



**Jewelry**  
**Making**  
DAILY

# 4 Free Metal Clay Jewelry Projects:

Make Jewelry with  
Precious Metal Clay, Art Clay  
and Other Metal Clays

## MIXED METAL CLAY EARRINGS

BY HADAR JACOBSON



3

## WIRE WRAPPED METAL CLAY BOUQUET

BY PAULA BASTIAN-DE LEON



9

## TEACH YOUR OLD TOOLS NEW TRICKS

BY HADAR JACOBSON



18



6

## SWEETHEART GEM PENDANT

BY LIS-EL CROWLEY



15

## MARRIED METAL CLAY RING

BY NOËL YOVOVICH



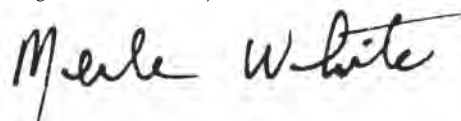
**NOW YOU CAN MAKE  
YOUR OWN** real metal jewelry  
using silver, copper, bronze, or steel  
(even gold) without sawing metal  
sheet or soldering pieces together.  
Making jewelry with metal clay combines  
the accessibility of clay with the look,  
feel, and value of precious metals and  
nonprecious, too.

Metal clay is the revolutionary jewelry medium introduced to the jewelry making public in the mid 1990s. Consisting of a binder in which fine bits of metal have been suspended, the material is worked like clay, then fired to burn off the binder, leaving an object of silver, gold, copper, bronze, or steel.

In this fabulous e-book, *4 Free Metal Clay Jewelry Projects: Make Jewelry with Precious Metal Clay, Art Clay and Other Metal Clays*, you'll find four metal clay jewelry making projects that demonstrate how to set a gemstone in metal clay, how to combine different metal clay metals and how to combine metal clay with wire wrapping. You'll learn how to make earrings, pendant necklaces, pins, and rings, and how to use silver, copper, bronze, and steel metal clays.

Start with simple mixed metal earrings that dramatically accent steel metal clay disks with bronze metal clay centers. Add the sparkle of a brilliantly colored, bezel-set CZ to a pendant you can make with a single coil of silver clay. Create a group of silver clay flowers using an origami-inspired technique, then wire wrap them into a charming floral bouquet pin. Move on to a married metals band ring project using silver metal clay with contrasting bronze clay. Make these projects as shown or apply the illustrated step-by-step instructions to create stunning metal clay jewelry designs of your own. You'll want to riff on these ideas even more when you discover the clever ways you can put 12 common jewelry tools and household objects to use with metal clay, too.

Whether you want to work only in metal clay or add it to your other jewelry making skills, you'll be sure to find these jewelry designs and projects intriguing, informative, and inspiring. Get started today!



**Merle White**  
Editorial Director, Interweave Jewelry Group

## Mixed Metal Clay Earrings

*Accent steel with bronze*

BY HADAR JACOBSON

### SKILLS

- metal clay use

### TIME IT TOOK

- about 5 hours

**A**fter firing, steel clay is significantly lighter than silver, copper, or bronze. This allows us to make thick, solid earrings without worrying about the weight.

### HOURLY BY HOURLY

Steps 1-12, 30 minutes; step 13, 2½ hours; steps 14-15, 5 minutes; step 16, 2 hours



OPENING PHOTO: JIM LAWSON  
PROJECT PHOTOS: BY HADAR JACOBSON





## MATERIALS

Steel and bronze clay  
22-gauge nickel-chromium wire

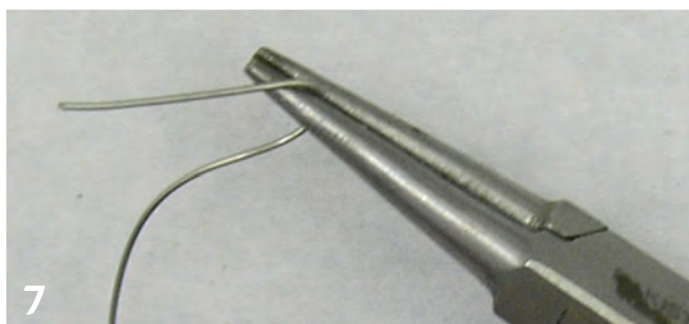
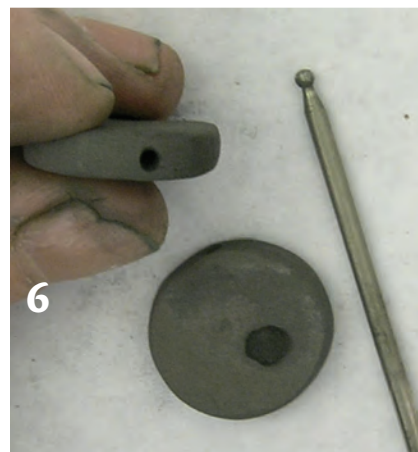
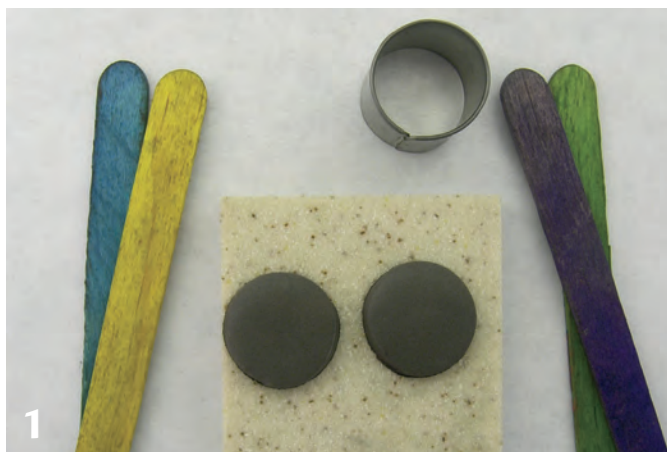
## TOOLS

**CLAY TOOLS:** Craft sticks or playing card, rolling pin, circular cutter, clay shaper

**OTHER TOOLS:** Set of diamond plated burs, round nose and chain nose pliers, sanding pad, kiln

## SOURCES

**TOOLS & MATERIALS:** Most of the tools and materials for this project will be available from well stocked jewelry supply vendors.



**PHOTO 1** Roll a layer of steel clay, 2 craft sticks (16 cards) in thickness. Cut 2 circles out of the layer, using a circular cutter,  $\frac{3}{8}$ " in diameter. Dry the circles.

**PHOTO 2** Sand the circles smooth using a fine (150 grit) sponge sanding pad.

**PHOTO 3** Find a diamond wheel bur that looks like the one in the photo.

**PHOTO 4** Use the burr to drill one hole in each circle.

**PHOTO 5** Move the bur around the contour line of the hole to create an undercut.

**PHOTO 6** Enlarge the undercut by drilling inside the hole.

**PHOTO 7** Using the smallest ball-head diamond bur, drill a hole at the top of each earring.



**PHOTO 8** With round nose pliers, bend a 22ga nickel-chromium wire into a U shape.

**PHOTO 9** Hold the U shape with the narrow part of the pliers jaw. Using chain nose pliers, twist the 2 "legs" of the U shape tight.

**PHOTO 10** Cut the twist to about 2mm length.

**PHOTO 11** Insert the twist into the top hole of the circle.

**PHOTO 12** Seal the hole with clay and dry.

**PHOTO 13** Fire the earrings in carbon, at 1800°F for 1 hour.

**PHOTO 14** Fill the holes with bronze clay. Make sure the clay goes deep into the undercut. Dry.

**PHOTO 15** Sand off the excess clay.

**PHOTO 16** Fire the earrings in carbon, at 1550°F for 1 hour.



HADAR JACOBSON is a metal clay artist and instructor. She has published three books about metal clay and manufactures her own brand of copper, bronze, and steel clay. You can see her work or read her tutorial blog about base metal clays at [www.artinsilver.com](http://www.artinsilver.com).



# Sweetheart Gem Pendant

*A simple design with coils and a touch of sparkle*

BY LIS-EL CROWLEY

## SKILLS

- Setting a stone in metal clay fabrication
- Rolling a coil
- Forming and attaching coil to stone setting

## TIME IT TOOK

1 hour plus drying and firing time



**Y**ou can easily make this sweet little pendant with a few basic metal clay skills. First you will create a bezel for the cubic zirconia using lump clay. This will be dried and refined. Then you will roll a long, thin, tapered coil you will form around the bezel-set CZ and join with water.

After firing, polishing and patinating, you will have a lovely piece to wear or give as a gift. You'll want to make several in different sizes and colors after you master the basic techniques.

OPENING PHOTO: JIM LAWSON; PROJECT PHOTOS: LIS-EL CROWLEY

## CREATE THE BEZEL

**PHOTO 1** Determine the depth of your cubic zirconia (CZ) by using playing cards or thickness guides. Then add one card or guide more for the depth of the bezel.

Place your guides or cards on a work surface and roll about 3 grams of clay into a ball. Place the ball of clay between guides or cards and use the coil roller to press the clay down to the level of the guides or cards. This will create a disc.

**PHOTO 2** Use a drinking straw or hole cutter that is a little smaller than the diameter of the CZ to cut a hole in the center of the clay. Remember to reclaim the clay left inside the cutter or straw.

**PHOTO 3** Place the CZ into the hole, point down.

Make sure it is centered and even, and then push it down with the coil roller until it sits under the surface of the bezel. The bezel should come up around the very edges of the CZ.

**Note:** As the piece is fired and the clay shrinks, the bezel will “grab” the stone and it will be set very securely.

Set aside to dry. If you have a dehydrator, let the bezel dry for about 15 minutes. If not, let it air dry for at least 1 hour.

**PHOTO 4** Once the bezel is bone dry, sand and refine the circumference to make it smooth. You can also make it thinner or thicker, depending on your personal taste. Remember that the clay will shrink during firing, so you want to leave it at least 2mm wide.

### HOURLY BY HOUR

- 5 minutes for setting stone
- 5 minutes for rolling coil and attaching to stone setting
- 10 minutes for sanding and refining after piece is dry
- 5 minutes for brushing piece after firing
- 30 minutes in tumbler
- 5 minutes for applying patina and brushing off raised areas

### MATERIALS

- 8 grams low fire metal clay
- One 6mm fireable cubic zirconia
- Water
- Alcohol
- Liver of sulfur
- Snap-on bail or jump ring

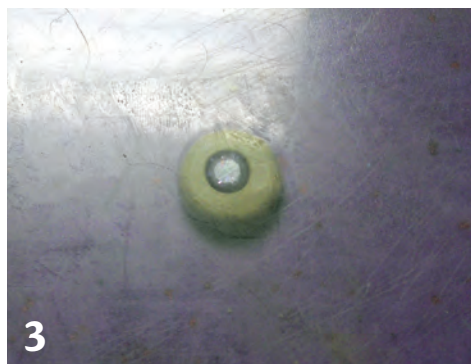
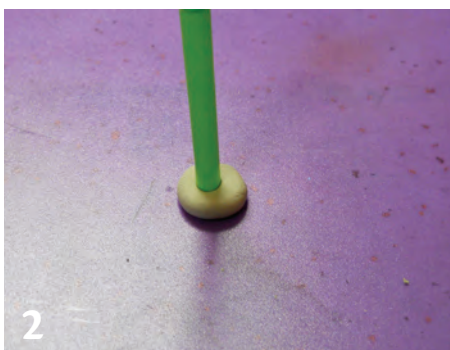
### TOOLS

**CLAY:** Cards or thickness guides, hole cutters or drinking straws, coil roller, work surface, brush, tapered silicone clay-shaper

**FINISHING:** Sanding pads, cotton swab, steel brush, microfiber polishing pad or fiber brush on Dremel (rotary tool)

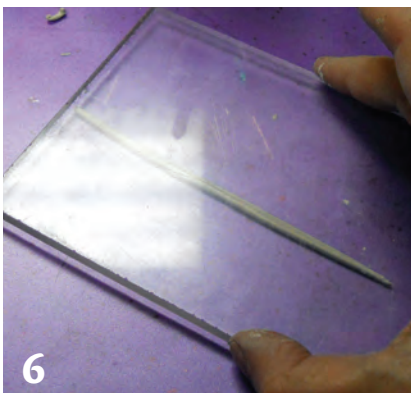
### SOURCES

Most of the metal clay, metal clay-working tools, and other tools and materials used for this project will be available from well-stocked metal clay and jewelry supply vendors.



## TIP

Save all your sanding dust to reclaim or add to your paste jar. It will add up!



## FORM THE PENDANT

**PHOTO 5** Take the remaining 5 grams of clay and begin by rolling it into a fat coil using your fingers.

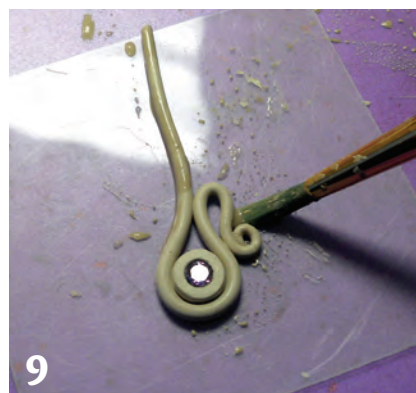
**PHOTO 6** Use the coil roller to roll a long, thin coil. Press slightly harder on the ends to taper the coil. Be sure to use really fresh clay for this process.

**PHOTO 7** Once the coil is rolled out, brush the entire surface with water to ensure it isn't too dry. Let the water soak in for about 2 minutes.

**PHOTO 8** Shape the pendant around the CZ by placing it in the bezel on a small work surface. Wet the circumference of the bezel and rewet the coil.

**PHOTO 9** Use the damp brush to place the coil around the bezel and create the shape of your pendant. Apply a small amount of pressure to make sure the coil bonds to the bezel.

**PHOTO 10** Keep wetting the coil as needed to keep it smooth and supple as you shape it. I find a silicone clay-shaper is helpful to manipulate the coil at this point. Set aside to dry.



Fire the piece according to the time and temperature for your clay.

Brush the cooled piece with a soft steel brush and tumble for at least 30 minutes.

If you like, you can patina the piece in liver of sulfur, and then brush the patina off the raised areas with a microfiber polishing pad or a fiber brush on a Dremel or flex shaft. Attach a snap-on bail or jump ring to create a pendant.

## REFINE, FIRE AND FINISH

Sand and refine the surface of your piece. If there are any small cracks, you can fill them in with paste, dry, and then sand again to get a smoother surface. Once sanding is complete, remove the resulting dust with a dry brush and clean the CZ with a cotton swab dipped in alcohol.

LIS-EL CROWLEY is a senior certified Art Clay instructor, artist and owner/operator of Art & Soul Gallery in Windsor, CT. A self-proclaimed creativity addict, she works in and teaches a variety of mediums and techniques including ceramic, metal, metal clay, glass, encaustics, and fiber.

## 5 WAYS TO VARY YOUR DESIGN

Try these simple variations on this design — then play around to create your own unique style!

- Use a larger or smaller CZ
- Texture the bezel
- Use multiple coils for the design surrounding the bezel
- Make matching earrings
- Make CZ rings with elaborate coil bands



## Wire Wrapped Metal Clay Bouquet

*A floral pin in the style of folded paper.*

BY PAULA BASTIAN-DE LEON

### SKILLS

- metal clay basics
- wire wrapping
- measuring
- assembly

Recently, I tried using metal clay sheet to create some origami flowers. The process was fairly simple and, as I was happy with the result, I started thinking about what other paper manipulating ideas I could apply to metal clay and focused on quilling.

Quilling is an ancient art form that creates design using narrow strips of paper that have been rolled, shaped, and arranged. It's very much like filigree, only with paper in place of metal. I applied a combination of these techniques with modern paper manipulating tools to metal clay to create this floral brooch. I recommend practicing origami and quilling techniques with paper before applying them to metal clay.



PHOTO OF FINISHED PIECE BY JIM LAWSON,  
ALL OTHER PHOTOS COURTESY OF PAULA BASTIAN-DE LEON





## MATERIALS

Silver metal clay: 40 grams  
Silver metal clay sheet 1: 6cm x 6cm  
Silver metal clay paste  
Olive oil  
18-gauge fine silver round wire: 3'  
22-gauge sterling silver round wire: 4'  
Pin back: approx. 1" x 3/16"  
3 Sterling silver crimp tubes:  
2mm x 2mm  
Bamboo skewer or manicure stick  
Liver of sulfur  
Distilled water

## TOOLS

**CLAY TOOLS:** non-stick or self healing mat, acrylic block or roller, playing cards or graduated measuring slats, round tip paintbrush, rubber tipped clay shaping tool, tissue blade or stainless steel potter's rib

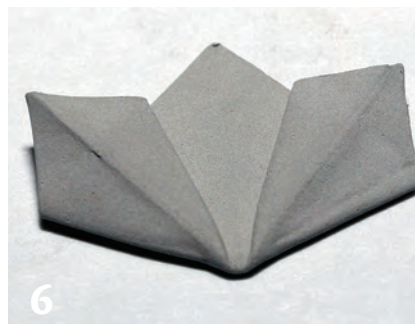
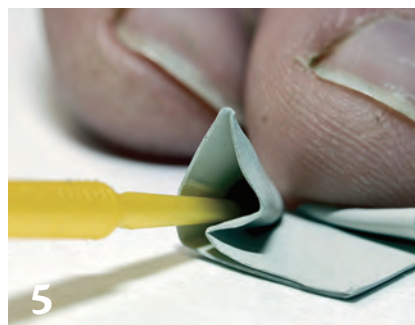
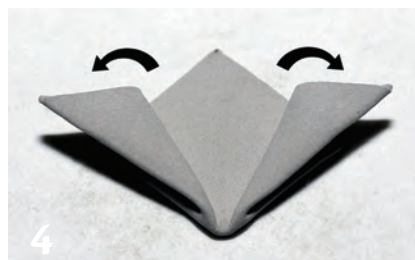
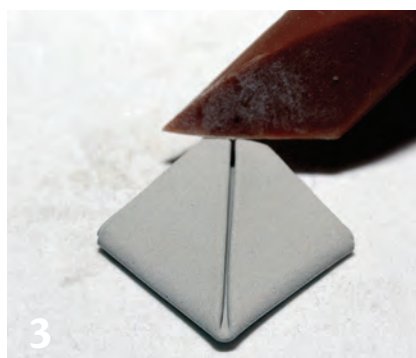
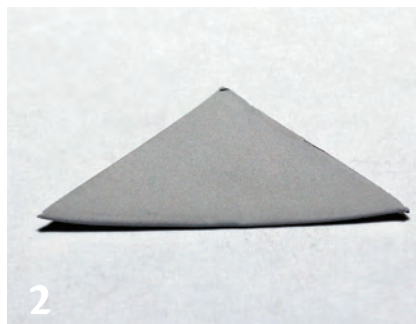
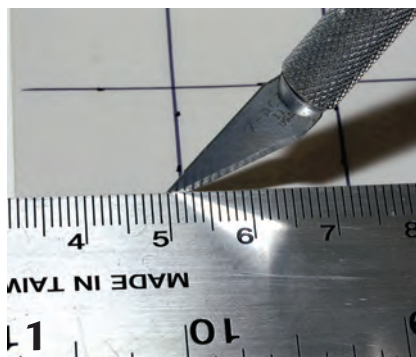
**HAND TOOLS:** craft knife, pen/pencil, ruler, 2-3 floral-shaped paper punches with design measuring approx. 15mm, pin vise/ hand drill and 1/16" bit, dapping block with punch, hammer, flat nose and round nose pliers, flush cutters, small jeweler's file

**FINISHING TOOLS:** fine grit sanding sponge, superfine grit paper, brass brush, paintbrush to apply patina, rotary or vibratory tumbler with stainless steel shot

**OTHER TOOLS:** kiln, mini hot plate (optional), small microwavable bowl or cup dedicated for liver of sulfur only

## SOURCES

**TOOLS & MATERIALS:** Most of the tools and materials for this project will be available from well stocked jewelry supply vendors.



## ORIGAMI FLOWER

**PHOTO 1** Measure six 2cm x 2cm squares on metal clay sheet. Cut out squares through packaging with craft knife.

**PHOTO 2** Fold bottom corner to top to create a triangle.

**PHOTO 3** Fold right corner to meet middle corner. Repeat same fold with left corner to make a square.

**PHOTO 4** Fold same points down so their edges line up precisely with outside edge of square.

**PHOTO 5** With soft, blunt tip, gently open one flap just created and press flat. Repeat on other side.

**PHOTO 6** Fold top triangles down toward you, keeping them level with edges of paper.

**PHOTO 7** Using creases made earlier, fold back (inward) triangles on right and left sides.

**PHOTO 8** Apply small amount of metal clay paste to top of newly made triangle edges, fold edges inward to make a petal, and press together for a minute or two until they stay closed.

**PHOTO 9** Make 5 more petal sections, pasting 3 together at a time. Use a hot plate or allow plenty of time for paste to dry thoroughly for easy assembly of flower.

**PHOTO 10** Paste together both sets of 3 to make a flower with 6 petal sections and a hollow center.

**PHOTO 11** Cut a 4mm x 60mm strip of clay sheet and roll into a spiral.

■ Check fit of spiral by temporarily placing it into the open space in the center of the flower. If it is too small, cut more of the sheet into strip and attach it to the end of the spiral with a drop of water as glue. Continue rolling the strip into the spiral until it is large enough to fit into the center of the flower snugly. If the spiral is too large, simply unroll it to the proper size and cut off the excess.

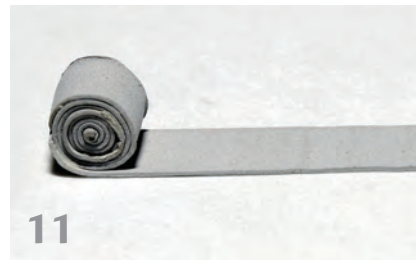
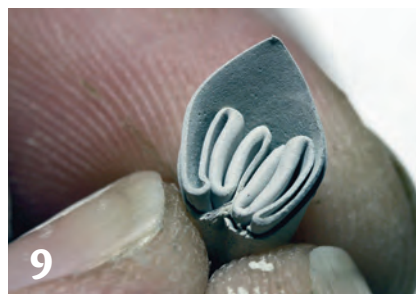
**PHOTO 12** Use a drop of water or paste at very end of spiral to close it. Apply paste to bottom of spiral and inside center of flower. Place spiral in flower center using tweezers or whatever helps to wedge in gently. Dry flower on hot plate.

**PHOTO 13** Measure and cut a 4¼" length of fine silver wire. Using flat nose pliers, grab wire about ¼" down and make a 180° bend. Use pliers to flatten bend as much as possible to create more surface area to fuse with clay. Dip bent end of fine silver wire into jar of paste and swirl around to get good coverage.

**PHOTO 14** Gently insert wire with paste on it into hole in bottom of flower until there is resistance and stop. Immediately set piece on hot plate to dry.

■ If the hole is closed or too small for the wire to fit, you may need to use a small needle file to open the hole up a bit. Do not over-enlarge the hole. You want a fairly snug fit, allowing the wire stem to fuse to the inside of the flower. When bone dry, add paste as needed to correct imperfections.

Before firing, finish flower by sanding. Start with fine grit, then use extra fine for a smooth finish.







## QUILL A DAISY

■ It is not important to be precise. The goal is to make a tool that will hold the clay so it can be rolled without being heavily marred. The advantage of using a bamboo skewer is that it is flexible and therefore grabs the end of the clay. However, you must let the clay dry thoroughly before attempting to remove the stick or you will lose the inner spiral of the flower.

**PHOTO 15** With 5 grams of metal clay, roll out a snake about 3" long on acrylic block.

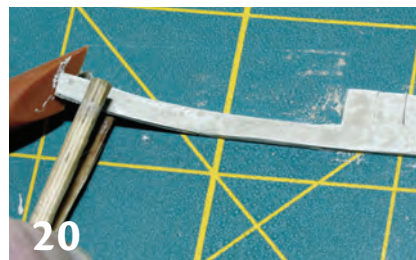
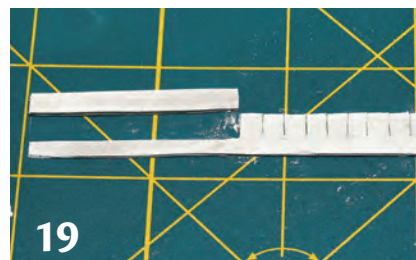
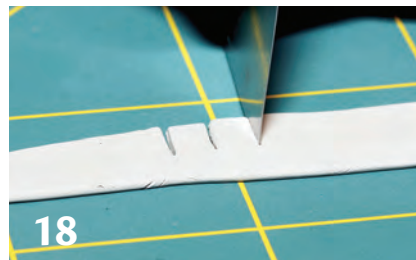
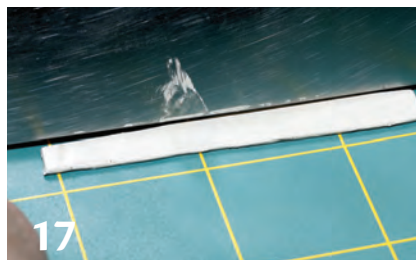
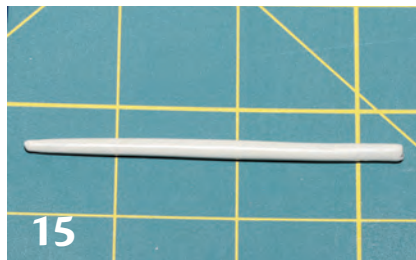
**PHOTO 16** Using playing cards or graduated slats, maintain a 4 card thickness and flatten "snake" with acrylic block or roller.

**PHOTO 17** Even out edges by cutting off rounded ends to create a relatively even strip of clay. I choose to eyeball rather than measure for this step.

**PHOTO 18** 1" in from left, begin cutting slits at top of strip of clay. They should be no more than  $\frac{3}{8}$ " deep from top and relatively evenly spaced.

**PHOTO 19** Cut away top  $\frac{3}{8}$ " of strip from 1" section without slits. This will become center flower spiral.

**PHOTO 20** Lift edge of strip. Slide into bamboo skewer. Let clay rest on work surface as you roll it clockwise. Continue to roll until there is 1 complete row of petals. Cut off excess petals and use paste to create a join. Put on hot plate until bone dry. Carefully remove bamboo stick. Repeat to make total of 3.



## QUILLING TOOL

Make a quilling tool using either a bamboo skewer or a manicure stick. Use a craft knife to cut a  $\frac{1}{2}$ " deep slit on the flat, round end of the skewer. Cut another slit about 1mm over from first one; as knife is at  $\frac{1}{2}$ " deep mark, try to whittle out section between cuts





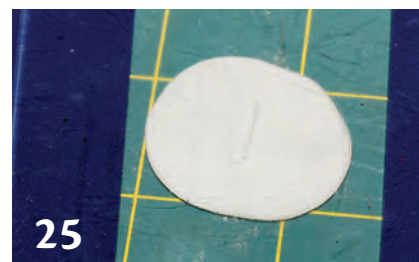
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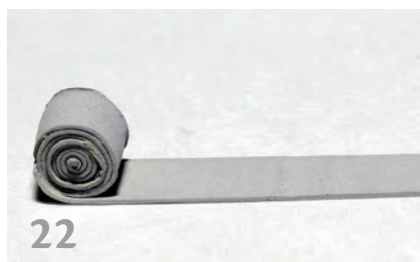
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25



22

**PHOTO 21** To make pistil, roll out very small (2-3 grams) snake of clay on acrylic block and flatten or roll out into strip about 2 cards thick, 5mm-6mm wide, and 40mm long.

**PHOTO 22** Roll strip up into a spiral cylinder. Add a drop of water to keep closed and set aside to dry. Make 3.

## BASE AND STEM

**PHOTO 23** Use distilled water to dampen bottom side of quilled daisies and flower pistils with a paintbrush.

**PHOTO 24** Using about 3-4 grams of clay, make a small ball and push it into dampened bottom of flower piece. Smooth seam with a moderately wet paintbrush.

Cut six 4¼" lengths of fine silver wire. Follow stem instructions. When bone dry, smooth and refine all pieces using a fine grit sanding sponge. Place on kiln shelf for firing.

**PHOTO 25** Prepare paper punches by using a toothbrush to apply a few drops of olive oil to them. Roll 10 grams of clay into a ball. Use acrylic block to press down on ball creating disk shape 3-4 cards thick.

**PHOTO 26** Slide disk into punch just as you would a piece of paper.

■ Occasionally, I have had to pry the punch open a little bit in order to fit the clay in. This hasn't been a problem because most punches are metal inside a plastic housing.

**PHOTO 27** Punch out shape and remove excess clay. After drying, drill a hole in center of each piece. Refine as needed and place on kiln shelf for firing.



26



27



**PHOTO 28** Fire all pieces in kiln at 1650° F for 2 hours. Carefully bend out petals of 3 quilled daisy flowers with flat nose pliers. Burnish fired pieces in tumbler filled with steel shot. Shape petal sets with dapping block as desired. Next, slide 2 petals onto stem of quilled pistil followed by a 2mm x 2mm crimp bead.

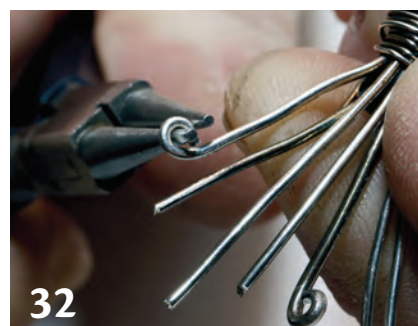
**PHOTO 29** Push crimp bead up stem so it will hold petals in place when compressed. Repeat with remaining pieces.

**PHOTO 30** Arrange 7 flowers into a bouquet. With 22ga sterling wire, begin wrapping stems of bouquet starting just under flowers. Wrap wire very tightly several times around stems before placing pin back finding directly onto wraps.

**PHOTO 31** Continue wrapping wire around stems and pin back, moving downward to secure finding into position. When it feels secure and you are happy with way it looks, cut wire and tuck end into back of piece.

**PHOTO 32** Trim stems at varying lengths. Use round nose pliers to create a simple loop at end of each wire. Apply liver of sulfur to entire piece, then burnish once again in tumbler.

PAULA BASTIAN-DE LEON is a metalsmith student in San Antonio, Texas. Her work has been published in *Step by Step Wire Jewelry* magazine as well as the 2009 *PMC Guild Annual*.



## VARY TEXTURE OR COLOR

Using texture sheets on silver, bronze, and copper metal clay gives an opportunity to modify the project as well as add color to the flowers.





## Married Metal Clay Ring

*An experiment in combining metal clays*

BY NOËL YOVOVICH

### SKILLS

■ intermediate metal clay



PHOTO OF FINISHED PIECE BY JIM LAWSON.  
ALL OTHER PHOTOS COURTESY OF NOËL YOVOVICH

When the new bronze and copper clays were introduced, the mental image of multi-colored metal pieces, combined as easily as different colors of polymer clay, immediately came to mind — and was just as immediately quashed. Interactions among the metal clays, when fired together, are complex and not always attractive.

When silver and bronze clays are fired together, neither clay behaves as expected, although the bronze and copper are more compatible than any of the other clays. Their firing conditions are similar, and though they shrink at different rates, they do stick together in firing when combined in their

unfired state, so pieces using these two clays may be more practical than other combinations. But the process is still not without firing difficulties, and the contrast between them is somewhat limited.

Combining copper and silver clays works very well, within limits. It is necessary to fire the copper first, then add silver and refire. The two clays do not fuse together, so they will simply separate after firing if not linked mechanically.

This project produces results similar in appearance to traditional “marriage of metals” and gets around the special requirements of combining two metal clays with some sneaky engineering that won’t show

in the final result. The copper parts that are visible at the surface are linked by additional thin coils that end up buried, unseen, within the silver. It is given extra structural strength by the use of a seamless fine silver ring liner, which also eliminates any uncertainty about the final size of the ring.

It should be noted that when a piece of jewelry combines dissimilar metals such as copper and silver, and is worn in intimate contact with the body, as a ring must be, the copper will gradually etch away. How rapidly this occurs depends on the body chemistry of the individual.



## MATERIALS

Copper clay  
Low-shrinkage silver clay  
Fine silver ring liner  
Lavender oil (optional)  
Baldwin's or similar patina

## TOOLS

**LAYOUT TOOLS:** ruler and pen

**METAL CLAY TOOLS:** small pointed artist brush, programmable kiln, firing pan, coconut charcoal, tissue blade or craft knife

**HAND TOOLS:** chain nose pliers, files, rotary tool with bits and/or belt sander

## SOURCES

**TOOLS & MATERIALS:** Most of the tools and materials for this project will be available from well stocked jewelry supply vendors.

**METAL CLAYS:** Rio Grande,  
[www.riogrande.com](http://www.riogrande.com)

**BALDWIN'S PATINA:** Reactive  
Metals Studio, Inc.,  
[www.reactivemetals.com](http://www.reactivemetals.com)

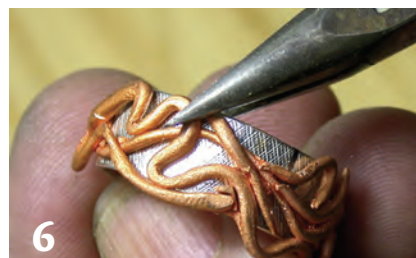
**PHOTO 1** Measure width and outside circumference of your ring liner; multiply measurements by 1.15. Draw a box using those dimensions.

■ This represents the size to make your copper "squiggles," allowing for about 15% shrinkage. The shrinkage is less on an open form such as the thin "wires" you will be constructing than it would be for a solid copper form, which will shrink closer to 20%.

**PHOTO 2** Roll out very thin copper coils, allowing some areas to remain thicker than others for visual interest, and arrange them within box. They should touch in spots, also leaving room for silver to fill in between. Allow copper to dry completely.

**PHOTO 3** With fresh clay, reinforce contact points. Apply a little water with brush, then pack small amount of clay onto backs of joints to strengthen them.

**PHOTO 4** Roll out coils as thin as possible. Brush back of assembly with a little water, then lay thin coils across larger coils and gently press them on.



## FIRING COPPER CLAY

There is no one schedule that guarantees success for all kilns, but the procedure that seems to work best is to place copper clay pieces on a kiln shelf or firebrick for the first part of a two-phase firing. Ramp at 500°F per hour to 560°F and hold for 15 minutes. When the pieces are cool enough to allow handling, carefully place them in a stainless steel firing box on a layer at least 1" thick of coconut-based carbon, and cover them with more carbon at least 1" deep. Cover the pan, place it on stilts or bricks in the back of the kiln, and fire at 1000°F per hour to 1700°F and hold for three hours.

Do not flatten them, just hold them in place for a few seconds to allow them to adhere.

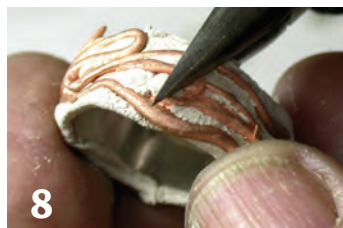
■ These coils will prevent the larger coils from popping out of the silver, so use them especially to anchor small pieces or loose ends.

**PHOTO 5** Once assembly is stiff enough to handle, it is ready to fire.

■ Your piece should emerge from the firing pan bright and shiny, and about 15% smaller. It is a good idea to measure before and after firing as a way to check that the clay has sintered.

**PHOTO 6** Carefully bend copper assembly bit by bit to fit around ring liner. Press all parts down to lie close to liner.





**PHOTO 7** Roll out about 8 grams of low-shrink silver clay into a 2mm thick strip a little larger than box you drew. Wrap it around ring liner, moisten overlap, and smooth it together.

**PHOTO 8** Gently open copper assembly just enough to fit it over silver, then press it back together, sinking it into silver clay. Press down with pliers as needed to make it fit again, then smooth and compress silver clay around copper.

**PHOTO 9** Brush silver lightly with water. Roll out another strip of silver clay and wrap it over top of ring, pressing it onto previous layer. Try to eliminate all air pockets.

**PHOTO 10** Trim silver clay fairly evenly around ring, leaving enough to cover edge of liner to prevent silver clay from shrinking too much in width. Clean off any clay that remains on inside of liner. Allow ring to dry completely. Fire by your preferred method.

■ Being buried completely in silver clay will protect copper from oxidation.

**PHOTO 11** After firing, ring will look fairly lumpy.

**PHOTO 12** Grind ring down to expose pattern of copper coils, beginning with coarse file, rotary tool, or belt sander.

**PHOTO 13** Once you begin to see pattern emerge, switch to finer grit. Shape contours of ring into a smooth, pleasing shape. Continue working through finer grits until you reach your desired finish.

**PHOTO 14** Apply selective patina to darken only copper for best contrast.

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## REPAIRING PITS

**PHOTO A** When you have finished shaping the ring, you may find that there are pits from air pockets or bits of copper that broke loose.

**PHOTO B** Make some oil paste by adding a drop or two of lavender oil to moist clay, or instead of part of the water if rehydrating. Press some of this paste into any flaws in your ring and refire for no more than 10 minutes or torch-fire, then sand the patches smooth.





# Teach Your Old Tools New Tricks

*Jewelry or household tools that make using metal clay easy*

BY HADAR JACOBSON



ALL PHOTOS: HADAR JACOBSON

Above: Gears, PMC®, copper and bronze  
Below: Scroll, PMC® and carnelian

## SOURCES

Most of the metal clay, metal clay-working tools, and other tools and materials in this article will be available from well-stocked metal clay and jewelry supply vendors.



When I converted to PMC® after years of practicing traditional metal fabrication, I was left with a lot of tools that I didn't know what to do with. Being crazy for tools, especially small, low-tech ones, I wouldn't give any of them away. Over the years I have found a use for some of them with metal clay, while others are still waiting for their calling. Anybody got an idea what a drawplate can be used for in PMC®?

I routinely use regular jewelry-making tools: saws for sawing tubes, files for carving and enlarging differently shaped holes, sponge sanding pads to smooth out surfaces, a hand drill and drill bits to start holes, and diamond bits to carve lines and grind off dried clay. Here is a collection of short but sweet suggestions for repurposing your traditional jewelry tools for use with PMC®. However, not all of the tools I use were originally designed for jewelry making. Here's a dozen of my favorites.



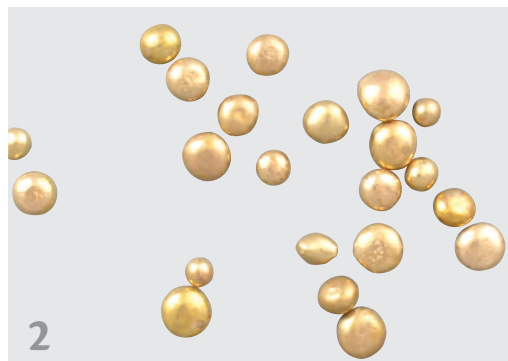
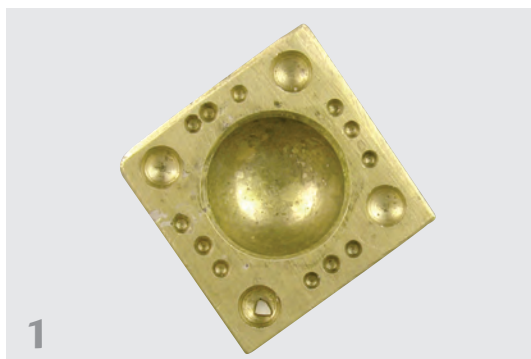
**1. DAPPING BLOCK** My favorite tool is the doming block, also known as a dapping block or die. This one is the smallest I could find, less than 2" in diameter, and made of brass. It's not the strongest for doming sheet, but perfect for making small PMC® half-balls. I fill the block's cavities with clay until flush with the surface and let them dry. After evaporation, the clay shrinks a bit and comes out easily, resulting in a smooth, perfect half-ball. These are preferable to whole spheres, because a larger contact area bonds better with the surface of a piece, and is less likely to detach in the finishing process. Tiny half-balls can also be used to simulate rivets, screws, or granulation.

**2. CASTING GRAIN** Casting grains can be used as laboratory grown cabochons that can be fired in the kiln. Press them into the wet clay until their top is flush with the surface, otherwise they will detach. The grain will rise above the clay surface during firing. I

have used brass, bronze, or copper casting grains, but gold under 22K is not recommended.

**3. DRINKING STRAWS** I keep drinking straws of all sizes for making tubes of various diameters: coffee stirrers, cocktail stirrers, soft drink straws and coffee-shop straws. Soon, metal clay artists will no longer have to depend on straws, because I have partnered with Mardel Rein at [www.cooltools.us](http://www.cooltools.us), to develop "Hadar's Tube Extruder," a new tool which should soon be on the market. It will be able to extrude tubes of different diameters, for bails, hinges, etc., and you will be able to make them ahead of time and have them ready for use when you are working on a project.

**4. TURKEY LACERS** Turkey lacers, those needles used to truss up the holiday bird, make good needle tools. Find them in the gadget aisle at any home kitchen or restaurant supply store.





**5. APPLE CORERS** I have found an apple corer can be used as a forming tool. Roll a snake, push it all the way down into the apple corer, and pull it out. You'll have a perfect, half-round "wire." Wrap this around a straw to get a half-round bead, or around a bigger cylinder to get a half-round ring.

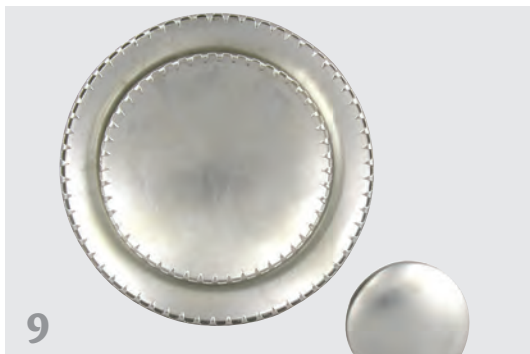
**6. CHEESE WRAPPERS** Like to eat Baby Bell or Gouda cheese? Save that highly soft and malleable wax coating. Shape the wax into any form, and wrap it with a metal clay layer. I found this wax to be perfect for free-form beads, but be sure to let the piece dry at room temperature. Drying it at higher temperatures may cause the wax to melt and spill on the clay before it hardens. When fired, the wax inside the clay will burn out, or you can melt the wax with a candle before firing a dried piece and pour it out through a hole in the shape.

**7. CLAY SHAPER** A tool I can't do without is a cone-shaped clay shaper, which I use like an extension of my finger. It has the same texture as skin and reaches into very tiny spots. The specific shaper I use (firm, tapered, size 0) is expensive and hard

to find, so I'll often supply my students with a pointed silicone polisher for flexible shaft machines, or with a dental pick known as a gum stimulator, available from any health and beauty aids supplier. If you don't want to buy the entire dental tool, you can mount the readily available refill tips on a wood stick.

**8. SALON SHAPER** My drugstore favorite is the salon shaper. Originally designed as a nail polisher for faux nails, it runs on two AA batteries. As I can't leave any rotary tool alone, I've experimented and found that a certain brand of this product (Google™ "salon shaper" and look for "As Seen On TV") will fit a 3/32" shank bur or mandrel. I use it to mount a diamond-plated bur and can enlarge holes in dry clay or engrave deep lines with it. This tool is not strong enough for finishing fired metal clay, but it's ideal for small jobs on unfired clay. Just hold it in your hand like a pencil.

**9. COVERED BUTTON BLANKS** Half-ball covered button blanks are usually used with decorative fabric and sewn on garments. I've found that they will cut wonderful, serrated edge circles and come in several different sizes. I use them for cutting "gears."







**10. LACEMAKING BOBBINS** The decorative bobbins used for lacemaking will make beautiful molds. Since they are usually made of wood, I cover them with plastic food wrap. Encase them fully or partially with a layer of clay, and when it's dry, cut lengthwise with an X-acto® knife. Carefully peel off the clay and reveal the joint. Use standard PMC®, since PMC Plus® and PMC 3® are not very flexible and may break when peeled.

**11 AND 11A. IN THE HARDWARE AISLE** A major venue for unorthodox tools is the hardware store, more specifically, the plumbing department. PVC pipes make good rolling pins, but copper fittings are priceless. I love to integrate copper in my jewelry, and this is the place to find solid copper items, as opposed to the copper plated kind often sold in craft and hobby stores.

Plated parts will lose their copper color during firing. I use copper fittings such as T-joints, as well as coiled copper tubing, often sold by the foot and in various diameters. I cover the tubing with clay and fire with a torch. For this application, I use PMC+, since standard PMC will shrink too much and crack. To remove copper oxides, quench the piece immediately in water while hot.

**12 AND 12A. OVAL CUTTERS** The last tool in my armory was actually designed for use with clay: oval cutters. The cutting edge of the tool is oval, but the top (the part closer to the spring) is round. This makes for an unusual shape. Instead of using them for cutting I have used them as molds, and to make the funny earrings shown in Photo 12.

When I need an outing, new ideas, or time away from the studio, I'll first visit the recycle store (my favorite), then the craft store, then the hardware store, and finally the drugstore. And, as a compulsive catalog reader, both online and printed, I am always on the lookout for new uses for traditional tools or ways to make tools from the unexpected. So if you figure out what to do with your drawplate and some metal clay, please let me know.

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HADAR JACOBSON, creates her silver PMC® jewelry and teaches classes at her studio, Textures, in Berkeley, Calif. For more on her work, visit her Web site: [www.artinsilver.com](http://www.artinsilver.com).

