

## ABOUT SOLDERING

Solder is a confusing topic. There are two completely different soldering methods used in jewelry making, yet people rarely explain which type they're talking about – much the way people say they spent the weekend simply “at the lake.” (If they are your friends, you do know which lake ... and hopefully this post will help you make friends with solder!)

**Solder** is a metal alloy that is melted to connect or coat metal pieces. **Soldering** is the act of melting and applying solder.

The two soldering methods are:

1. **Soldering with a torch.** Often called **hard soldering**, brazing or silver soldering, although copper, brass, gold and other metals can be torch soldered. There are **different grades of hard solder** (which melt at different temperatures), and just to confuse things further, they are called easy/soft, medium and hard. There are also different solder formulas to match the color of various metals. **If jewelry is made of silver or gold, it has to be torch soldered.** Successful soldering requires heating the metal pieces, not just melting the solder, so if the piece is very large or thick, it's probably torch soldered as well.
2. **Soldering with a soldering iron.** This is often referred to as **soft soldering**, and is used with base metals (like pewter) and plated metals. This is actually ‘tinning’, which means adding a layer of solder to a metal base. The solder is made mostly of tin and has a (relatively) low melting temperature. Soft solder is pewter or silver colored. Never use a soldering iron with precious metal jewelry: it will ruin the jewelry. Soldering glass frame pendants uses soft soldering and is done with a soldering iron.



*Poppy Field Pendant Necklace*  
by Mollie Valente  
Mollie soldered two fold-over crimp ends (#41-254-1) into the frame instead of jump rings



*Pink is for Girls Necklace*  
by Rita Hutchinson

Rita glued images and words to paper, then sandwiched the paper between 2 pieces of glass. She wrapped the glass with copper-foil tape. To create a tight seal, she burnished the foil to the glass (a Sharpie pen handle makes a great burnishing tool). She used soft solder to seal and finish the pendant.

## NOT ALL SOLDERING IRONS ARE CREATED EQUAL

There are many varieties on the market and most were not designed for jewelry making. The two most important things to look for are tip style and wattage. We recommend a minimum of **60-watt** soldering iron **with a chisel-tip**. The pointy tip irons are designed for tiny electronics like circuit boards and are of little use for jewelry, other than sealing jump rings. Lower than 60 watts might not heat up enough. The 60w Hakko soldering iron meets both requirements! The 100 watt Choice Iron and Rheostat combination provides greater control over temperature.



60w Hakko (#69-417)

100 watt Choice Iron (#69-415)

Choice Rheostat (#69-416)



*Soldering iron tip comparison*

The iron on the left has a pointy tip (not recommended). The iron on the right has the recommended chisel tip, but needs to be cleaned! Soldering is difficult when the tip is black and crusty. Try using a wet sponge to clean the heated iron. If you can't clean it any other way, let the iron cool and then gently sand off the gunk.

## ABOUT SOFT SOLDER & FLUX

**It is important to use lead-free solid-core solder.** Avoid solders that have rosin or acid cores. Rings & Things sells Choice™, SILVERGLEEM, and Staybrite® soft solder. All 3 work great with soldering irons; Staybrite is more expensive because of its higher silver content and included flux.

**All solder requires flux in order to melt and flow.** LA-CO® Brite flux is a 6oz package, and is designed to be dripped or brushed onto your project.



Choice™ Solder  
(#69-068)



SILVERGLEEM  
(#69-067)



Staybrite®  
(#69-092)



LA-CO® Brite  
Liquid Flux  
(#69-078)

## PREPARING TO SOLDER A GLASS PENDANT

Prepare your work area. Remove extraneous (burnable or meltable) items from the immediate area. A cookie sheet with a Non-Stick Craft Sheet on top works well. The craft sheet allows for easy clean-up of the drips and spills of solder that will inevitably occur.



Non-Stick Craft Sheet  
(#69-389)

Copper tape creates the metal base needed for the solder to flow onto.



5/16" Copper Foil Tape  
(#69-095-02)

Assemble the images or art you will use for the pendant and two pieces of **clean** glass.

Sandwich the images between your 2 pieces of glass and wrap the edges of the "sandwich" with copper foil tape. If you plan to add a bail or jump ring, overlap the ends of the foil tape where you are adding the hardware. Fold the tape over from the edges to the front and back of the glass, being careful of the corners (think of it like wrapping a gift). Burnish smooth (a sharpie pen works well for burnishing). Clean with alcohol to remove any oils from your fingers – a clean surface is the best soldering surface!



*Taping the edges*



*Shaping the solder coil into a snake makes it easier to feed onto your soldering iron*

If this is your first time using the iron, you will want to “tin” the first time you heat it up and always maintain that layer of solder across the tip. By tinning the tip, you prevent the iron coating from oxidizing. Oxidation can corrode your tips forcing you to replace them more often, and the hotter your iron the faster they will oxidize. Tip tinning creates a layer of solder between the air and the iron, keeping oxygen at bay.

Plug in the soldering iron and allow it to heat up for a couple minutes. Touch the tip to a damp sponge. The iron is hot enough if the sponge steams a bit when you do this. Holding the solder in one hand and the iron in the other, briefly touch the solder to both sides of the tip. You may have to “rub” the solder onto the iron to start it flowing.

Now that your tip is properly tinned, you can start soldering. **Try**

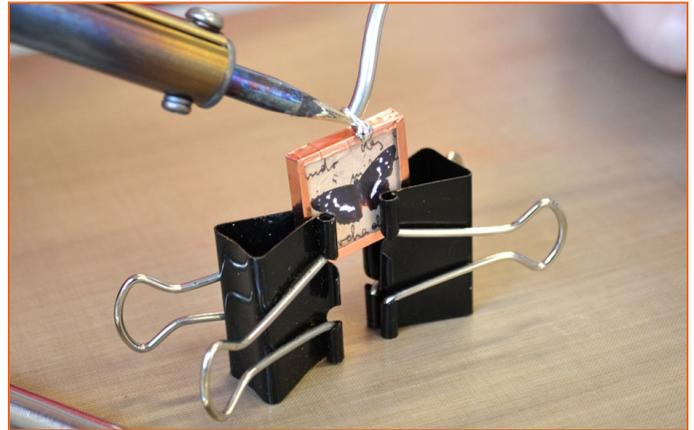


*Retinning the tip*

**to solder immediately after tinning the tip**, the sooner the better. Tinning improves conductivity and makes soldering easier, as well as quicker, which is a good thing. Periodically while you are working, (when the solder doesn't seem to be flowing well), clean off any globs of solder on the sponge and re-tin the tip. Keeping the tip clean is important but constantly wiping it on a wet sponge will lower the iron temperature, and can cause early tip failure. Properly cleaned tips are bright and shiny.

Keep the iron in the stand whenever you are not actually soldering with it. Unplug the iron whenever you are working on another portion of the project for more than a few minutes. This is not only a good safety measure, but it will also extend the life of your soldering

iron. When you are not using your soldering iron, you should keep a layer of solder on the tip, so before putting your iron in storage, apply a fresh layer of solder to the tip to prevent it from corroding. If you will not be using your iron for an extended period of time, you may want to store it (after it has fully cooled) in a zipper type bag to protect it further from corrosion and humidity.



*Adding solder to the tape. Use binder clips to hold piece in place while you hold the spool of solder in one hand, and the iron in the other.*

## SOLDERING A GLASS PENDANT

Apply flux to the copper tape. Touch your hot soldering iron to the solder to pick up a blob, and run the iron over the copper tape. Repeat. (Some people melt the solder onto the tip of the iron and transfer it to the piece. I find I have more control by applying the solder directly from the roll to the tape.) Often you can pull the solder from the edges of the pieces to the front and back taped portions. Completely cover the copper tape with solder. If it looks lumpy, run the iron across the bumps to remelt the solder and smooth it out. Be sure to clean your soldering iron's tip frequently. **If the solder isn't flowing, either the tip is dirty, your piece is dirty, you need more flux or you aren't heating the piece sufficiently.** Clips, clothespins or a “third hand” double clip magnifier are all helpful tools for holding your piece while protecting your fingers.



*Holding the piece steady with bent chain nose pliers. Since flux can damage tools, and you may drip solder onto them, dedicate an inexpensive or already damaged pair for use in soldering.*

Add a blob of solder to the point where you'd like to attach your jump ring. Apply flux to your jump ring. Use pliers or a **hemostat** to hold the jump ring on the blob, and reheat the blob with the iron to secure it in place (watch out: the blob will melt quickly, and the jump ring will sink into it. Do not maintain the heat on the blob or the jump ring, or it will all melt together into a mess). Clean off any extra flux with window cleaner or rubbing alcohol, file rough edges, buff with a **polishing cloth**, and you're done!



*Using hemostat to hold the jump ring in place while melting the solder blob with the iron.*

Making soldered pendants is totally addictive. Microscope slide glass is an affordable way to indulge your pendant-making habit.



*Microscope Slide Pendants*

Piddix collage sheets are available in several sizes and shapes. The 7/8" squares work nicely with the 1" square memory glass.



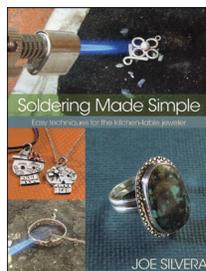
Piddix images  
(#83-231-01-099)

Memory Glass  
(#83-505-01)

The Rings & Things **Exclusive Glass Soldering Kit (#45-210-002)** supplies all the basics for you to start out with a new skill. Just provide your own scissors, water, and work surface, and you are ready to go.

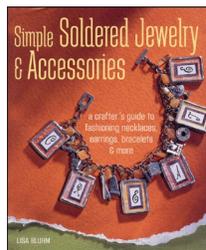


## MORE RESOURCES



### #62-330 *Soldering Made Simple: Easy Techniques for the Kitchen-Table Jeweler*

By Joe Silvera. Take the mystery and worry out of soldering! Book includes 2 main sections. The first focuses on tools, materials, tips and techniques. The second offers several projects you can create to gain practice with this art form. 112 full-color pages. Paperback.



### #62-039 *Simple Soldered Jewelry and Accessories*

By Lisa Bluhm. A crafter's guide to fashioning necklaces, earrings, bracelets & more. Contains information on tools & materials, how to use them, tons of projects with instructions, glass cutting patterns, wire letter patterns & clip art. Lisa poured her heart & soul into this book to make soldered art easy for everyone to create. 145 pages. Hardcover.

## MORE TECHNIQUES & INFO

Rings & Things offers instruction and tips on a variety of jewelry making mediums and techniques!

- #68-007-01 *Jewelry Basics*
- #68-007-02 *Pendant Cord Tying*
- #68-007-03 *Gluing to Metal*
- #68-007-04 *ITS™ (Image Transfer)*
- #68-007-06 *Earring Basics*
- #68-007-07 *Metal Stamping*
- #68-007-08 *Epoxy Resin*
- #68-007-09 *Stamping on Resin*
- #68-007-10 *Disk/Loop Bracelet*
- #68-007-11 *No-Solder Bezels and Frames*
- #68-007-12 *Cold Connections*
- #68-007-13 *Oxidizing Metal*
- #68-007-14 *Crafted Findings Riveting System*
- #68-007-15 *Snap/Rivet Setting*
- #68-007-16 *Metal Etching*
- #68-007-17 *Glass Pendant Soldering*