuscular Implant) USP <151> (Pyrogenicity) Elemental Impurities

*On autoclaved and gamma-radiated tubing.

Additional information

How to use	Information from “Chemical Resistance Guide for Elastomer IV,” published by Compass Publications, La Jolla, California, can be used as reference. It is, however, recommended that DuPont products be evaluated in the real conditions of use.
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Liveo™ Pharma TPE Tubing

Mechanical properties

Shore A hardness durometer	65 Shore A	ASTM D2240
Specific gravity	0.900	ASTM D792
DuPont™ Liveo™ Pharma TPE Tubing ID 1/8" (3.2 mm) x OD 1/4" (6.4 mm)*		
Stress at 200% strain, Die C	3.3 MPa (479 psi) ¹	ASTM D412
	2.7 MPa (392 psi) ²	ASTM D412
Maximum tensile strength, Die C	9.8 MPa (1,421 psi) ¹	ASTM D412
	8.2 MPa (1,189 psi) ²	ASTM D412
Maximum elongation, Die C	902% ¹	ASTM D412
	982% ²	ASTM D412
DuPont™ Liveo™ Pharma TPE Tubing ID 3/8" (9.5 mm) x OD 5/8" (15.9 mm)		
Stress at 200% strain, Die C	2.7 MPa (392 psi) ¹	ASTM D412
	2.6 MPa (377 psi) ²	ASTM D412
Maximum tensile strength, Die C	9.4 MPa (1,363 psi) ¹	ASTM D412
	7.4 MPa (1,073 psi) ²	ASTM D412
Maximum elongation, Die C	1,134% ¹	ASTM D412
	1,031% ²	ASTM D412

*Tubing pulled apart as it is.

¹Autoclave sterilization at 121°C for 30 minutes.

²Gamma treated 50 kGy dose.

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Mechanical properties (continued)

DuPont™ Liveo™ Pharma TPE Tubing ID 1/2" (12.7 mm) x OD 3/4" (19.1 mm)

Stress at 200% strain, Die C	2.7 MPa (392 psi) ¹	ASTM D412
	2.6 MPa (377 psi) ²	ASTM D412
Maximum tensile strength, Die C	9.0 MPa (1,305 psi) ¹	ASTM D412
	7.9 MPa (1,146 psi) ²	ASTM D412
Maximum elongation, Die C	1,128% ¹	ASTM D412
	1,073% ²	ASTM D412

¹Autoclave sterilization at 121°C for 30 minutes.

²Gamma treated 50 kGy dose.

Other properties

Shelf life 36 months¹

¹From the date of manufacture when stored in the original unopened containers.

Sterilization methods

- Autoclave steam, 30 minutes at 121°C
- Gamma radiation, 50 kGy

Revised: 2021-10-07

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AGP16478M-22