

# Gage's Negative Space Caning

by Holly Gage



*Create filigree, chambers for enamel or polymer inlay, and patterns easily duplicated for tessellating designs by combining Metal Clay and a combustible material that disappears after firing in a kiln.*

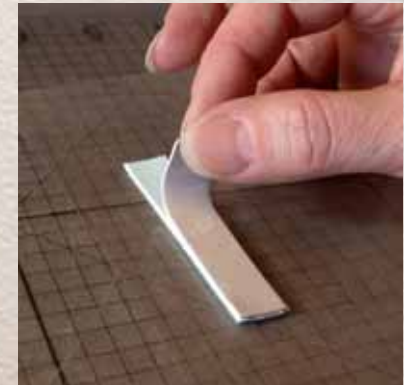
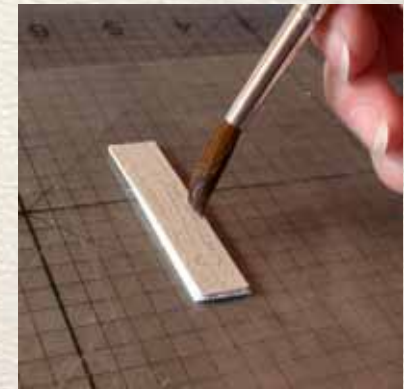
# The Basic Cane Making Process

*You'll need understanding of these general concepts and techniques before you begin to build your cane*

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**Combine the combustible material and Metal Clay to create your desired cane.**

- Brush a thin layer of water on the Metal Clay in between layers, so the two materials stick together and the Metal Clay stays hydrated while shaping the cane.
- **Adding to the basic cane.** Combine canes, various hand rolled, or extruded shapes to make more complex cane designs. Use the directions for “Assembly” and the “Dried Method” of slicing to follow.



# Combustible Materials

*Each combustible material has its advantage.*

*They must be COMPLETELY dried before firing in a slowly ramped kiln.*

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## Cork Clay

- Firm working conditions and support.
- Can be rolled as thin as (1) card thick.
- Creates an interesting texture on the surface on the Metal Clay.
- Can be sliced cleanly after refrigeration or drying.
- Dried canes are firm with a bit of give.



## Wood Clay

Similar to Cork Clay except:

- Smooth texture – no pattern left on clay.
- Dried canes are harder than Cork Clay canes.



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## Delight Paper Clay®

- Smooth texture
- Canes are more flexible -  
Not as stiff as Wood or Cork Clay.
- Canes tend to distort more easily when sliced.
- Can be molded around curved surfaces.
- White in color. Dot paper clay with non-toxic marker and knead to differentiate between the two clays.

## Creative Paper Clay®

- Not Recommended. Does not burn away.  
Would need to be chipped out after firing.

*I recommend using either Cork or Wood Clay  
when first trying this technique.*



# Metal Clay

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## **Suitable Clay Types**

Low shrinkage metal clays are suitable for caning

- PMC 3
- PMC+
- Low Fire Art Clay Silver

## **Clay Types Not Suitable**

High shrinkage metal clays are not suitable for caning because cracking will occur during firing

- PMC Original
- Art Clay

# Two Methods for Slicing Canes

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## 1. Refrigerator method

- Wrap cane in plastic and refrigerate until firm for 20 – 30 mins.
- Use a tissue knife and gentle sawing motion to slice canes so not to distort.
- Keep slices under plastic to retain flexibility.
- Drying canes can be re-hydrated with a bit of water. Let slice stand for 5 mins. or more.
- Canes can be used moist or dried.
- A thin film of Metal Clay on the combustible material when slicing is possible. Sand away later in the process.



## 2. Dried method

- Dry Cane completely.
- To speed up drying, put cane in a craft only toaster oven at 250 degrees until cane has no give when pressed with fingers or is dried throughout.
- Saw slices with jewelers saw and fine blade.
- For straight cuts, concentrate eyes to the spot the saw blade is going.
- Best method for complex canes.
- When cutting large canes - score each side of the cane with a 4 - 5 strokes of the saw blade for straight cuts.



# Assembly

- Metal Clay to Metal Clay contact is essential at strategic points. (referred to as the “Metal Clay to Metal Clay Rule”)
- Activate the binder by wetting contact areas.
- Use firm and gentle pressure, thick slip or lump clay to assemble.
- Smooth joined areas with a shaper tool, brush or finger.
- Reinforce striped canes at top and/or bottom to prevent “floating” Metal Clay parts after combustible material burns away in kiln.
- Add a border or a base to maintain stability as needed for delicate work.



# Clean and Sand

- Sand Metal Clay and combustible material using coarse sandpaper.
- Use progressive grits of polishing paper to achieve a professional finish.
- Brush all Metal Clay dust from the surface.
- Dust left on combustible material will fire into a thin layer of Metal Clay that will need to be removed with a pin tool or file.

*Note: Mixed Metal Clay and combustible scraps can be chopped then purified by being sprinkled on a kiln shelf and fired. The “Pixie Dust” can be used to embellish other projects.*



# Firing

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- Ramp kiln slowly to 800 ° F to burn away combustible material.
- Fast ramp can cause cracks in Metal Clay.
- Fire to 1650 ° F for 2 hours or as high as your project will tolerate.

# Working Conditions

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- Work as clean as possible.
- Beware of opposing material particles contaminating each other.
- Use three separate workstations:
  - for combustible materials
  - for Metal Clay
  - for combining the two and sanding.

Each station should have its own roller, work surface and cutting utensils. If only one work station, clean between alternating uses.

# Making Canes

*Now that you understand the basics, let's make some canes!*

## Spiral Cane

- Roll sheet of Metal Clay and sheet of combustible material.
- Stack alternating Metal Clay and combustible material. Brush with water in between layers.
- Roll stack into a jellyroll.
- Roll cane under flat acrylic sheet to help sheets stick together.
- Shape the cane in many ways.
  - Leave the cane rounded.
  - Square up the sides.
  - Pinch one or both ends.
  - Alter shape with tools.
- Refrigerate or let dry, cut, and assemble.



*Note: Large or loosely constructed spirals need additional support. Support with a base or strategically placed design elements.*

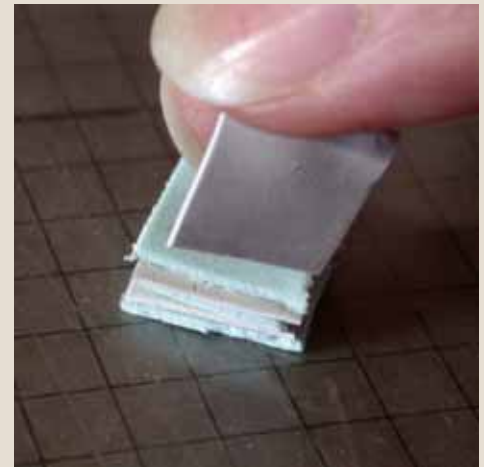
## Hollow Shaped Canes

- Extrude a tube of combustible material using various templates from your extruder. Let dry.
- Wrap sheet of metal clay around it smoothing the ends together.
- Refrigerate or let dry, cut, and assemble.



## Layered Striped Cane

- Alternate layers of Metal Clay and combustible material sheets as in the spiral cane.
- Vary the thickness for the stripes as desired.
- Shape the cane.
  - S-shape.
  - V-shape.
  - Cut triangles.
  - Alter shape with tools.
- Use “Metal Clay to Metal Clay Rule” - Reinforce at top bottom or base as needed, since combustible material separates Metal Clay stripes leaving “floating” parts after firing.
- Refrigerate or let dry, cut, and assemble.



# *Before and After*

## **Hollow Lentil**

Delight Striped Canes, Cork Spiral Canes, Rolled Balls

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# Complex Caning

Complex Cane Log - Wood Clay Striped and Spiral Canes, Extruded Tubes and Snakes, Alexandrites, Rolled Balls

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# Filigree Flower with Cubic Zirconia

Delight Hollow Triangles, Pinched Spiral Canes, Accent Balls

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# Spiral and Pearl Pendant

Cork Clay Spiral Canes and Hollow Triangles, Rolled Balls

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# Spiral and Polymer Inlay Pendant by Cindy Silas

Cork Clay Spiral Cane pressed with tool

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[www. CindySilas.com](http://www.CindySilas.com)

# Lampwork Pendant

Cork Clay Spiral Canes and Hollow Triangles

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# Rainbow Titanium Pendant

Wood Clay Striped Canes, Rainbow Crystalline Titanium and Cubic Zirconia

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