

# Working With Metal Leaf

by Marty Horowitz & Lou Tilmont

**M**etal leaf, also called schlagmetal, Dutch metal, or composition leaf, is used to simulate the appearance of genuine gold leaf. It does not contain any gold, and in most cases is composed of an alloy of copper and zinc.

Metal leaf is commonly bought in 5½" x 5½" sheets. These sheets are sold in books, with the books sold in packs of 20. This means that there are 500 sheets per pack. Metal leaf can also be purchased in rolls ranging from ¼" to 6" in width.

Ninety-nine percent of the moulding manufactured today uses metal leaf, not real gold, simply because metal leaf is less expensive.

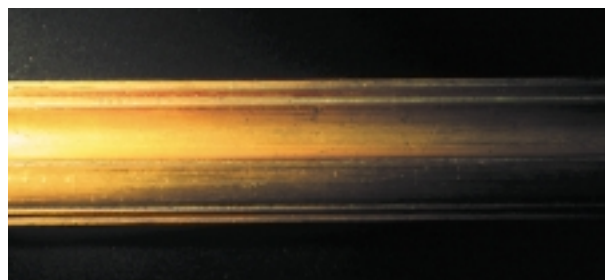
Although inexpensive and relatively easy to handle, metal leaf is not without limitations. It is less reflective than gold, and tends to look flat. It must be carefully sealed in order to ensure that it will not tarnish over time. Because of this the gilder must work hard to achieve the look of real gold. The following is a procedure for achieving a gold metal leaf finish.

## Preparation

The first step in achieving a good finish is to properly prepare the surface which you are to gild. The moulding should be finely sanded to a smooth surface.

Since we are simulating the traditional gilding process, we will use casein paint instead of the traditional gesso and clay. Casein paint sands beautifully, creating a smooth surface. The smoother the surface, the better the finished job will look. This can not be emphasized enough!

To maintain a traditional gilded appearance, use white casein to simulate gesso, raw sienna casein paint for yellow clay and burnt sienna casein paint for red clay. Of course, actual gesso and clay can also be used with metal leaf, but this is not necessary.



*Shown here is the finished frame.*



*White casein paint simulates gesso; burnt sienna (on high areas) and raw sienna (on low areas) simulate bole.*



*Wunda Size, a synthetic-based size, is applied with a foam brush. This sets up in about 15 minutes.*



*This book of leaf is pre-cut with a razor blade and straight-edge on a hard surface.*

## Applying the Casein

With a soft brush, apply two or three coats of white casein and sand with 220 grit paper until smooth. Then apply two coats of raw sienna. Next, brush on one or two coats of burnt sienna for the high areas. Let each coat dry before applying the next coat.

Once dry, sand the frame with 220 grit paper until you have a



*The leaf is rolled onto the surface of the moulding. This technique will eliminate most breaks in the frame.*

smooth finish. Remember what was said before: the smoother the surface, the better the finished appearance.

## Sealing the Casein with Shellac

Next, seal the casein surface. This will prevent the casein from absorbing the size. Although shellac is the example given here, other sealers, such as spray acrylic sealer or lacquer sealers, can be used.

The shellac should be a three pound cut, diluted with 50% denatured alcohol. Apply two or three coats with a brush, then let it dry.

## Size

The size will adhere the metal leaf to the moulding. There are three types of size: slow or quick oil size, and synthetic size.



*Begin at the inside edge of the moulding.*

Quick size sets up in two to four hours, depending on the weather. You can test the size with the hair on the back of your finger. If you feel a slight tack, the frame is ready. For instance, here in Santa Fe, our quick size will be ready to gild in two hours. In New York, it can take three to four hours. Remember, if you gild too early and your size is too wet, your leaf may crawl. The biggest mistake new metal leafers make, is gilding too early.



*After the inside edge, move on to the panel.*

In addition, as its name implies, quick size sets up quickly, so the window of opportunity can be too short for large projects. In addition, because of the drying agent in the quick size, the metal leaf will not have as much shine.

We prefer slow size, which is ready in about 12 hours and has a longer window of opportunity—up to two days. (Again, do not apply the gold too soon!)

## Applying Oil Size

Brush the oil size on, making certain to brush it into the surface. Do not



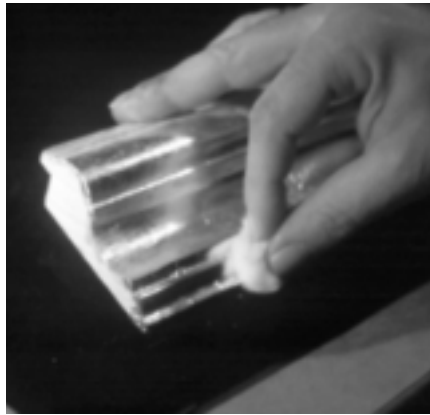
*Last, do the outside edge of the moulding.*

let it puddle up. Continue to brush it out so that it is almost dry on the surface. If you apply the slow size at 3:00 or 4:00 p.m., it will be ready by 9:00 a.m., or thereabouts, the next day.

## Applying Synthetic Size

Synthetic size can also be used; Wunda Size, manufactured by Easy Leaf Products and Permacoll Size from Sepp Leaf Products are both suitable products to use.

The best way to apply these sizes is to pour some into a container then use a water dampened sponge, foam brush or rag to spread it across the legs of the frame, one leg at a time. Then take a clean



*Cotton can be used to tamp the leaf.*

damp rag and wipe off the size. There should be enough left to gild. You will be ready to gild in 15 minutes.

## Cutting the Leaf

Cut through the entire book of metal leaf with a razor blade and straight edge to the size you need. Be sure to cut it on a good, solid surface, such as four-ply rag board.

Make your cuts in relation to the various elements in your moulding. For example, if the moulding needs  $\frac{3}{4}$ " to get over the nose of the frame, and  $1\frac{1}{2}$ " for the panel, cut your leaf accordingly. The idea is to have all your sizes pre-cut and ready to use as you need them.

## Applying the Leaf

Remove the first sheet of paper from your stack of leaf and hold the entire stack to the edge of the frame. Roll it on the surface. Be sure to overlap the leaf  $\frac{1}{8}$ " in between each lay.

It is best to work in units. For example, start on the inside edge. Once that is completed, move on to the panel, and then finally to the outer edge.

You could also do this in reverse order, working from the outside edge to the inside. Do whatever is most comfortable for you.

## Tamping the Leaf

Once the entire frame is gilded, tamp the leaf down into the frame. For this, some prefer to use a stiff brush, such as a china bristle, but as shown here, a cotton rag and cotton ball will do fine. You'll tamp the leaf



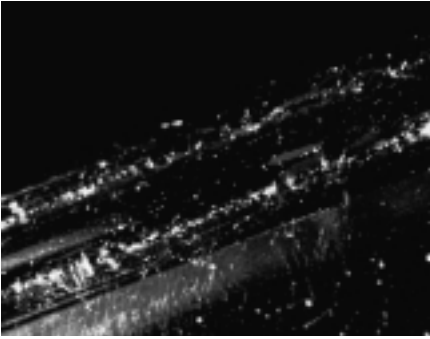
*A rag is then used to wipe down the frame.*

into the frame with your cotton ball, then wipe off the excess leaf with the rag. Follow this process one section at a time: tamp and wipe, tamp and wipe. Be sure to tamp extra hard when the leaf overlaps so that the seam does not show.

You will not get a lay line with metal leaf as you would with real gold, but that can be simulated if that is desired.

## Patching

Inevitably there will be areas where there are breaks in the leaf. Although the process of rolling the leaf should greatly reduce the amount of broken



*Mica powders are used to cover any breaks in the leaf.*

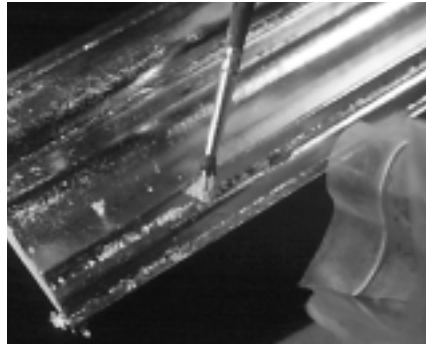
areas, you may still need to patch.

To patch, take some small pieces of leaf, place them on the broken areas, and tamp them with a cotton ball. Areas with ornaments, such as beading, are the most difficult. When patching doesn't help, use mica powders. They come in a variety of colors and are non-toxic.

The powders, when lightly dusted on the frame, will settle into the nooks and crevices, giving you a perfect finish.

## Simulating Lay Lines

It is possible to simulate the lay lines that result from actual water gilding. Use a three pound cut clear shellac diluted with 50% denatured alcohol. Using a small brush and a 3" piece of cardboard, stripe the leaf with the



*The powders should be brushed on wherever there is a break along the moulding.*

brush every three inches (use the cardboard to measure). Those areas will then be protected by the shellac when the frame is rubbed back.

## The Rub

The bole or red undercoat of casein paint can be exposed for an antique finish. Take 0000 steel wool and gently rub the high areas and highlights



*Lay lines imitate the look of real gold. They are placed with shellac, a small brush, and a 3" card.*

of the frame. Do not rub too hard or you will remove too much gold.

## Protecting and Finishing

The toning and finishing of metal leaf is crucial to its final look. When using real gold, the gilder replicates the appropriate period style. When working with metal leaf, he replicates that replication. The goal is to give the metal leaf the richness and quality of old gold.

To get this rich look out of your metal leaf, mix equal parts clear shellac and orange shellac, place them in a container. Thin this mixture by



*The frame is rubbed back to expose the bole with 0000 steel wool.*

about 50% with denatured alcohol.

Apply two to three coats of this mixture to your frame. As you will see, the more coats the richer the color will be. You can also change the color of the mixture by adding small amounts of either raw umber, or burnt umber dry artists pigments.

At the top of page 98, you see the finished frame. ■