



## FROM THE FORUMS

We've selected a couple of recently asked questions from our forums on Benchjeweler.com and Stuller.com and asked our Team to weigh in. Here are some of their most used bench techniques to help you out!

**Hello. I was wondering if anyone else has been having problems with rose gold solder or any tips on making it flow easier? I just cannot get it to flow right and acts like it wants to melt before the solder flows any help is really appreciated.**

Try using 18kt rose solder because it has a better melting temperature than 14kt. It's still going to be a hot temperature, but it's a better one to work with. -Andy "The Tool Guy", Stuller Bench Director

**Blue Rhodium – I am getting more and more of this stuff every day! What is it? Is it a plating or a paint? I have tried heat shield to protect it, but it is impossible to work on a silver ring without wiping it out or discoloring it...any tips??**



## 45-3221

The key is to understand the color changes and to know when to stop. If the voltage is too high, the color will progress through the appropriate changes however you may miss the actual blue color. There is a fine balance between the voltage and time on the piece when using this solution so find below a few points to insure the process meets your expectations:

1. It is always best to degrease/rinse (electro-clean) and neutralize/rinse (acid dip) the pieces prior to pen plating as this removes any debris or contaminants allowing for better adhesion with any pen solution.
2. Start out on the low end at 8-volts or so and work from there.
3. Place the white felt tip in the pen and then let it soak in the solution for at least five minutes. This will help the solution absorb into the pen and all the way to the collar.
4. Make sure you have good contact on the piece with the black lead (alligator clip).
5. Run the pen tip across the area that you want to plate with using a very slow motion. The solution will be applied wherever the tip touches and includes the pool of solution itself yet maximum contact points is how the color transfer works best. We have found it highly successful to keep the tip pressed firmly (not so firm to bend or break) against the piece however continue to

wet the tip as this will help keep the application process going.

Watch carefully and check the color frequently as it will move from a light brown to a purple and then into the blue. If you go too far or if the current is too high, the piece may quickly become dark gray to black and will need to be re-polished and the regular steps repeated.

### Pen Plating:

The current technical sheets state:



**45-4020**

- 5 to 5.5 volts and optimum is 5.0 volts
- The brown tips will give the best results

We have found the following:

- Anywhere from 8-14 volts can be used.
- The regular white tips actually offer better adhesion and more consistent process.

### Bath Plating:

Many of the same principles of the pen unit above are consistent with bath plating however the following points

should be considered with bath plating:

- The voltages are much lower and much more critical in bath plating. Never exceed 2.5 volts as this solution is very sensitive to the current in the bath.
- If using an analog rectifier (dial type with needles that show the settings) many times these are not accurate with the current that is being supplied to the bath. If you have this type of rectifier, I recommend having an external voltage meter that you can temporarily connect to your anode and cathode leads that can verify the voltage that the rectifier is supplying the bath. This will assure the correct voltage parameters necessary and will also assist in establishing consistent process times. Digital rectifiers offer finer voltage and current control so are preferred for low current applications.

Connect the black lead from the voltage meter to the black lead holding the piece. Connect the red lead from the voltage meter to the anode in the bath. Set the voltage on your dial, submerge the piece and measure what the meter is reading to find the actual voltage that the rectifier is supplying the bath.

***IMPORTANT!***

– Submerge only 25% of the anode in the blue Rhodium bath as this will help keep the current controlled so that the solution is able to properly progress through the color transformation without burning.

– As with the pen, keep a close eye on the piece until you have established the appropriate parameters so that you do not miss the blue color.

**Invisible settings – I do A LOT of these in my shop, just curious of others' experiences with them. I know many jewelers**

**will not touch them.**



**62175**

Okay, where do I start? An invisible setting is one of those set types that's beautiful to look at, but a nightmare when it comes to repairing. Anything you do to the part – size, round out, heat up, etc. can cause the rails that hold the stones in to expand and contract. This can ultimately fail, and to get them back in requires some techniques and special tools like a laser welder.

The way this works is there's a groove that's cut right under the diamond's girdle, and a rail is cut to the exact diameter of the groove span. Then the stone is simply snapped in. There's not any metal moved over the stone. It's simply a snap fit, so you can imagine any shifting or change in the metal geometry will cause stones to loosen and fall out. I have even seen where the stones actually rip out part of the rail that is holding them in. This is where you have to use a laser welder to gently rebuild and reshape the rail and re-snap the stone into the grooves.

Long story short, I wouldn't recommend don't taking in invisible set jewelry to repair or resize. It's not worth the potential trouble. -*Brett Northcutt, Model Director*

**Does anyone have a good technique for repairing a bracelet (14kt) with macaroni-style links? Thanks.**

I'm assuming it's the hinge pin that needs to be repaired. Make a slight chamfer from the inside of each hole in the link using a ball burr. Cut a pin with a dimension that will go through the hole for the links. Make a slight ball on one side of the hinge by heating up with the torch. Slide the hinge pin through the hole and on the receiving side laser weld the pin to the inside of the link, or solder the pin from the inside.  
*-Shane Guidry, Director of Stone Setting*

**I have a client who wants a handmade, hammered 14kt bangle, which is not something I normally make. A couple of questions: If I start with 2mm thick stock, about what length do I need to start with to hammer it up to 7.5 inches, with about 1.5mm being the finished thickness? Also, is 7.5" a kind of "standard" women's bangle bracelet length? Thank you tons!**



**86087**

Use a 2mm thick x 7" flat stock". Take your ball peen hammer and make more of a point to where it's not so rounded. This will help with reducing expansion/length of the bracelet. Anneal stock before beginning hammer finish. This also will reduce expansion/length of the bracelet. Hammer stock until hammer finish is complete simultaneously checking the thickness and length as you go. Once complete, anneal and round out bangle using a nylon hammer on a bracelet mandrel. This is for a hinged bangle or closed loop bangle. For an open bangle, you could get away with using a 6" length piece of stock. *-Shane Guidry, Director of Stone Setting*

Anything we missed? If you have a question, let us know! We'll work to help you get the answers you need.