

# Pure-Fit™ SIB® Smooth Inner Bore Systems



Pure-Fit® SIB® systems feature a smooth inner bore (SIB) fluid path.

## Pure-Fit® SIB®

Pure-Fit® SIB® is a smooth inner bore (SIB) fitting and assembly system that provides a seamless transition of tubing and fittings, maintaining complete fluid integrity throughout the system. Quick and secure connections, as well as the prevention of fluid contamination and product loss through leakage, are critical in biopharmaceutical applications. Pure-Fit® SIB®, with its patented 360° compression seal, is the solution to these potential problems. Pure-Fit® SIB®'s unique internal design reduces the risk of tubing being punctured or cut from sharp, barbed edges like those on traditional fitting systems. Because of the smooth inner bore design, Pure-Fit® SIB® eliminates turbulence (dead space) or stagnation of fluid flow, which creates areas for potential bacteria growth.

## Characteristics

Pure-Fit® SIB® utilizes the patented BarbLock® retention and sealing system, providing complete 360° compression along the entire fitting system. Constructed from the highest quality polypropylene or PVDF, the components and systems are completely autoclavable and sterilizable. Pure-Fit® SIB® fitting systems have been engineered to provide a complete, undisturbed fluid flow path through all flexible tubing. Saint-Gobain Performance Plastics offers a broad line of flexible tubing formulations that are ideally suited for use in conjunction with your particular application and the Pure-Fit® SIB® system. Contact your local representative for the most frequently specified tubing for your sanitary applications.

## Biocompatibility

Pure-Fit® SIB® fitting systems meet all USP Class VI criteria and have been physically tested to meet the most demanding applications.

biopharmaceutical products

## Zero transition fitting and assembly systems

### Features/Benefits

- Total smooth inner bore (SIB®) transition design
- Eliminates entrapment and leak points that occur with traditional fitting systems
- Complete 360° compression along the entire fitting system
- No excessive voids at the interface or in the fluid path
- Utilizes the patented BarbLock® retention and seal system
- Compatible with all flexible tubing
- Complete customized manifold and assembly systems
- Fully autoclavable and sterilizable
- Now available in animal-free polypropylene construction

### Typical Applications

- Sterile filling & aseptic fluid transfer
- Biopharmaceutical manufacturing
- Filtration & fermentation
- Peristaltic pump sets
- Drug delivery & discovery
- Product sampling
- Cell harvest & media process systems
- Bioreactor process lines



# Pure-Fit® SIB® Configuration, Size and Maximum Working Pressure Availability

Part No.	Configuration	Tubing I.D. (Inches)	Material	Max. Working Pressure (psi)	
				at 72°F (22.2°C)	at 200°F (93.3°C)
PfY250PPAF	Wye	1/4	Polypropylene (AF)	250 psi	100 psi
PfT250PPAF	Tee	1/4	Polypropylene (AF)	250 psi	100 psi
PfX250PPAF	Cross	1/4	Polypropylene (AF)	250 psi	100 psi
PfE250PPAF	Elbow	1/4	Polypropylene (AF)	250 psi	100 psi
PfLS250PPAF	Tri-clamp	1/4	Polypropylene (AF)	250 psi	100 psi
PfMS250PPAF	Mini	1/4	Polypropylene (AF)	250 psi	100 psi
Pf135250PPAF	Retainer	1/4	Polypropylene (AF)	250 psi	100 psi
PfY375PPAF	Wye	3/8	Polypropylene (AF)	250 psi	100 psi
PfT375PPAF	Tee	3/8	Polypropylene (AF)	250 psi	100 psi
PfX375PPAF	Cross	3/8	Polypropylene (AF)	250 psi	100 psi
PfE375PPAF	Elbow	3/8	Polypropylene (AF)	250 psi	100 psi
PfLS375PPAF	Tri-clamp	3/8	Polypropylene (AF)	250 psi	100 psi
PfMS375PPAF	Mini	3/8	Polypropylene (AF)	250 psi	100 psi
Pf135375PPAF	Retainer	3/8	Polypropylene (AF)	250 psi	100 psi
PfY500PPAF	Wye	1/2	Polypropylene (AF)	250 psi	100 psi
PfT500PPAF	Tee	1/2	Polypropylene (AF)	250 psi	100 psi
PfX500PPAF	Cross	1/2	Polypropylene (AF)	250 psi	100 psi
PfE500PPAF	Elbow	1/2	Polypropylene (AF)	250 psi	100 psi
PfLS500PPAF	Tri-clamp	1/2	Polypropylene (AF)	250 psi	100 psi
PfMS500PPAF	Mini	1/2	Polypropylene (AF)	250 psi	100 psi
Pf135500PPAF	Retainer	1/2	Polypropylene (AF)	250 psi	100 psi

Part No.	Configuration	Tubing I.D. (Inches)	Material	Max. Working Pressure (psi)	
				at 72°F (22.2°C)	at 200°F (93.3°C)
PfY250PVDF	Wye	1/4	PVDF	250 psi	100 psi
PfT250PVDF	Tee	1/4	PVDF	250 psi	100 psi
PfX250PVDF	Cross	1/4	PVDF	250 psi	100 psi
PfE250PVDF	Elbow	1/4	PVDF	250 psi	100 psi
PfLS250PVDF	Tri-clamp	1/4	PVDF	250 psi	100 psi
PfMS250PVDF	Mini	1/4	PVDF	250 psi	100 psi
Pf135250PVDF	Retainer	1/4	PVDF	250 psi	100 psi
PfY375PVDF	Wye	3/8	PVDF	250 psi	100 psi
PfT375PVDF	Tee	3/8	PVDF	250 psi	100 psi
PfX375PVDF	Cross	3/8	PVDF	250 psi	100 psi
PfE375PVDF	Elbow	3/8	PVDF	250 psi	100 psi
PfLS375PVDF	Tri-clamp	3/8	PVDF	250 psi	100 psi
PfMS375PVDF	Mini	3/8	PVDF	250 psi	100 psi
Pf135375PVDF	Retainer	3/8	PVDF	250 psi	100 psi
PfY500PVDF	Wye	1/2	PVDF	250 psi	100 psi
PfT500PVDF	Tee	1/2	PVDF	250 psi	100 psi
PfX500PVDF	Cross	1/2	PVDF	250 psi	100 psi
PfE500PVDF	Elbow	1/2	PVDF	250 psi	100 psi
PfLS500PVDF	Tri-clamp	1/2	PVDF	250 psi	100 psi
PfMS500PVDF	Mini	1/2	PVDF	250 psi	100 psi
Pf135500PVDF	Retainer	1/2	PVDF	250 psi	100 psi

The stated pressures are the recommended working pressures. The actual fitting failure rating is 2-4x working pressure. We were not able to cause fitting failure in any of the above tests. The failure of the braided tubing limited the ability to push the fitting to failure above 500 psi.

## Pure-Fit® SIB® Typical Physical Properties

Property	Polypropylene	PVDF
Tensile Strength, psi (MPa) ASTM D638-91	4,800 (33.1)	6,300 (43.4)
Flexural Modulus, psi (MPa) ASTM D790-92	145,000 (999.7)	290,000 (1,999.5)
Hardness (Shore D) ASTM D2240-91	72	78
Heat Deflection ASTM D648-82 °F (°C) @66 psi °F (°C) @264 psi	189 (87) —	266 (130) 221 (105)
Water Absorption (%) ASTM D570-81	0.01	0.03
Max. Recommended Working Temp., °F (°C)	200 (93)	275 (135)

## Relative Chemical Resistance by Material at Room Temperature

Material	Acids			Bases		
	conc.	med.	weak	conc.	med.	weak
Polypropylene	2	1	1	1	1	1
PVDF	2	1	1	2	1	1

  

Material	Chlorinated Solvents			Aliphatic Hydrocarbons	
	Salts	Alcohols	Ketones	Solvents	Hydrocarbons
Polypropylene	1	1	2	3	2
PVDF	1	1	2	1	1

1=No Effect  
2=Slight Effect  
3=Mild Effect; Softening or Swelling  
4=Severe Degradation

**PURE-FIT® SIB® IS NOT INTENDED FOR USE AS AN IMPLANT MATERIAL**

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