

Quick Fitting

TECH TALK



TOPIC: COPRO TECH DATA

DATE: 01/11/2008

SUMMARY: A review of the COPRO design and physical product characteristics.

Unlike other products, the Copro fitting design employs a male packing gland to quickly and easily create a sealing surface. While others ask users to wrench, weld, solder, glue, twist or turn to connect, COPRO users simply push-to-connect for a permanent, leak-free connection.



Why does COPRO use the threaded retainer?

- ✓ The threaded retaining cap provides a positive pressure against the male packing gland, which in turn provides sealing energy to the EPDM o-ring. No other quick connection technology uses this innovation in mechanical sealing.
- ✓ The threaded Retaining Cap may be removed to disassemble the fitting.
- ✓ The threaded retainer affords a more rigid connection than plastic type fittings.
- ✓ Unlike permanently sealed fittings, COPRO fittings may be repaired and reused.

Materials of Construction?

- ✓ A. Forged CW617N Brass – Full porting, full flow fitting (not recommended for seawater)
- ✓ B. EPDM O-ring – Versatile compatibility and temperature ratings (wetted component)
- ✓ C. Packing Gland – Polyamide material (non-wetted component)
- ✓ D. Lubricant – Pre-lubricated Food grade Kluber lubricant



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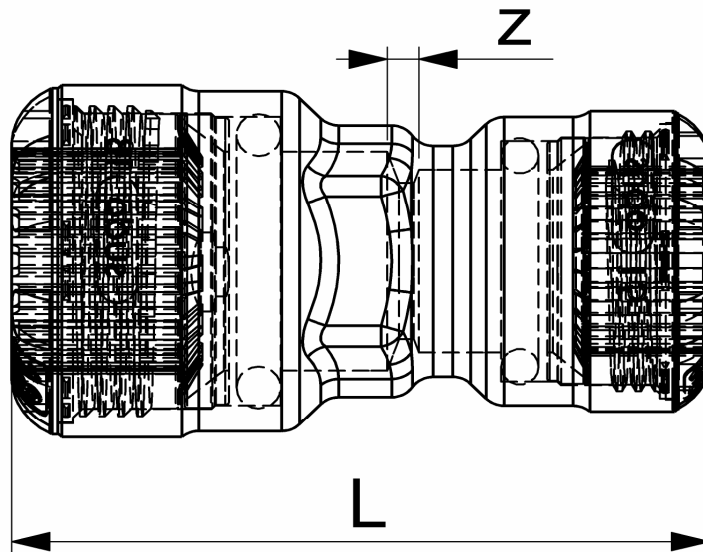
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- ✓ E. 316L Stainless Steel Grip Ring – Reusable stainless steel grip ring grabs the pipe surface to ensure connections can't be pulled apart. IAPMO tested to 285 lbs load grip strength on $\frac{3}{4}$ " and 147 lbs load on $\frac{1}{2}$ " fittings.
- ✓ F. Retaining Cap – Manufactured from temperature and chemical resistant Polyamide 6.6

What are the Approved Fluids and/or Gases?

- ✓ Hot Water to 220 degrees Fahrenheit
- ✓ Chilled water, 32 – 220 degrees Fahrenheit
- ✓ Breathable Air – Breathable air systems (consult Quick Fitting)
- ✓ Glycol – Ethylene, Propylene and Butylenes up to 100% concentration
- ✓ Compressed Air – Oil-free, clean, dry air (Use non-lubricated COPRO fittings)
- ✓ Inert Gas – Argon, Nitrogen and Oxygen (Use non-lubricated COPRO fittings)
- ✓ Cleaning Chemicals – Washer fluids and chemicals compatible with EPDM
- ✓ Waste Water – Plant waste water treatment
- ✓ Plant Cooling Water – Manufacturing cooling systems
- ✓ Paint and Coatings – Fittings may be used without pre-lubrication (consult Quick Fitting)



Frequently Asked Questions

- ✓ Do I need to take the fitting apart to install?
 - No, simply slide the fitting over the pipe or tubing to connect.



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- ✓ Are there any restrictions in the fluid flow through the valve?
 - No, when used on Copper, CPVC and Stainless Steel, COPRO fittings provide full, unrestricted flow. When using PEX, Quick Fitting recommends the use of tubing inserts to maintain the roundness of the PEX tube end.
- ✓ What is the tested burst pressure?
 - COPRO fittings have been tested for over 1,500 PSI burst pressure.
- ✓ Will the COPRO fitting damage the pipe or tubing ends?
 - No, there is no damage to the tube or pipe surface.
- ✓ Has the fitting been tested for water hammer?
 - Fittings are tested to over 10,000 cycles at 400 psi shock pressure. In addition, fittings have been tested to 1,000,000 cycles vibration testing.
- ✓ Can the COPRO fitting be used with PEX tubing?
 - Yes, PEX inserts should be used and are available from Quick Fitting.
- ✓ What is the bending radius when used with PEX tubing?
 - 1/2" bend radius of 6.37" with 300 PSI, 74F
 - 3/4" bend radius of 8.78" with 300 PSI, 74F
- ✓ What are the current approvals on COPRO fittings?
 - NSF/ANSI 61, IAPMO, ASSE 1061, IGC-188 and UPC Certification
- ✓ Is the fitting approved for potable water?
 - Yes, all types of hot and cold drinking water applications.
- ✓ What types of tubing and pipe can be connected using COPRO?
 - Copper, Stainless Steel, CPVC and PEX
- ✓ Are COPRO fittings removable?
 - Yes, you can remove and reuse COPRO fittings using our patented removal process.
- ✓ Can you repair the COPRO fitting?
 - Yes! Unlike other fittings, the COPRO fitting is completely repairable. If damaged, all components are replaceable.
- ✓ What determines a "good joint"?
 - Inspectors and users can pressure test systems in the same manner as sweated or compression technology.



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- ✓ What is a repairing coupling?
 - Quick Fitting provides COPRO repairing couplings for both ½” and ¾” pipe and tubing. Repairing couplings have no internal stop on the forged brass, which allows the fitting to slide on the pipe or tube completely. The dismantling rings are removed to create a permanent seal area.
- ✓ Can fittings be repositioned once connected?
 - Yes, fittings may be turned to reposition when not under pressure, with no effect to the joint seal.
- ✓ Will COPRO hold up to freezing temperatures?
 - While the fitting is unlikely to be damaged, frozen fluids expand and will often destroy the connected tubing or piping.
- ✓ Should I use a Chamfer tool to clean and de-burr tube or piping?
 - Yes, as with all connections, tube ends should be clean and free from burrs. All ends should be chamfered to remain compliant with the warranty.
- ✓ Can I use a Hack Saw to cut pipe or tubing?
 - No, we recommend using manual tubing or pipe cutting tools to provide a clean, burr-free surface.
- ✓ Is COPRO compatible with clean-in-place disinfectants?
 - Yes, COPRO is compatible with chemicals used to clean or disinfect systems.
- ✓ Can I use Stainless Steel as an alternative to Copper?
 - Yes, Stainless Steel is an approved plumbing alternative to Copper pipe or tubing. In fact, Stainless Steel can be purchased for as little as half the price of Copper. Only Quick Fitting's COPRO fittings have the ability to connect Copper and/or Stainless Steel!
- ✓ Can I use a fitting to connect different types of pipe or tubing?
 - Yes, COPRO fittings can connect CPVC, Stainless Steel, Copper or PEX. Each can be connected to any side of a fitting.
- ✓ Can I use the COPRO fitting to connect Black Iron?
 - COPRO fittings are not approved for quick connection directly on Black Iron piping. However, Black Iron pipe can be transitioned to COPRO's Straight or threaded connectors, allowing the quick connection of Copper, Stainless Steel, CPVC or PEX tubing to the Black Iron.
- ✓ What are the working pressures and temperatures of the fittings?
 - The temperature range of the EPDM seal is –30F to 230F. The application range of the fitting is 32F to 220F. Fittings are tested to 900 psi and are recommended for operating pressures to



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200 psi. Consult Quick Fitting for higher pressures or temperatures.

- ✓ Can the COPRO fitting system be installed in wet tube?
 - COPRO fittings may be installed in depressurized wet, or dry systems.
- ✓ Can COPRO be used in underground applications?
 - Yes, COPRO can be used in the same application environments as conventional sweat solder systems. The same care should be taken to prevent freezing or joint damage due to back filling or ground settlement.
- ✓ Do I need to lubricate a joint when connecting?
 - No, COPRO fittings are pre-lubricated and additional lubrication is not required.
- ✓ Can I adapt to threaded piping or fittings?
 - Yes, Quick Fitting has a wide assortment of male and female threaded NPT fittings, as well as swivel connectors.
- ✓ Does a COPRO system require different hanging support?
 - No, a system using COPRO fittings requires the same support as a sweat copper fitting system.
- ✓ Can I use torch heat near the fitting?
 - Yes, seals, packing glands and the retaining cap should be moved at least 10 inches away from the area to be soldered. In fact, COPRO, manufactures a sweat-to-quick-connection fitting to adapt a sweat copper system to a quick connect.

How does COPRO compare on installation?

- ✓ The national average for professional plumbing is estimated at \$65.00 per hour. Many areas such as New York and California are significantly higher and often charge travel time.
- ✓ At \$65.00 per hour, the current cost of soldered pipe installation is approximately \$13.55 per foot.
- ✓ COPRO fittings are estimated to install in less than 1/12th of the time required by conventional soldering.
- ✓ Minimal expertise is required to install COPRO, while copper soldered installation is often left to trained professionals.

