

Press Fitting Training Flyer

Press Fitting: A fastening between two parts created by compressing them together to achieve friction.

Copper press fittings are used in many applications when joining copper pipe and fittings. There are many advantages of using Press Fittings when dealing with copper. This flyer will serve to detail some of them.

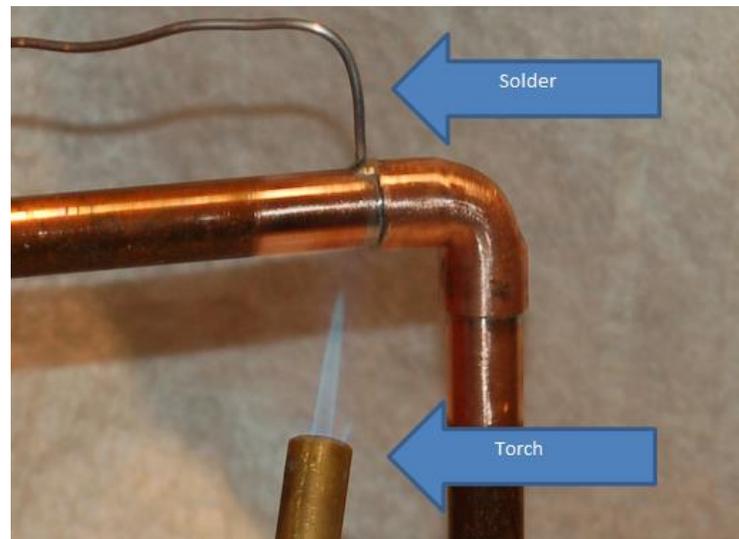
Traditional Fastening between Copper Pipe and Fittings

In order to discuss Press fittings it is important to understand how copper is traditionally joined. Copper fittings are traditionally connected to copper pipe or tubing by either “**Soldering**” or by “**Brazing**”. Both of these methods are a process in which two metal items are joined by melting and flowing a filler metal into the connection point.

Both of these methods require: an **alloy metal to melt** into the connection point, a **torch**, and **flux**, and **sand cloth/wire brushes**.

The main difference between the two is Brazing requires a higher temperature and forms a stronger bond than soldering. Example: Linesets require brazing in order to form a strong enough bond between fitting and tubing.

Flux helps facilitate the soldering/brazing of copper by preventing the oxidation of the metals as the temperature rises. If flux is not used oxidation can occur and weaken the connection formed.



Also sand screen, wire brushes and/or chamfer tools are used to clean and roughen the surface of the copper before soldering/brazing. This helps ensure the strongest possible connection.

Advantages	Disadvantages
<ul style="list-style-type: none">▪ Low process temperature;	<ul style="list-style-type: none">▪ Careful removal of the flux residuals is required in order to prevent corrosion;
<ul style="list-style-type: none">▪ Dissimilar materials may be joined;	<ul style="list-style-type: none">▪ Large sections cannot be joined;
<ul style="list-style-type: none">▪ Thin wall parts may be joined;	<ul style="list-style-type: none">▪ Soldering joints cannot be used in high temperature applications;
<ul style="list-style-type: none">▪ Moderate skill of the operator is required.	<ul style="list-style-type: none">▪ Other methods may product higher strength of joints.

We stock a full line of Elkhart Copper fittings, Bridgit Solder, Staysil Brazing rods, and Black Swan sand cloth and sand screen.

Press Fitting Fastening

The press-connect joining method (sometimes called press-fit) was patented in Europe in the late 1950s and continues to be used successfully there. The method and associated fittings and tools were introduced in the United States in the late 1990s. Since then, there has been growing acceptance, and those using the method experience excellent results.

Press-connect joining takes advantage of copper's excellent malleability and its proven increased strength when connected without using heat. The joints rely on the sealing capability of a special fitting that contains an **elastomeric gasket** or seal and the proper use of an approved **pressing tool** and jaws.

The connection process with a press fitting is created by inserting the copper pipe into the fitting, putting the press tool around the gasket ring in the fitting and using the tool to press down until the fitting and the pipe are connected.

It is still important to use a chamfer tool or sand screen to remove any burrs from the outside of the copper pipe when using press. This will reduce the possibility the gasket will be damaged.

There are many advantages to press pipe. Press-connect joining of copper and copper alloy tube is **fast, economical**, and, most importantly, it **requires no heat or open flame** unlike soldering or brazing.

Press is **ideal on larger sizes** where it would not be efficient or even possible to solder or braze.

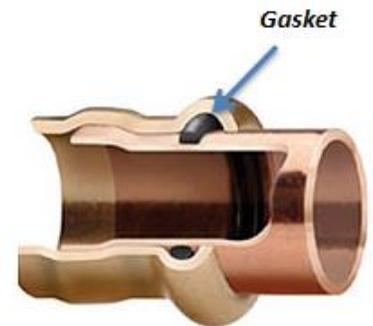
Also, in some commercial applications contractors are required to get a Burn Permit to solder or braze in the facility. If the contractor is using press they will not need this.

We stock a full line of Elkhart Press Fittings and Milwaukee press tools. The tools are also available for rental at select locations.

Next Steps

You can watch the video below to see how easy it is to use press fittings:

<https://www.youtube.com/watch?v=YGutt5Zspol>



Some of the fittings we stock are on the chart below.



ELL



- *133032 1/2"
- *133033 3/4"
- *133034 1"
- *133035 1 1/4"
- *133036 1 1/2"
- *133037 2"

ST.ELL



- *133038 1/2"
- *133039 3/4"
- *133040 1"
- *133041 1 1/4"
- *133042 1 1/2"
- *133043 2"

45 ELL



- *133020 1/2"
- *133021 3/4"
- *133022 1"
- *133023 1 1/4"
- *133024 1 1/2"
- *133025 2"

CPLG.



- *133996 1/2"
- *133997 3/4"
- *133998 1"
- *132999 1 1/4"
- *133000 1 1/2"
- *133001 2"

REDUCER



- *1133002 3/4"x1/2"

MIP



- *133147 1/2"
- *133148 3/4"
- *133149 1"
- *133150 1 1/4"
- *133151 1 1/2"
- *133152 2"

FIP



- *133014 1/2"
- *133015 3/4"
- *133101 1"
- *133017 1 1/4"
- *133018 1 1/2"
- *133019 2"

TEE



- *133044 1/2"
- *133045 3/4"
- *133046 1"
- *133054 3/4"x1/2"

CAP



- *133101 1/2"
- *133102 3/4"
- *133103 1"
- *133104 1 1/4"
- *133105 1 1/2"
- *133106 2"



NOW STOCKING



Item # 204831 and 217977
 With Heads 1/2" thru 1" With Heads up to 2"
 Ridgid