






Procedure - Copper Soldered Wire Ring

Material Prep




<p>1. Obtain a length of 14 gauge Copper Wire</p>	
<p>2. If necessary, draw the wire through the wooden jaws of a vise to straighten.</p> <ul style="list-style-type: none">• This will require some force• Stand with one foot in front of the other and be ready for when the wire releases from the vise!	

Sizing




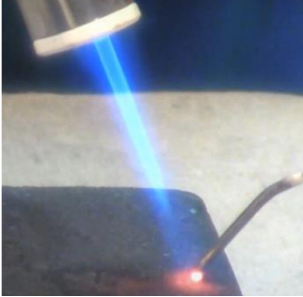

<p>1. Use a ring sizer to determine the intended size for your project</p>	
<p>2. Use a sizing chart (class website) to determine the required length of material based on the material thickness and desired size.</p> <ul style="list-style-type: none">• Measure the diameter of the wire using a digital caliper	



<p>3. Set a digital caliper to the length previously determined and use it to score two lines/marks on the wire</p>	
---	---

Preparing Material For Soldering



<p>4. Using a pair of 'square cutting pliers', cut the wire to length.</p> <ul style="list-style-type: none">• Be sure to orient pliers so that the square cutting side is towards the piece that is to be kept.	
<p>5. Square the ends of the wire</p> <ul style="list-style-type: none">• Use a squaring block/jig, a vise and a file to file the end of the wire flat/square.• Take care to do this well as your soldering success will depend on this!	
<p>6. Using a ring mandrel and jewelry pliers, shape the ring into a 'D' shape taking care to align the ends perfectly.</p>	




Soldering

<p>1. Prep your ring for soldering by cleaning it in the pickle.</p>	
<p>2. Rinse the pickle solution off using fresh water, then dry with paper towel.</p>	
<p>3. Dip the region to be soldered flux.</p>	
<p>4. Prepare for 'pick soldering'</p> <ol style="list-style-type: none">Place a solder pallion on a clean fire brickHave a cool, clean, dry and sharp solder pick at the readyHeat the pallion until it melts forming a ball shape (use a small torch tip & approach from above in effort to not blow the pallion away)'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>Pictures Soon</p>

<p>6. Soldered ring, solder flowed completely through.</p>	
<p>7. Place the ring back into the pickle to remove carbon.</p>	

Finishing

<p>1. Place the ring on a ring mandrel and tap round using a mallet.</p>	
<p>2. Using emery paper torn into narrow strips, carefully sand the solder joint.</p> <ul style="list-style-type: none">• Holding the ring gently in a vise is helpful• Take care to keep the profile round!	

<p>3. Using a wooden polishing mandrel, at the bench buffer polish the outside surface of the ring.</p>	
<p>4. Use a rotary tool and polishing head to polish the inside surface of the ring.</p>	
<p>5. Wash the polishing compound off of the ring using warm water and soap</p>	
<p>6. Inspect surface and continue polishing as required.</p>	