

The Home Owner Guide to Soldering Copper Pipe

By

Arthur W. Thompson

Welcome to your step by step guide to help any handyman or handywoman to successfully solder their own copper water pipe. Copper pipe is not only used for domestic water supply piping, but in many homes copper is also used for hot water heating.

Copper has been a preferred plumbing industry material for water supply pipe for about the last 40 years. Today new materials are available for water supply, such as CPVC plastic and cross linked polyethylene pipe just to name a few. However many plumbing professionals still use copper over other kinds of pipe.

If you follow the steps that I outline in this guide you should be able to complete your project with total success. The most important points you have to remembering when doing soldering is clean and dry, if your copper pipe and fittings are not clean and dry you will have trouble completing the job.

Copper comes in different sizes and types. When copper pipe is referred to as “type” this means the wall thickness of the pipe. There are four types of copper used for plumbing use. Type K which is the thickest wall copper, then followed by L, M, and DWV.

Type K copper is mainly used for underground piping to bring water supply into homes. Type L and M copper is used for water pipe inside buildings and homes. Type M copper is the minimum grade copper type that is used for water piping in a home. The last type of copper is DWV which is only used for drain, waste and vent piping, not for water supply.

Copper can be easily identified by the markings located on the side of every piece of pipe. The size and type of copper will be printed on the pipe in a colored paint, or imprinted into the pipe. The reason for the different colors is it lets plumbers tell in a glance what type of copper they have on hand. Type K has green markings, Type L has blue, and Type M has red. Yellow is used for DWV.

Remember safety when working with hot pipes and torches, always use caution, soldering involves heat and flame and molten solder which can burn badly, always use care when working with soldering joints! I always recommend that you wear gloves and safety goggles to protect your hands and eyes. Always use **caution**, avoid getting flux or solder in your eyes.

Materials

1 1/2" wide strip of medium grit sand cloth about 12" long

Fitting cleaning brush for each size copper, you will use. (This is a wire brush that is the diameter of the inside of the fittings)

Water soluble plumbing soldering flux

Small brush to apply flux to fittings

Lead free plumbing wire solder

A propane hand torch and striker

Safety goggles and gloves

Step 1. Begin by taking the copper pipe in hand about a foot from the joint, with the sand cloth, sand the end of the pipe for about the first 1-1/2" so the pipe is no longer shiny and now has a dull appearance. By removing the factory finish the roughed-up surface of the pipe will serve two purposes, to clean the end of the pipe and to give the solder a good surface to adhere to.

Step 2. Hold your fitting firmly, insert the fitting brush into each end of the fitting and turn brush several times until the inside of the fitting looks like the outside of the