

Materials

Metal Clay by Mitsubishi Materials

PMC Flex

Aura Gold paste

Silver paste or slip

20 awg fine silver wire (20awg)

Teflon sheet

Nonstick spray

Small paintbrush

Jewelry pliers

Wire cutters

Roundnose pliers

Pointed clay-shaping tool

Craft knife

Thick fiber product (felt or board)

Kiln safety glasses

Kiln glove

Tumbler with varied shot

Miscellaneous

Thin, sharp scissors

(nail scissors work really well)

Baking sheet

Stainless steel tongs

Pan of cold water



Silver Bumblebee

Sculpt a pendant from silver clay and wire

By Catherine Randolph Hamilton

Objectives

- Attach pieces of lump clay using silver paste
- Incorporate fine silver wire into a metal-clay design for both form and function
- Apply gold paste to fired silver clay

This little bumblebee in silver and gold is as relevant as he is appealing. Complete with antennae and legs, he is a small tribute to our declining pollinators. While I chose to create a bumblebee, you can easily turn your bee into a honey bee by creating a more pointed, elongated hind section and omitting the texture on the body.

When doing sculptural work in metal clay, it can be helpful to plan out your project in a more forgiving medium. First, I sketched both a side and top view of a bee to gain an understand-

ing of the anatomy, then I made a polymer-clay prototype. This can be extremely helpful for future projects and production runs, as polymer clay hardens when baked, and can be used to create silicone molds.

Being less reflective, polymer clay is also easier to photograph. Some of the step photos shown here were taken of the prototype to better show the detailing.

Step 1: Coat the Teflon sheet and your fingers lightly with nonstick spray. Pinch off a pea-size chunk of PMC Flex and roll it into a ball. Slightly point one end. This is the bee's abdomen, or hind section.

Step 2: Pinch off a slightly smaller chunk of silver clay and roll it into a ball. Apply a thick coat of silver paste to the rounded end of the abdomen with a small paintbrush. Press the smaller ball into the paste to join the two lumps of clay. This new section is the bee's thorax.

Step 3: Pinch off a still smaller piece of silver clay and form a third ball for the bee's head. Apply silver paste to the thorax where you want to position the head. It shouldn't be directly opposite the abdomen, but slightly lower, so that the completed three-segmented body has a gentle curve to the overall design. Use your fingers to create a tiny, tapered point on the bee's head for the mouth.

Step 4: Using a pointed clay shaping tool, texture the bee's body and blend the seams together.

Step 5: Cut six ½-inch lengths of 20 awg fine silver wire with wire cutters for the bee's legs. Viewing each length of wire as though it were divided into quarters, use the jewelry pliers to bend each leg between the first two quarters and again between the second and third quarters.

Step 6: Dip the longer straight end of one wire leg into the silver paste, holding the other end with the jewelry pliers. Push the paste-coated end into the bee's thorax on one side, closer to the head. Coat the end of the next wire leg the same way and push it into the bee's abdomen, close to the join with the thorax. Coat a third leg and push it into the abdomen just behind the second leg. Repeat this process to add the remaining three legs to the bee's other side.

Step 7: Arrange the bee's legs so they extend down, and carefully apply a thick layer of silver paste to each leg, completely covering the wire and the surrounding silver clay. Allow the paste to dry and repeat until you have built up enough paste to provide texture and visual weight.

Step 8: Pinch off two very small bits of silver clay and roll them into balls. Place a dot of silver paste on each side of the bee's head and press the clay balls gently to the face to form eyes. Use the clay shaper to blend the edges to the face and coat the join lightly with slip.

Step 9: Cut two very small lengths of fine silver wire and bend them into shallow "V" shapes for the antennae. Dip one end in silver paste and push them into the bee's head between the tops of the eyes, angling out to the sides. Coat the protruding wire with silver paste.

Step 10: Pinch off two lumps of clay and press them into oval shapes. Shape them into wings with a craft knife and drag the pointed clay shaper down the clay to create grooves mimicking the veins of an insect wing. Apply a generous spot of silver paste to the top area of the bee's thorax where each wing will be placed.





Gently press the wings into the paste at the very tip where they connect to the body. Place the bee upside-down on the Teflon sheet and apply paste to the underside of the wings where they touch the segmented body, without applying pressure.

Step 11: Use the roundnose pliers to create a double loop of fine silver wire. Cut the end of the wire leading to the loop leaving a tail about 1/8 inch long (see photo). Dip the tail in silver paste and push the wire into the bee's thorax, very close the head. You may choose to push the hanging loop into the head itself, if desired. The loop must be really close to the bee's head, if not in it, or the bee will hang upside down — I had to bend the loop after firing to adjust my bee. Coat the loop heavily with silver paste, building up the paste where the loop meets the body.



Step 12: Allow the paste to dry, then slide the Teflon with the bee onto a baking sheet and place it in a regular oven. Bring it to 300 degrees F and let it bake for 20 minutes. When the bee has cooled, remove it and sand it very lightly, only if necessary — the legs are so fragile at this stage I prefer to refine the piece after firing rather than risk sanding.

Step 13: Place the bee on a piece of thick fiber product in your kiln and fire to 1,650 F with a hold of 2 hours. Put on your safety goggles and kiln glove if you wish to remove the silver bee from the hot kiln — the kiln must be preheated for the gold to be fired, so this saves electricity. Using stainless-steel tongs, remove the bee and quench it in a pan of cold water.

Step 14: Dry the silver thoroughly and apply three coats of Aura gold paste where you want the stripes to appear using a soft paintbrush, waiting approximately 20 minutes between applications.

Step 15: Bring the kiln to 1,560 F and put on your safety glasses and kiln glove. Use the stainless steel tongs to place the bee back on the fiber product. Fire at 1,560 F for 10 minutes, per the manufacturer's instructions.

Step 16: Remove the bee and quench it as before. Place the piece in a tumbler to bring out the shine. Your little bee pendant is ready to wear!



Advanced Methods

Silver is the ideal metal for this project for so many reasons. Not only does it bond easily with the 22k gold, it can also be patinaed to a variety of colors. Consider applying liver of sulfur in increments. Blackening all the silver and then surface polishing the wings will yield great definition in the veins. The wings can then be brought to blue or rose, if desired.

Catherine Randolph Hamilton works in a variety of media including fused glass, precious metal clays, chain maille, and oil painting. Her work has won awards and been featured in various magazines. More of her tutorials and a small selection of her work may be viewed at www.SilverArtGlassJewelry.com She welcomes your comments and questions at catherine@silverartglassjewelry.com Follow her on facebook at www.facebook.com/catherine.hamilton.9

Sources

Mitsubishi Materials: www.mmtc.co.jp/en/products/pmc.html






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