

The Single-Use Expert for the Biopharma Market



Datasheet
TPE Tubing Ultra Low Temperature

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- Tubing
- Quick couplers
- Connections and disconnections
- Gaskets
- Adapters and fittings
- Containers
- Closures
- Sensors and monitors
- Pumps
- Filling Needles
- Sampling systems



The TPE Ultra-Low Temp Tubing is a solution specifically engineered to perform at ultra-low temperatures. This tubing addresses the critical requirements of the new bioprocessing applications, such as gene therapies, mRNA vaccines, monoclonal antibodies...

One of its standout features is its seamless compatibility with existing TPE tubing solutions.

This tubing can be welded to current TPE setups, simplifying usage and qualification requirements.

TYPICAL APPLICATIONS

- Fluid management
- Freeze/thaw
- Purification

FEATURES

- Enhanced toughness to -86°C , minimizing brittle failure and enduring multiple freeze/thaw cycles.
- High flexibility resists bending, crushing, and impacts at -80°C .
- Superior chemical resistance, including compatibility with DMSO.
- Exceptional burst strength for demanding applications.
- Smooth pumpability with low particle generation.
- Thermoweldable and thermosealable with standard equipment.
- Sterilizable via autoclave or gamma irradiation (up to 50 kGy).
- Produced in ISO Class 7 cleanroom
- Engineered for biopharma processes and low-temperature resilience.
- Comprehensive performance data pre- and post-freezing.

BENEFITS

- Unmatched performance: passes rigorous bending, crushing and impact tests at -80°C .
- Improved durability: resistant to wear, spallation and mechanical stress.
- Simplified integration: compatible with existing TPE hose solutions for easy integration.



COMMON TUBING PRODUCT SIZES

Currently from 0.0625" to 0.500" I.D.
Customizable I.D./O.D. on demand

| INNER DIAMETER (ID) | | OUTER DIAMETER (OD) | | WALL THICKNESS | |
|---------------------|-------|---------------------|-------|----------------|-------|
| INCHES | MM | INCHES | MM | INCHES | MM |
| 0.063 | 1.588 | 0.094 | 2.38 | 0.016 | 0.397 |
| 0.125 | 3.175 | 0.250 | 6.35 | 0.063 | 1.588 |
| 0.250 | 6.350 | 0.375 | 9.53 | 0.063 | 1.588 |
| 0.250 | 6.350 | 0.500 | 12.70 | 0.125 | 3.175 |
| 0.375 | 9.525 | 0.625 | 15.88 | 0.125 | 3.175 |
| 0.500 | 12.70 | 0.750 | 19.05 | 0.125 | 3.175 |

BURST PROPERTIES

| INNER DIAMETER (ID) | | OUTER DIAMETER (OD) | | WALL | | BURST PRESSURE | |
|---------------------|------|---------------------|------|--------|-----|----------------|-----|
| INCHES | MM | INCHES | MM | INCHES | MM | PSI | BAR |
| 0.125 | 3.2 | 0.250 | 6.4 | 0.063 | 1.6 | 119 | 8.2 |
| 0.375 | 9.5 | 0.625 | 15.9 | 0.125 | 3.2 | 85 | 5.9 |
| 0.500 | 12.7 | 0.750 | 19.1 | 0.125 | 3.2 | 73 | 5.0 |

TUBING

QUICK COUPLERS

CONNECTIONS AND DISCONNECTIONS

GASKETS

ADAPTERS AND FITTINGS

CONTAINERS

CLOSURES

SENSORS AND MONITORS

PUMPS

SAMPLING SYSTEMS

06 2025



TYPICAL PHYSICAL PROPERTIES

Properties are based on TPE Ultra-Low Temp Tubing with an inner diameter (I.D.) of 3/8" (9.5 mm) and an outer diameter (O.D.) of 5/8" (15.9 mm).

| | Property | Test standard | Mean value |
|---------------------------------|----------------------------|-----------------|------------|
| | Durometer hardness | ASTM D2240 | 62 Shore A |
| | Specific gravity | ASTM D792 | 0.900 |
| | Property | Test standard | Mean value |
| Steam (121°C/30 minutes) | Maximum elongation | ASTM D412 Die C | 1030% |
| | Modulus at 200% elongation | | 1.88 MPa |
| | Maximum tensile strength | | 9.1 MPa |
| | Property | Test standard | Mean value |
| Gamma radiation (50 kGy) | Maximum elongation | ASTM D412 Die C | 1256% |
| | Modulus at 200% elongation | | 1.90 MPa |
| | Maximum tensile strength | | 8.7 MPa |

Specification writers: These values are not intended for use in preparing specifications. Please contact us prior to writing specifications on this product.

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|----------------------------|-----------------|-----------------------|---------------|
| Durometer hardness | ASTM D2240 | 62 Shore A | |
| Specific gravity | ASTM D792 | 0.900 | |
| Property | Test standard | Steam (121°C/ 30 min) | Gamma (50kGy) |
| Maximum elongation | ASTM D412 Die C | 1030% | 1256% |
| Modulus at 200% elongation | 1.9 MPa | 1.9 MPa | |
| Maximum tensile strength | 9.1 MPa | 8.7 MPa | |

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PURITY & REGULATORY DATA

- USP Class VI standards
- Extractables USP <665>
- Elemental impurities USP <232>
- Biocompatibility ISO 10993 (part 5, 6, 11, 23(1))
- Food contact 21 CFR 177.2600 e) & f)(2)
- Subvisible particulates USP <788>
- Bioburdens ISO 11737-1
- Endotoxins USP <85>
- USP <87> Biological Reactivity Test, In Vitro
- USP <88> Biological Reactivity Tests, In Vivo
- Free from phthalates; PFAS-free

PERFORMANCE DATA

Available upon request.

LIMITATIONS AND SAFETY : It is the user's responsibility to ensure the suitability and safety of Aseptic Group products for all intended uses. Products must be used in accordance with applicable regulatory requirements defined in datasheet.

Aseptic Group assumes no obligations or liability for any advice furnished by it, or for results obtained with respect to these products. The data supplied is given and accepted at the buyer's risk.

This product is neither tested or approved for any hospital or patient care use such as for temporary insertion or any in vivo procedures. This product is not to be used in human implantation, or human contraceptive, reproductive, obstetrical or gynecological applications. The user shall hold Aseptic Group harmless from any and all damages resulting from use of this product. It is the sole responsibility of the user to determine the safety and efficacy of this product for any specific use. This product is not tested for specific pharmaceutical or medical device use(s). Should you wish to use this product in a specific pharmaceutical or medical device application, please contact us to discuss such potential use. It remains the User's responsibility to ensure the safety, efficacy and legal and regulatory compliance in each relevant jurisdiction (including targeted geographic regions of manufacture and supply) of these materials for its intended uses. Aseptic Group makes no representation concerning the suitability of these products for any particular medical or pharmaceutical application. Under no circumstances should these materials be considered for implantation into the human body for periods that exceed 30 days in duration. Before handling, please consult the corresponding material safety data sheets. These are available upon request.

WARRANTY: Aseptic Group products are warranted to be free from defects in materials and workmanship. Any products found to carry such defects will be replaced without charge. This warranty is limited only to the replacement of Aseptic Group products. Aseptic Group specifically disclaims any other liability.

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