



PRIMELOCK™ FITTINGS

*A premium PFA fitting for high-purity
and corrosive chemical applications*



enabling clean, consistent leak-free connections

Creating a Material Advantage

Entegris has supplied innovative connection technology into the high-purity chemical handling markets for over 30 years. Our latest innovation, PrimeLock™ fittings, are clean, robust and very easy to assemble. With audible and visual indicators, users can quickly verify the proper makeup of the connection. Heat is not required to assemble this fitting, saving time and money.

Designed to effectively handle temperatures up to 200°C (392°F) at 276 kPa (40 PSIG), the PrimeLock series connection ensures leak-free performance in the most demanding chemical applications. At room temperature, PrimeLock fittings are rated at 827 kPa (120 PSIG).

The ultraclean design provides enhanced reliability within your system, with an all-PFA wetted construction. PrimeLock fittings are fully tested using Entegris' stringent testing and qualification methodology. This extremely robust, clean fitting is the most reliable connection technology on the market.

Applications

- High-purity, corrosive chemical handling
- Semiconductor applications
 - Photolithography
 - Bulk chemical delivery
 - CMP
 - Wet etch and clean
 - High-temperature cleaning processes
- Solar, LED, flat panel display
- Excellent performance with low surface tension chemistries



PrimeLock fittings

Features and Benefits

Features	Benefits
Ease of assembly	Consistent and repeatable fitting makeup
All wetted components are PFA	Broad chemical compatibility
Robust thread design	No cross-threading, quick makeup, increased sealing force
Unique seal design	Nonwetted insert reduces entrapment, leak points and flow interruptions
No heat required to flare tubing	Saves time and money; reduces operator variability
Connection verification ring	Audible and visual indication of proper fitting makeup
Capable of 200°C (392°F) temperature rating, all sizes	Simplifies product selection Compatible with high-temperature chemical processes

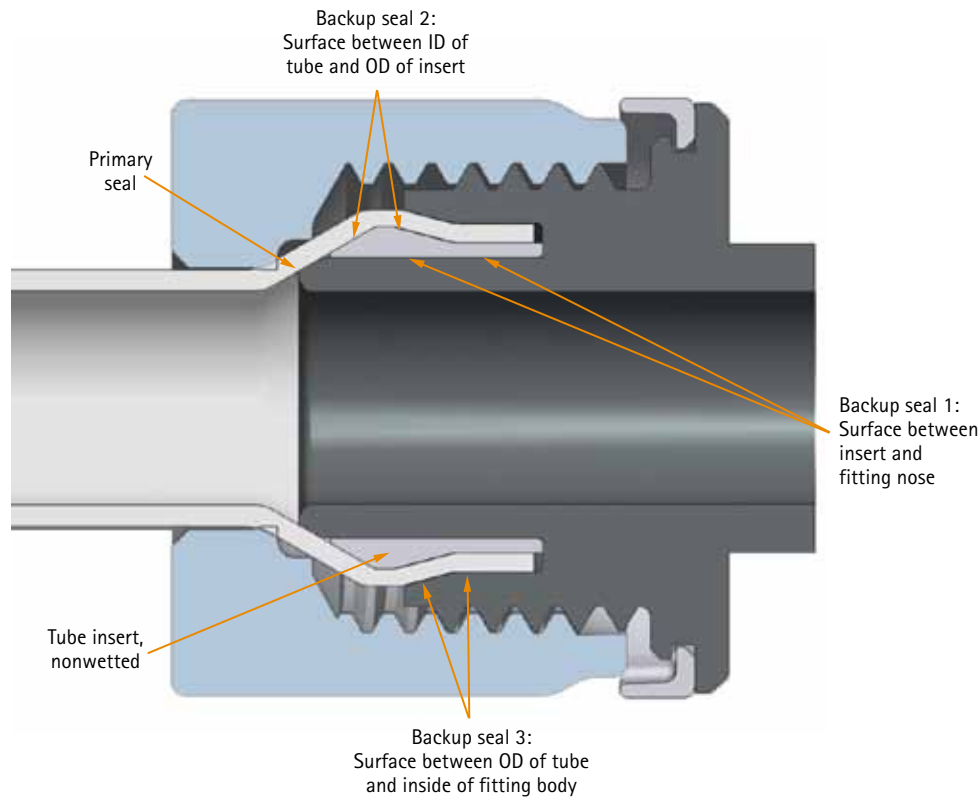
Specifications

Materials:	Body, insert, nut	PFA
	Connection verification ring	ETFE
Operating conditions:	Media pressure @ 21°C (70°F)	827 kPa (120 PSIG)
	200°C (392°F)	276 kPa (40 PSIG)
	Temperature range (fluid)	21°– 200°C (70°–392°F)
Compliant:	RoHS	

Applicable PFA Tube Dimensions

OD	OD Tolerance	Wall Thickness	Wall Thickness Tolerance
1/4" (6.35 mm)	±0.004" (±0.10 mm)	0.047" (1.19 mm)	±0.004" (±0.10 mm)
3/8" (9.52 mm)	±0.004" (±0.10 mm)	0.062" (1.57 mm)	±0.005" (±0.13 mm)
1/2" (12.70 mm)	±0.005" (±0.13 mm)	0.062" (1.57 mm)	±0.005" (±0.13 mm)
3/4" (19.05 mm)	±0.005" (±0.13 mm)	0.062" (1.57 mm)	±0.005" (±0.13 mm)
1" (25.40 mm)	±0.005" (±0.13 mm)	0.062" (1.57 mm)	±0.005" (±0.13 mm)

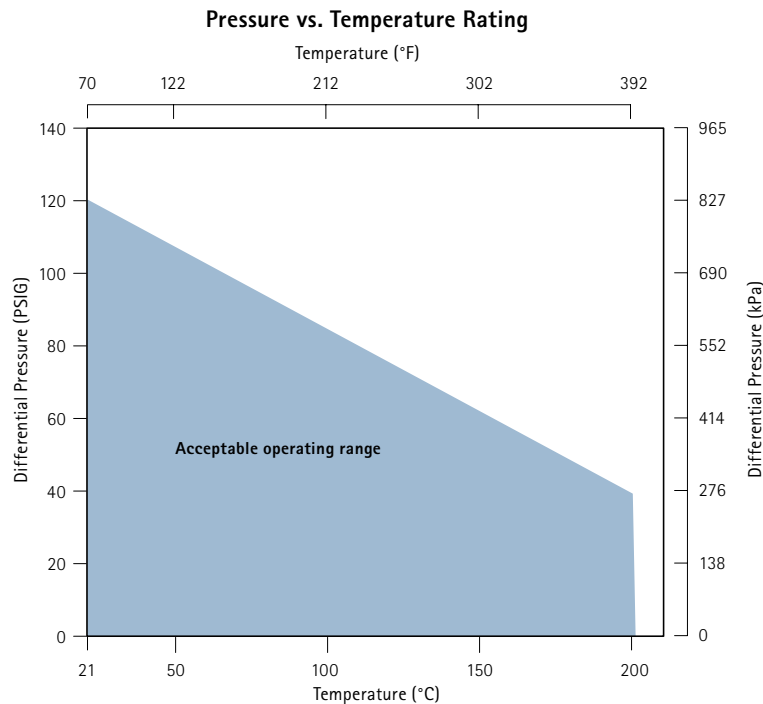
PrimeLock Cross-section



Fittings Reliability Test Results

Test Type	Test Conditions	Acceptance Criteria	Results
Burst pressure	Media pressure increased until leak occurs	No external leakage prior to tube rupturing	PASS No external leakage
Cyclic pressure leak test	1241 kPa (180 PSIG) water @ 23°C (73°F)	No external leakage after 1 million cycles @ 1.5 × rated pressure	PASS No external leakage
	414 kPa (60 PSIG) hydraulic oil @ 200°C (392°F)	No external leakage after 1 million cycles @ 1.5 × rated pressure	PASS No external leakage
High pressure leak test	Submerge fitting Apply nitrogen pressure equaling 80% of the tube burst pressure	No external leakage allowed	PASS No external leakage
Tube pull out test	Apply tensile load to tube/fitting until tube separates from fitting	1/4" (178 N) 40 lbf 3/8" (400 N) 90 lbf 1/2" (534 N) 120 lbf 3/4" (890 N) 200 lbf 1" (1112 N) 250 lbf	PASS
Chemical testing	Sulfuric acid Fluorosurfactant Copper sulfate	No external leakage after 2 million cycles	PASS

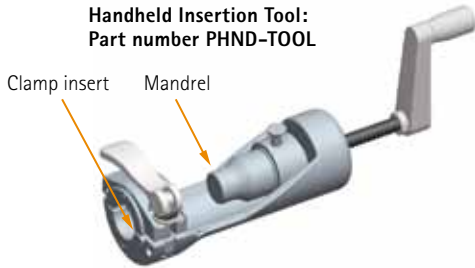
Performance Data



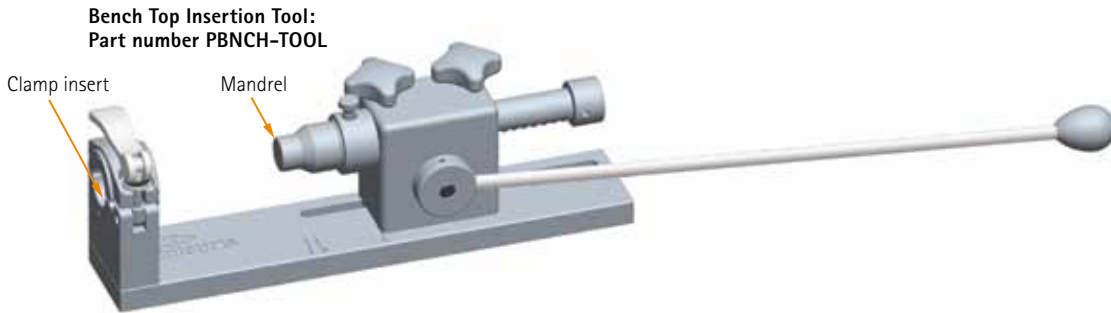
Note: Consult factory for applications outside these pressure ranges.

Insert Installation Tools

Handheld Insertion Tool:
Part number PHND-TOOL



Bench Top Insertion Tool:
Part number PBNCH-TOOL



PrimeLock Nut Wrenches:
Part numbers PWR-KIT, PWR-4,
PWR-6, PWR-8, PWR-12, PWR-16



Ordering Information – Tools and Kits

Part Number	Tool	Description
PHND-TOOL	Handheld insertion tool	Tool only, requires mandrel kit and clamp insert kit
PBNCH-TOOL	Bench top insertion tool	Tool only, requires mandrel kit and clamp insert kit
PMND-KIT	Mandrel kit	Holds the insert in place during installation 1/4", 3/8", 1/2", 3/4", 1"
PCLMP-KIT	Clamp insert kit	Holds the tube in place during installation 1/4", 3/8", 1/2", 3/4", 1"
PHMND-KIT	Hot-air mandrel kit*	1/2", 3/4", 1"
PMTMND-KIT	Minimum tube union mandrel kit	Allows fabrication of minimum length tube unions 1/4", 3/8", 1/2", 3/4", 1"
PWR-KIT	PrimeLock nut wrench kit	1/4", 3/8", 1/2", 3/4", 1" wrenches
01-1015292	Component case	Organizes mandrels, clamp inserts and wrenches in individual compartments

*Inserts can be installed using a mandrel and a hot air gun when space restrictions prevent the use of handheld and bench top insertion tools.

Ordering Information**INDIVIDUAL TOOL COMPONENTS**

Part Number	Tool	Description
PMND-4	Mandrel	1/4"
PMND-6	Mandrel	3/8"
PMND-8	Mandrel	1/2"
PMND-12	Mandrel	3/4"
PMND-16	Mandrel	1"
PCLMP-4	Clamp insert	1/4"
PCLMP-6	Clamp insert	3/8"
PCLMP-8	Clamp insert	1/2"
PCLMP-12	Clamp insert	3/4"
PCLMP-16	Clamp insert	1"
PMTMND-4	Minimum tube union mandrel	1/4"
PMTMND-6	Minimum tube union mandrel	3/8"
PMTMND-8	Minimum tube union mandrel	1/2"
PMTMND-12	Minimum tube union mandrel	3/4"
PMTMND-16	Minimum tube union mandrel	1"
PHMND-8	Hot-air mandrel	1/2"
PHMND-12	Hot-air mandrel	3/4"
PHMND-16	Hot-air mandrel	1"
PWR-4	Wrench	1/4"
PWR-6	Wrench	3/8"
PWR-8	Wrench	1/2"
PWR-12	Wrench	3/4"
PWR-16	Wrench	1"

PFA INSERTS*

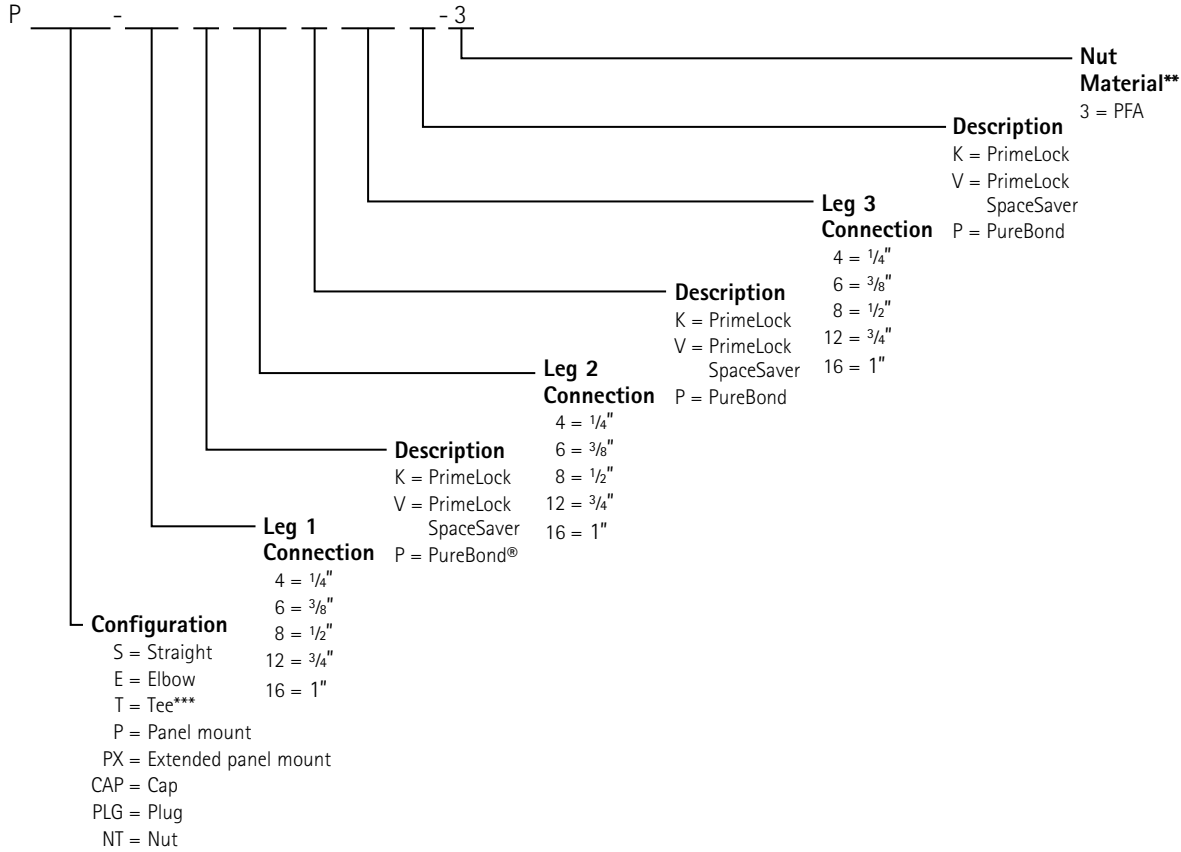
PINS-4-SET10	1/4"
PINS-6-SET10	3/8"
PINS-8-SET10	1/2"
PINS-12-SET10	3/4"
PINS-16-SET10	1"

*10 per pack

Ordering Information

PrimeLock Fittings*

Part Number



*Part number exception: When selecting the same size and configuration for a fitting with multiple legs, the part number is shortened to a single size description.

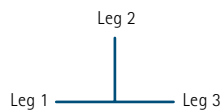
Examples:

PT-12K12K12K-3 = PT-12K-3

PE-8V8V-3 = PE-8V-3

** PrimeLock only available in PFA material

*** Tee fitting leg orientation



For More Information

Please call your Regional Customer Service Center today to learn what Entegris can do for you. Visit www.entegris.com and select the “Customer Service” link for the center nearest you.

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ENTEGRIS, INC.

Corporate Headquarters | 129 Concord Road | Billerica, MA 01821 USA
Customer Service Tel. +1 952 556 4181 | Customer Service Fax +1 952 556 8022
In North America 800 394 4083 | www.entegris.com