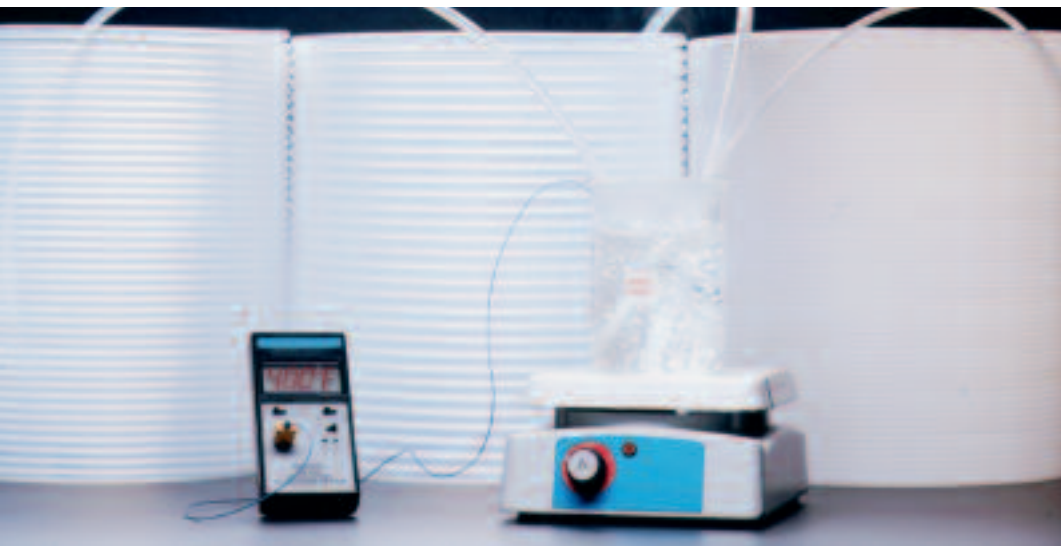


CHEMFLUOR® Fluoropolymer Tubing



Chemfluor® tubings are made using fluoropolymers under strictly controlled processing conditions.

Used in Dozens of Applications

If your application is highly demanding, there's a Chemfluor® tubing for you. Chemfluor® tubings have outstanding chemical and physical characteristics because they are made using fluoropolymers and these materials are processed under stringently controlled conditions. In addition to being chemically inert, Chemfluor® tubings can be used in a broad range of temperatures, from -400°F to 500°F.

FEP and PFA meet USP Class VI Criteria

Chemfluor® FEP and PFA tubing fully complies with the requirements of USP Class VI Criteria and are non-toxic, non-hemolytic and non-pyrogenic. The three test types that are performed on Chemfluor® FEP and PFA tubing are systemic toxicity, intracutaneous toxicity and muscle implant.

Meets FDA Criteria

Because no plasticizers, stabilizers or fillers are used, Chemfluor® tubings are pure and non-contaminating. They are non-toxic and manufactured using resins that meet FDA criteria. The natural flexibility and performance-proven, anti-stick inner surface of Chemfluor® tubing make handling sticky and viscous fluids much easier, and facilitate speedy clean-up. The low surface energy minimizes adsorption of proteins, essential oils and metals. Unlike metal and rubber alternatives, Chemfluor® tubings are non-corroding and non-oxidizing. Unlike other plastic materials, they are unaffected by solvents, acids and fuels.

Choose from a Variety of Different Polymers

Chemfluor® tubing is available in a variety of different polymers including PTFE, FEP and PFA. Although several chemical and physical properties are common to Chemfluor® tubings, the primary differences among them are use temperature, clarity and mechanical strength.

When the life
of your process
is on the line

Features/Benefits

- Chemically inert
- Ultra-pure
- Non-toxic
- Wide temperature capabilities
- Non-corroding and non-oxidizing
- Outstanding dielectric properties
- Non-stick
- Autoclavable
- FEP & PFA meet USP Class VI criteria

Typical Applications

- Semiconductor processing
- Analytical and process equipment in biotechnology, pharmaceutical and environmental fields
- Ultraviolet radiation sterilization systems
- Cryogenic
- General laboratory use
- Chemical processing

CHEMFLUOR® Most Popular Inventoried Sizes

| PTFE* | FEP* | PFA* | Diameter (inches) | | Approximate Min. Bend Radius (inches) | Maximum Working Pressure (psi)** | | | | | | | | |
|--------------------|--------------------|--------------------|-------------------|------|---------------------------------------|----------------------------------|-----|-----|---------------|-----|-----|---------------|-----|-----|
| | | | | | | 73°F (23°C) | | | 212°F (100°C) | | | 400°F (204°C) | | |
| | | | | | | PTFE | FEP | PFA | PTFE | FEP | PFA | PTFE | FEP | PFA |
| TSPTFE-0125-031-50 | TSFE14-0125-031-50 | TSPF35-0125-031-50 | 1/16 | 1/8 | 1/2 | 336 | 412 | 412 | 180 | 148 | 190 | 97 | N/A | 103 |
| TSPTFE-0250-062-50 | TSFE14-0250-062-50 | TSPF35-0250-062-50 | 1/8 | 1/4 | 1/2 | 339 | 417 | 417 | 182 | 150 | 192 | 98 | N/A | 104 |
| TSPTFE-0250-047-50 | TSFE14-0250-047-50 | TSPF35-0250-047-50 | 5/32 | 1/4 | 3/4 | 236 | 289 | 289 | 126 | 104 | 133 | 68 | N/A | 72 |
| TSPTFE-0250-031-50 | TSFE14-0250-031-50 | TSPF35-0250-031-50 | 3/16 | 1/4 | 1 | 144 | 177 | 177 | 77 | 64 | 81 | 42 | N/A | 44 |
| TSPTFE-0312-062-50 | TSFE14-0312-062-50 | TSPF35-0312-062-50 | 3/16 | 5/16 | 1-1/2 | 254 | 312 | 312 | 136 | 112 | 143 | 73 | N/A | 78 |
| TSPTFE-0312-031-50 | TSFE14-0312-031-50 | TSPF35-0312-031-50 | 1/4 | 5/16 | 1-3/4 | 114 | 140 | 140 | 61 | 50 | 64 | 33 | N/A | 35 |
| TSPTFE-0375-062-50 | TSFE14-0375-062-50 | TSPF35-0375-062-50 | 1/4 | 3/8 | 1 | 204 | 250 | 250 | 109 | 90 | 115 | 59 | N/A | 63 |
| TSPTFE-0375-031-50 | TSFE14-0375-031-50 | TSPF35-0375-031-50 | 5/16 | 3/8 | 2-1/2 | 92 | 113 | 113 | 49 | 41 | 52 | 26 | N/A | 28 |
| TSPTFE-0500-062-50 | TSFE14-0500-062-50 | TSPF35-0500-062-50 | 3/8 | 1/2 | 2 | 79 | 97 | 97 | 42 | 35 | 45 | 23 | N/A | 24 |
| TSPTFE-0500-031-50 | TSFE14-0500-031-50 | TSPF35-0500-031-50 | 7/16 | 1/2 | 4 | 67 | 83 | 83 | 36 | 30 | 38 | 19 | N/A | 21 |
| TSPTFE-0625-062-50 | TSFE14-0625-062-50 | TSPF35-0625-062-50 | 1/2 | 5/8 | 3 | 113 | 139 | 139 | 61 | 50 | 64 | 33 | N/A | 35 |
| TSPTFE-0625-031-50 | - | - | 9/16 | 5/8 | 5-1/2 | 53 | 65 | 65 | 29 | 23 | 30 | 15 | N/A | 16 |
| TSPTFE-0750-062-50 | TSFE14-0750-062-50 | TSPF35-0750-062-50 | 5/8 | 3/4 | 6 | 93 | 114 | 114 | 50 | 41 | 52 | 27 | N/A | 28 |
| TSPTFE-0750-031-50 | TSFE14-0750-031-50 | TSPF35-0750-031-50 | 11/16 | 3/4 | 8 | 44 | 54 | 54 | 24 | 19 | 25 | 13 | N/A | 13 |

*Part numbers shown are for 50-foot lengths. Additional lengths available upon request.

**Safety factor of 4 to 1 ratio burst pressure to working pressure. ASTM D1599.

The values listed for working and burst pressures are derived from tests conducted under controlled laboratory conditions. Many factors will reduce the tubing's ability to withstand pressures including temperature, chemical attack, stress, pulsation and the attachment to fittings. It is imperative that the user conduct tests simulating the conditions of the application prior to specifying the tubing for use.

CHEMFLUOR® Typical Physical Properties

| Property | ASTM Method | PTFE | FEP | PFA |
|---|-------------|--------------------------------------|-------------------------------------|-------------------------------------|
| Color | — | Translucent | Transparent | Translucent |
| Durometer Hardness, Shore D | D2440 | 58 | 55 | 60 |
| Elongation @ 73°F | D638 | 250% | 275% | 300% |
| Maximum Service Temp., °F (°C) | — | 500 (260) | 400 (204) | 500 (260) |
| Melting Point, °F (°C) | D4591 | 621 (327)* (260-277) | 500-530 (302-310) | 575-590* |
| Low Temp. Embrittlement, °F (°C) | D746 | -450 (-268) | -100 (-73) | -320 (-196) |
| Specific Gravity | D792 | 2.18 | 2.17 | 2.17 |
| Odor and Taste | — | none | none | none |
| Toxicity | — | none | none | none |
| Flammability | — | UL 94 rated V-0 (self-extinguishing) | | |
| Chemical Resistance (data available) – strong or weak acids – strong or weak alkalis – solvents or fuels | D471 | excellent excellent excellent | excellent excellent excellent | excellent excellent excellent |
| Moisture Absorption, % | D570 | <0.01% | <0.01% | <0.03% |
| Effect of Weathering and UV Exposure | — | none | none | none |

*Gel point — PTFE will not melt flow

CHEMFLUOR® is a Saint-Gobain Performance Plastics registered trademark.

Saint-Gobain Performance Plastics



IMPORTANT: It is the user's responsibility to ensure the suitability and safety of Saint-Gobain Performance Plastics tubing for all intended uses. Laboratory and clinical tests must be conducted in accordance with applicable regulatory requirements in order to determine the safety and effectiveness for use of tubing in any particular application.

For a period of 6 months from the date of first sale, Saint-Gobain Performance Plastics Corporation warrants this product to be free from defects in materials and workmanship. Our only obligation will be to replace any portion proving defective or at our option to refund the purchase price thereof. User assumes all other risk, if any, including the risk of injury, loss or damage, direct or consequential, arising out of the use, misuse or inability to use this product. THIS WARRANTY IS IN LIEU OF THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR PARTICULAR PURPOSE, AND ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. No deviation is authorized.

Saint-Gobain Performance Plastics Corporation assumes no obligations or liability for any advice furnished by it, or for results obtained with respect to those products. All such advice is given and accepted at the buyer's risk.

Introducing Other CHEMFLUOR® Products

- **Chemflur® 367**
Scientific-grade fluoropolymer tubing engineered for higher purity, superior surface smoothness and clarity without compromising the properties of standard fluoropolymers.
- **Chemflur® PVDF**
Tough, abrasion-resistant fluoropolymer tubing for use with high-purity water and strong acids.
- **Chemflur® ETFE**
Improved mechanical properties make this ideal for the manufacture of valves, fittings, bearings, pump connections and electrical coatings.