

Freeze-Pak™ STS

Frozen Storage and Transport Solution Bio-Containers

Benefits

- Durability for applications requiring storage to -80°C
- Suitable for storage of cellular and non-cellular material



FP5L6644N

FP50ML444

Customizable Options

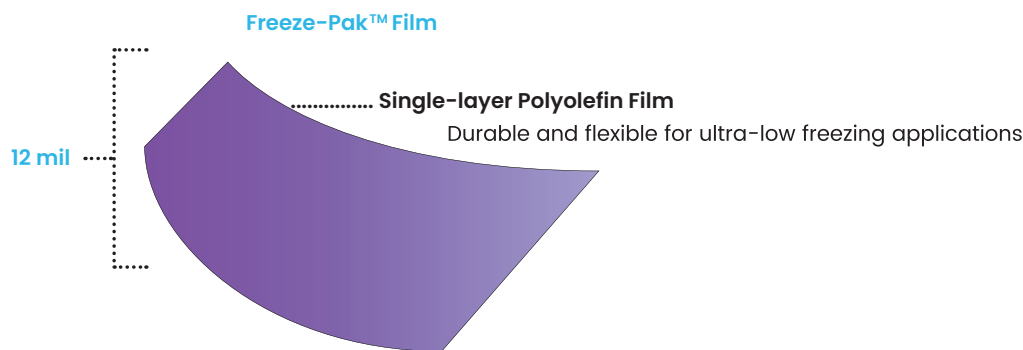
- Connections
- Ports
- Tubing
- Freeze-Pak™ STS Bio-Containers can be used within a custom manifold design

Standard Applications

- Bulk intermediate and final fill
- Bioprocessing
- Cell banking
- Regenerative medicine

Ordering Information

| Catalog # | Description | Max. Vol. at -80°C | Case Qty. |
|------------|--|--------------------|-----------|
| FP50ML44 | 50 mL max. fill volume, 1/4" ports (2); 4" EVA tubing with needleless valve and 8" C-Flex® tubing with MPC female | 42.5 mL | 10 |
| FP50ML444 | 50 mL max. fill volume, 1/4" ports (3); 4" EVA tubing with needleless valve and 8" C-Flex® tubing with MPC (2 lines) | 42.5 mL | 10 |
| FP500ML44 | 500 mL max. fill volume, 1/4" ports (2); 4" EVA tubing with needleless valve and 8" C-Flex® tubing with MPC female | 425 mL | 10 |
| FP500ML444 | 500 mL max. fill volume, 1/4" ports (3); 4" EVA tubing with needleless valve and 8" C-Flex® tubing with MPC (2 lines) | 425 mL | 10 |
| FP1L44 | 1 L max. fill volume, 1/4" ports (2); 4" EVA tubing with needleless valve and 8" C-Flex® tubing with MPC female | 850 mL | 10 |
| FP1L444 | 1 L max. fill volume, 1/4" ports (3); 4" EVA tubing with needleless valve and 8" C-Flex® tubing with MPC (2 lines) | 850 mL | 10 |
| FP2L44 | 2 L max. fill volume, 1/4" ports (2); 4" EVA tubing with needleless valve and 8" C-Flex® tubing with MPC female | 1.7 L | 10 |
| FP2L444 | 2 L max. fill volume, 1/4" ports (3); 4" EVA tubing with needleless valve and 8" C-Flex® tubing with MPC (2 lines) | 1.7 L | 10 |
| FP5L844N | 5 L max. fill volume, 3 ports; 1/4" (2), 4" EVA tubing with needleless valve and 8" C-Flex® with plug; 1/2" (1) 9" C-Flex tubing with MPC | 4.25 L | 15 |
| FP5L6644N | 5 L max. fill volume, 4 ports; 1/4" (2), 4" EVA tubing with needleless valve and 8" C-Flex® with plug; 3/8" (2) 9" C-Flex tubing with MPC | 4.25 L | 15 |
| FP10L844N | 10 L max. fill volume, 3 ports; 1/4" (2), 4" EVA tubing with needleless valve and 8" C-Flex® with plug; 1/2" (1) 9" C-Flex tubing with MPC | 8.5 L | 15 |
| FP10L6644N | 10 L max. fill volume, 4 ports; 1/4" (2), 4" EVA tubing with needleless valve and 8" C-Flex® with plug; 3/8" (2) 9" C-Flex tubing with MPC | 8.5 L | 15 |
| FP20L844N | 20 L max. fill volume, 3 ports; 1/4" (2), 4" EVA tubing with needleless valve and 8" C-Flex® with plug; 1/2" (1) 9" C-Flex tubing with MPC | 17.0 L | 15 |
| FP20L6644N | 20 L max. fill volume, 4 ports; 1/4" (2), 4" EVA tubing with needleless valve and 8" C-Flex® with plug; 3/8" (2) 8" C-Flex tubing with MPC | 17.0 L | 15 |



Film Physical Test Data (pre-gamma irradiation)

| Property | Test Protocol | Typical Value(s) |
|--|---------------|------------------|
| Tensile Strength at Break, MD/TD (psi) | ASTM D882 | 3,200/2,900 |
| Elongation at Break, MD/TD (%) | ASTM D882 | 650/700 |
| Modulus at 100% Elongation, MD/TD (psi) | ASTM D882 | 550/500 |
| Tear Resistance, MD/TD (lbf/in.) | ASTM D1004 | 200/250 |
| Low Temp. Brittleness (Masland) (°C) | ASTM D1790 | Below -100 |
| Glass Transition Temperature (T_g) | DSC | -48°C |
| Specific Gravity (g/cm³) | ASTM D792 | 0.92 |
| Particulates | USP <788> | Pass |
| Oxygen Transmission Rate (cm³/M²/24 hrs @ 23°C, 0% RH) | ASTM D3985 | 2,200 |
| Carbon Dioxide Transmission Rate (cm³/M²/24 hrs @ 23°C, 0% RH) | ASTM F2476 | 9,000 |
| Moisture Vapor Transmission (g/M²/24 hrs @ 23°C) | ASTM F1249 | 3.9 |

Test performed on 0.014" film

Port/Handle Physical Test Data (pre-gamma irradiation)

| Property | Test Protocol | Typical Value |
|-----------------------------|---------------|---------------|
| Tensile Strength (MPa) | ASTM D638 | 12.9 |
| Flex Modulus (MPa) | ASTM D790 | 69.9 |
| Mooney Viscosity | ASTM D1646 | <5 |
| Durometer Hardness, Shore A | ASTM D2240 | 94 |
| Melt Index (dg/min) | ASTM D1238 | 30 |
| Tg (Glass Transition) | DSC | -44°C |

Final Container Biocompatibility Test Data (post-gamma irradiation)

| Property | Test Protocol | Typical Value |
|--------------|------------------------|---------------|
| USP Class VI | USP <88> | Pass |
| Cytotoxicity | USP <87> / ISO 10993-5 | Pass |
| Hemolysis | ISO 10993-4 | Pass |

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