




Procedure – Twisted Wire Copper Soldered Wire Ring

Wear Eye Protection When Working With Wire!

<p>1. Cut Material</p> <ul style="list-style-type: none">• Cut three pieces of 14 gauge copper wire approximately 5 to 6 inches long• Straighten the wire by drawing them through wood faced vise jaws	
<p>2. Obtain a cordless drill for use in the next step.</p> <p>Stack the wire one on top of the other with their ends aligned, then clamp approximately $\frac{3}{4}$" of the wire stack in a bench mounted vise (good to locate a metal faced vise for this)</p>	
<p>3. Clamp the other end of the wires in the chuck of the cordless drill. <u>Be sure to tighten the chuck well.</u></p> <p>If necessary, cut the wires to make them roughly the same length</p>	

4. Pulling back on the drill to apply tension to the wires, SLOWLY rotate the drill in the clockwise direction.

Watch carefully as the twist develops. Consider whether you desire a tight result with little air gaps, or looser result.

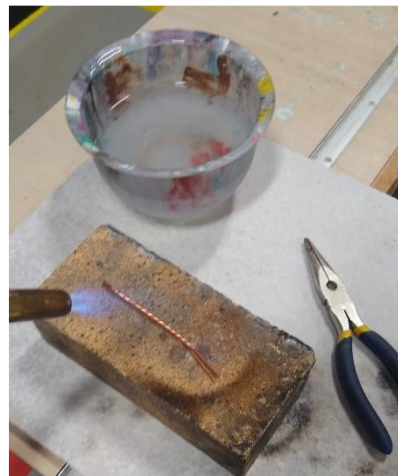
Twist wires until desired result is achieved.



5. The twisting of the wires has 'work hardened them' the next step, flattening, is best done with soft metal.

'Anneal' the copper wire by heating it until dull red, then quenching it in a cool water bath.

Use large pliers to handle the wire when quenching.



6. Obtain a medium to large 'Ball Peen' hammer from the hammer drawer in the jewelry cart.



7. On a solid metal surface (ie, the metal workbench over a leg) hammer the twisted wire flat.

Take care to ensure the face of the hammer contacts the wire squarely/flat and not on edge to prevent denting the wire.

Turn the wire end for end when approaching your fingers to avoid striking them.

Hammer both sides of the wire until flat and the desired look has been achieved.



8. Use a sanding stick to sand the flat hammered faces smooth.

Place the work piece on the solid metal surface of a bench vise to support it while sanding.



9. Use a ring sizing chart to cut the ring to correct length.

Measure the thickness, then use this measurement along with the desired size to find the correct length on the chart.






Contenti RING BLANK SIZING CHART





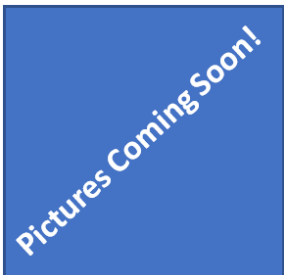
Handmade rings are made to order. We have a wide variety of sizes and thicknesses. We can also make custom rings to your specifications. We have a wide variety of sizes and thicknesses. We can also make custom rings to your specifications.

Ring Size	Ring Thickness	Ring Width	Ring Length	Ring Weight
1	1.00	1.00	1.00	1.00
2	1.00	1.00	1.00	1.00
3	1.00	1.00	1.00	1.00
4	1.00	1.00	1.00	1.00
5	1.00	1.00	1.00	1.00
6	1.00	1.00	1.00	1.00
7	1.00	1.00	1.00	1.00
8	1.00	1.00	1.00	1.00
9	1.00	1.00	1.00	1.00
10	1.00	1.00	1.00	1.00
11	1.00	1.00	1.00	1.00
12	1.00	1.00	1.00	1.00
13	1.00	1.00	1.00	1.00
14	1.00	1.00	1.00	1.00

10. Set a 'digital caliper' to the size determined in the previous step. Then use the thumb screw to lock the position of the calipers.








<p>11. Lay the caliper jaws along side the work piece (gently straighten by hand if bent) and consider their position. Move the caliper side to side until the cuts that will be made fall on regions of near equal width. This will ensure a nice join when soldering.</p> <p>Mark the location of the caliper jaws, the place where you will cut. You can use a sharpie pen, or you can create a scratch with a scriber.</p>	
<p>12. Use square cutting pliers to cut the workpiece at the marks created in the previous step.</p> <p>Make sure that the square cutting side of the pliers is facing towards your ring material, NOT the waste side.</p> <p>Make sure that the pliers are perpendicular to the material when making the cut.</p>	
<p>13. Examine the results of your cut. If needed, use files and/or a sanding stick to square up the ends. The better the ends are the better the final fit/solder joint will be.</p>	
<p>14. Use jewelry pliers to form the workpiece into a 'D' shape, carefully aligning the ends to achieve a seamless join. Take your time! Maybe have a look under the magnifying glass?</p> <p>A good fit will not only look good but the soldered joint will be stronger!!</p>	
<p>15. Solder the joint.</p> <ul style="list-style-type: none"> • Dip the joint in Aquiflux self-pickling flux. • Hold it using cross-locking tweezers, positioning the joint flat. • Place a small solder pallion on the joint. • Heat the joint with a torch until the solder melts completely into the joint. 	




<p>16. Place the soldered ring into the pickle to remove carbon from the heating process.</p>	 <p>Pictures Coming Soon!</p>
<p>17. Using a ring mandrel and a soft faced hammer, shape the ring round. (many light downward taps)</p>	 <p>Pictures Coming Soon!</p>
<p>18. Use a wooden polishing mandrel and the bench mounted buffer to polish the outside of the ring.</p>	 <p>Pictures Coming Soon!</p>
<p>19. Use a flex shaft rotary tool with a buffing wheel to polish the inside of the ring.</p>	 <p>Pictures Coming Soon!</p>
<p>20. Wash the ring with warm soap and water to remove the polishing residue.</p>	 <p>Pictures Coming Soon!</p>

21. Consider applying clear nail polish to the inside of the ring to help reduce reaction with skin.









Soldering

<p>1. Prep your ring for soldering by cleaning it in the pickle.</p>	
<p>2. Apply flux to the solder region.</p>	
<p>3.</p> <ul style="list-style-type: none">a. Two Step Flux Type:<ul style="list-style-type: none">i. Use a torch to heat the solder region until the flux turns glassy (2 step flux type). Note the flux will first turn white, then glassyb. One Step Flux Type:<ul style="list-style-type: none">i. No need to preheat; move to step 4	
<p>4. Prepare for 'pick soldering'</p> <ul style="list-style-type: none">a. Place a solder pallion on a clean fire brickb. Have a cool, clean, dry and sharp solder pick at the readyc. Heat the pallion until it melts forming a ball shaped. 'stab' the centre of the solder ball momentarily to stick it to tip of the soldering pick	
<p>5. Heat the joint from the bottom to help with drawing the solder through it. When at temperature (dull to medium red glow) use the pick to touch the solder to the joint. If hot enough it should be immediately drawing through the joint. If not, pull solder away, continue to heat and try again.</p>	

<p>6. Soldered ring, nicely flowed.</p>	
<p>7. Place the ring back into the pickle to remove flux and carbon.</p>	
<p>8. After pickle.</p>	

Soldering

<p>1. Place the ring on a ring mandrel and tap round using a mallet.</p>	
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<p>2. Sand the edges of the ring flat.</p>	
<p>3. At the drill press, use 'sand paper on a stick' to clean up the inside solder joint.</p>	
<p>4. Place the ring on a mandrel and use sanding sticks to clean up the outside solder joint. The goal is to make this nearly invisible. A single cut file may be needed initially.</p>	
<p>5. Holding the ring in a wooden jewelry clamp, use sanding sticks and/or files to chamfer the edges. If a file is used, be sure to clean up the surface with sanding sticks.</p>	
<p>6. Using a wooden polishing mandrel, at the bench buffer polish the outside surface of the ring.</p>	
<p>7. Use a rotary tool and polishing head to polish the inside surface of the ring.</p>	

