Methods for Soldering
There are several different methods for soldering, but the basic fundamentals of soldering are constant. Tinning prepares your iron by cleaning the hot tip of the soldering iron on a wet sponge, covering the tip with solder, and wiping away excess creating a soldering iron that looks shiny and silvery. Soldering correctly is done by applying the soldering tip to the joint, heating it, and applying the solder to the hot joint to melt it into a flow. No matter what method of soldering you use, you will tin your soldering iron and solder a joint in the same way.

Electronics and Wire Soldering
Prepare wire to be soldered by stripping the insulation off, twisting the wire ends, holding it with a third hand, and attaching heat sinks to protect the insulation from melting. Tinning the ends by heating the wire and touching the hot wire end with solder in a gentle sweeping motion until it is shiny and silvery, will make soldering wire to a bracket easy because the wire is pre-soldered.

Soldering electronics requires the heating of the joint and touching the solder to the hot joint. Touching the solder to the soldering iron and not heating the joint will result in a “cold solder”, which creates an improper connection. It will cause an electronic malfunction and will easily crack or break. Cold solders usually look pitted and dull. If this occurs, copper braid or a solder sucker can be used to remove the solder after it has been reheated. When soldering electronic components, bend the leads to secure the piece, cut the leads, apply heat sinks to fragile components, solder the joint, and clean with alcohol and a brush.

Copper Pipe Soldering
The industry term for soldering copper pipe is “sweating”. Sweating is used to secure copper pipe and fittings. Cleaning the soldering locations of the copper pipe with a piece of emery cloth until the copper looks shiny, removes dirt, grease, and oxidation that can interfere with creating a good solder joint. Cleaning the inside of the pipe is done with a round wire brush. Using a flux brush, a thin coat of flux is brushed outside and inside of the pipe to be soldered. Circle the pipe for 10 to 15 seconds with the tip of the flame from a propane or acetylene torch to heat the solder area. Touching the highest point of the pipe with solder will allow the solder to flow around the joint. If the pipe is hot enough the solder will be pulled into the joint. Dripping solder tells you the joint is full. Protect your hands from the hot pipe with gloves and wipe the excess solder off the joint with a cloth.

Soldering Jewelry
Use a third hand (a metal arm with alligator clips) to hold the jewelry pieces for soldering. Liquid flux in a small squirt bottle works well for dropping a small amount of flux to tiny areas. Soldering jewelry requires a smaller soldering tip. Contrary to the soldering technique for electronics, the solder is placed on the joint and the soldering iron is placed on top of the solder until the solder flow is complete.

Tips
Use protective eye wear, and gloves when soldering. A freshly soldered joint is very hot and will cause serious burns. Never leave a hot soldering iron unattended. Clean and tin your soldering iron before each use and clean it on a wet sponge before returning it to the holder.

Keywords soldering techniques, sweating, soldering jewelry

Reference:
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