

Press Fit (No Weld) Piping Systems



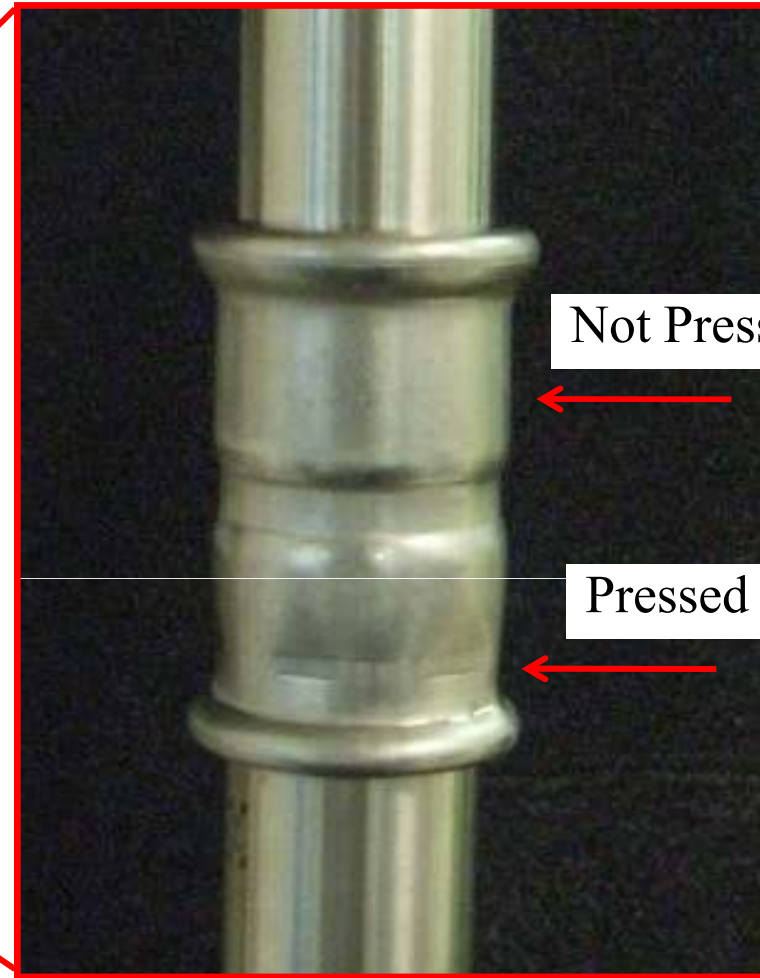
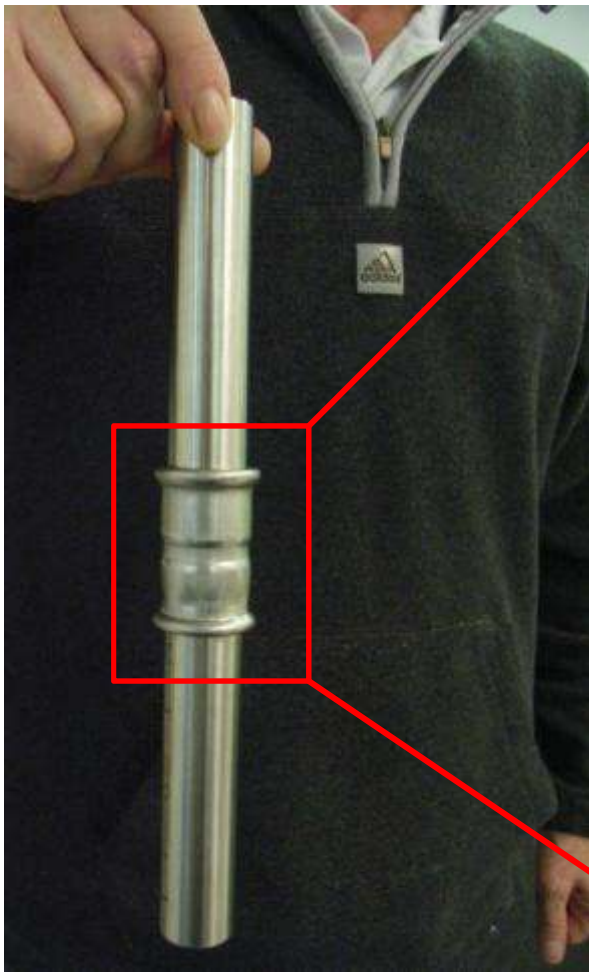
Press Fit Piping System

How does it Work?



Press Fit Piping System

Cut Pipe to required length, debur, slip pipe into fitting and crimp. Crimp (or Press) provides mechanical strength and O-ring provides pressure seal.



Pictures show top of fitting not pressed. This secure arrangement allows system to be fully trial assembled in situ before permanently securing (pressing) – hence no rework!

After Pressing - Cutout Sample



The cutout sample shows o-ring encapsulated in housing after pressing. This helps to understand why the press fit system holds pressure, does not leak and why the system is fire rated, where even after 800°C, fire test sample held 32 bar pressure.





Material available in

- 90/10 Copper Nickel (CuNi)**
- 316L Stainless Steel,**
- Galvanised Steel**
- Copper**



Press Fit Piping System

Applications

Bilge and Ballast Pipe Systems	Hot Water (max 90°C)
Chemicals - Various	Lubricants
Chilled Water	Machinery fresh water systems
Compressed Air	Machinery Sea-water systems
Control Air	Oil
De-Ionised/De-Mineralised Water	Petrochemicals
Desalination	Potable Water
Diesel Lines	Refrigeration Brine Systems
Fire Systems Fresh-water	Sea-water Deck Wash systems
Fire Systems Sea-water	Solvents
Fuel	Sprinkler System (Dry and Wet)
Gases	Vacuum Lines
Grey Water	Watermist System
Hot & Chilled water for Air Conditioning	Has been used as electrical/cable conduits.

If vessel requires Class Approval, please request appropriate Class Approval Certificate.



Press Fit Piping System



**Pipe size range from
15mm to 108mm diameter**



60 different types of fittings

Elbows, tees, threaded outlets (tees), adaptors, unions, reducers, flanges and valves.

Connecting Press Fit Tubing to Existing Piping Systems



Joining **flange to flange** (showing carbon steel to stainless steel).



Joining to **threaded fittings** such as unions (can be removed) or adaptors (become permanent).



Using a **Straub Coupling** to connect

- steel to plastic
- imperial to metric
- dissimilar metals



Press Fit Piping System

Max. Operating Pressure (for marine) 1,600kPa

Test Pressure 5,200 kPa

Operating Temperature from -20°C up to 95°C

Pipe Sizes	
90/10 CuNi	
Outside Dia.	Wall Thickness
mm	mm
15	1
18	1
22	1
28	1.5
35	1.5
42	1.5
54	1.5
76	2
89	2
108	2.5

Pipe Sizes	
316L SS	
Outside Dia.	Wall Thickness
mm	mm
15	1
18	1
22	1.2
28	1.2
35	1.5
42	1.5
54	1.5
76	2
89	2
108	2



Press Fit Piping System

Please confirm your application and parameters with MEI first to ensure suitability.

Product Benefits

- No welding required
- No fire hazard during installation
- Can utilise lower skilled manpower
- Very quick and easy installation
- Significant weight reduction (compared to flanged systems)
- Job can be started and completed within compartment
- Simplified at design stage
- Reliability in severe service condition
- Corrosion resistance
- Quick and easy maintenance



Press Fit Piping System

Required Tooling for Crimping

Hire or buy power tools



Battery powered tool,
Safe, Light and Easy to
use.



Press Fit Piping System

Pressing Tool in Operation

90/10 CuNi



SS 316L



Press Fit Piping System

Benefits of Press Fit Piping System

Major Benefits

1. Significantly reduce installation time.
2. No welding required. Lower skilled labour can be used to install piping system.
3. Can construct piping system on board and in situ, no workshop spooling required.
4. Rework reduced to approx. 0%.
5. Customers repeatedly advise of savings of 20% to 30% as compared to welded systems.

Other Benefits

6. Eliminate risk of fire or explosion.
7. No Hot work permit required.



Press Fit Piping System



Copper Nickel and SS Press Fit – saves time and money on new builds as well.



90/10 CuNi Installation - Neat and Tidy, No Welding,
System Build in Confined Space in situ, No Rework
Required, Significant Cost Savings To Customer.



90/10 Copper Nickel Salt Water System (Painted)
HMAS Manoora



90/10 Copper Nickel - Installing Press Fit Piping System to Existing Manifold via Threaded Fittings.



90/10 CuNi Stub Ends used to install Valves - Austal Ships.

Classification Approvals

Type Approval Certificates for MEI (Chibro) Press Fit Piping and Fittings

CuNi 90/10	SS 316L
Det Norske Veritas (DNV)	Det Norske Veritas (DNV)
Lloyd's Register (LR)	Lloyd's Register (LR)
Bureau Veritas (BV)	Bureau Veritas (BV)
Germanischer Lloyd (GL)	Germanischer Lloyd (GL)
American Bureau of Shipping (ABS)	American Bureau of Shipping (ABS)
Registro Italiano Navale (RINA)	Registro Italiano Navale (RINA)
US Coast Guard	



Press Fit Piping System

MEI holds copies of the above certificates, if required.

90/10 CuNi
Upgrade Installation
Salt Water System
HMAS Manoora.



Press Fit Piping System





Ceiling Space system upgrade with No Hot Work in Refit. Considerable Advantage in Time. Minimising Cost Blowouts – HMAS Tobruk



90/10 Copper Nickel Press Fit Piping System
used for Sea Water Fire Mains - Austal Ships



90/10 Copper Nickel Press Fit System coming off Existing Fire Main from a Welded Spigot - HMAS Manoora



90/10 Copper Nickel used for Bilge
Seawater and Aggressive Media
Applications - Aluminum Boats.



Press Fit Piping System

90/10 Copper Nickel drain Naval Modification. Compare Size and Weight when compared to welded/flanged drain. Press Fit Built in Situ – HMAS Tobruk.



Upgrade of Existing Piping System - No Hot Work during Refit, No Requirement to Remove Cables – Significant Time and Cost Savings – HMAS Tobruk

Will it Leak?

- MEI (Chibro) Press Fit Piping System has been used for many years in both Naval and Commercial vessels for over 25 years in Europe and 8 years in Australia.
- Product Type Approval Certificates from DNV, LR, BV, ABS, RINA and GL for use in potable water, hot and cold water, compressed air, fire systems, and fuel and oil lines (fuel lines have some conditions).
- Approved by Centre for Maritime Engineering (CME) Technical Directive advising that system is fit for purpose on all Royal Australian Navy Surface Vessels.
- Shock and Vibration Tested - Tested and passed to internationally recognised Military Specifications for use in Australian and International Naval Vessels.
- Fire Rated – Tested to 850 degC and witnessed by LR, DNV, BV and GL, to prove it holds test pressure after fire test. Tested and passed under ISO 19921/ISO19922.
- Approved by Department of Naval Platform Systems, Royal Australian Navy.
- ... In other words, Press Fit Piping Systems WILL NOT LET YOU DOWN!



Press Fit Piping System

What Customers are Saying

- “I lost a 316 SS pipe installation job to a competitor by 30% and after seeing Press Fit (no weld) System, I now understand why I lost the job!”
- “Considerable time savings were gained from the installation speed of the Press Fit System... We estimate that the Press Fit System takes less than 55% of the time to install when compared to a fully welded system.”



Press Fit Piping System

What Customers are Saying

- Press Fit fittings are more expensive than standard 90/10 Copper Nickel butt weld fittings. However, we found that due to the significantly lower labour costs associated with installing the Press Fit System, (i.e. installation speed, Less set up time each day, etc) overall comparison costs show that when material and labour are combined that the Press Fit System was approx. 20% cheaper than the Welded system.



Press Fit Piping System

What Customers are Saying

- “The product proved to save money as we had no requirement for highly skilled Stainless Steel welders. Lower cost/skilled employees where used for the installation. Estimate of saving is in excess of 50%. I definitely intend to use the product again.”



Press Fit Piping System

Summary

MEI Press Fit Piping System (CuNi or SS) will

- Save Time - Extremely Fast and Easy to Install
- Save Money – No Welding, No Hot Work, Lower Labor Costs
- Reduce rework to about 0%
- Reduce OH&S and other Risks
- Gain a Competitive Advantage and Win More Work



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