

Soldering Q&A's

Q: What is solder made of?

A: Solder is a metal alloy with a melting point or melting range of 90 to 450 °C (200 to 840 °F). It is used in a process called soldering where it is melted to join metallic surfaces. This alloy is usually a combination of lead and tin in some combination with the exception of lead-free solder. It is usually formed into a long pliable coil and sold on spools.

Q: How do I protect my counter when soldering?

A: Any heat resistant work surface would be acceptable. Diamond Tech manufactures the Fireworks Heat Resistant Work Surface, perfect for soldering. For a less expensive alternative, Homasote Board, found at your local home center, will also be acceptable. Homasote is a brand name that has become synonymous with the product generically known as cellulose based fiber wall board. It is 1/2 inch thick and comes in sheets 4 by 8 feet which can easily be cut down into small segments.

Q: If my copper foil is uneven is it a problem?

A: Yes, proper application would be even amounts of foil on both sides of the glass for proper stability and appearance. To even out foil, peel off the foil and apply a new piece or use a craft knife to cut away the excess.

Q: After applying flux to my whole piece the edges of the foil have turned green. Why?

A: Oxidation has occurred due to the flux drying on the copper foil. To remove, use a damp cloth to wipe off the dried flux and oxidation. To avoid oxidation, apply flux to small areas of your project at a time.

Q: Can I make a soldered piece without using the copper foil?

A: No, solder will not adhere to glass – only to the copper foil tape treated with flux.

Q: Will solder stick to the glass?

A: No, the solder will bond to the copper foil tape only and will not stick to glass.

Q: Droplets of solder have fallen on my work surface and sponge. What should I do?

A: The solder that has dropped on your work surface and sponge are still good to use. Place the hot iron on the droplet to pick up, then apply the solder directly to your project. For work surface clean-up, you can also wait until the solder is cooled and clean off with a brush.

Q: The solder won't stick to the copper foil?

A: You may need more flux. Flux acts as a bonding agent between the solder and the foil – without it, the solder will not stick. Since flux will evaporate over time, you may have to reapply flux to the project before continuing.

Q. Can I use more than two pieces of glass in my soldering project?

A: Yes, you can use additional glass to achieve a layered effect. You may need to use a wider copper foil to insure that it is wide enough to fit around both pieces of the glass.

Q: Why is my solder lines uneven?

A: Make sure you are working on a flat level work surface and your foil is applied straight and evenly. Remember to apply flux each time before you add solder, which will help the solder flow more smoothly.

Q: Why do black spots appear in the solder after I've heated it?

A: Spots are generally caused by dirt or other particles caught in the solder. Not to worry, these can be removed when you wash or buff your piece when it's finished.

Q: Why does my glass keep breaking?

A: Soldering irons are very hot. Applying too much heat to glass will cause it to break. Avoid touching the glass as you apply the solder and do not hold tip on the soldering line for more than a few seconds in one spot.

Q: How can I get a good solder bead?

A: You are not using enough solder. Don't be afraid to use too much – you can always remove excess solder with the soldering iron.

Q: Why are the soldered edges of my piece lifting away from the glass?

A: You may not have pressed the copper foil tape down sufficiently, or you may have applied too much flux, causing the tape to come up from the glass.

Q: Why are there pits in the solder seam?

A: The solder is not clean. The solder joint received too much heat. The metal is not clean. The alloy of the solder has broken down after being heated multiple times from different soldering.

Q: Can I reposition a jump ring after it has been soldered?

A: Sure! Use pliers to hold the jump ring as you reheat the solder. When the solder begins to heat and melt, move the pliers and jump ring carefully away.

Q: I'm not happy with my soldering results, can I take it apart and start over?

A: Certainly, the solder can be melted off the copper tape easily with the soldering iron. Let the solder drip off onto your work surface and reuse it for the next project.

Q: Can I use sterling silver jump rings with my soldered piece?

A: We do not recommend using sterling silver. The heat from the soldering iron can cause the surface of the silver to turn black.

Q: Can I use the soldering iron to solder sterling silver or fine silver?

A: No, the soldering irons manufactured by Diamond Tech are intended for use in copper foil soldering and related applications (such as stained glass).

Q: What is the best way to store my soldering iron after use?

A: When you are finished using the soldering iron, unplug it, and let it cool slightly. Melt a small amount of solder onto the tip. Let the iron cool completely in its stand. After cooling store as desired.