

1410-3

Mark Nelson shows how to add texture to metal using gilding and reticulation.

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Please continue to page 2 for project instructions.

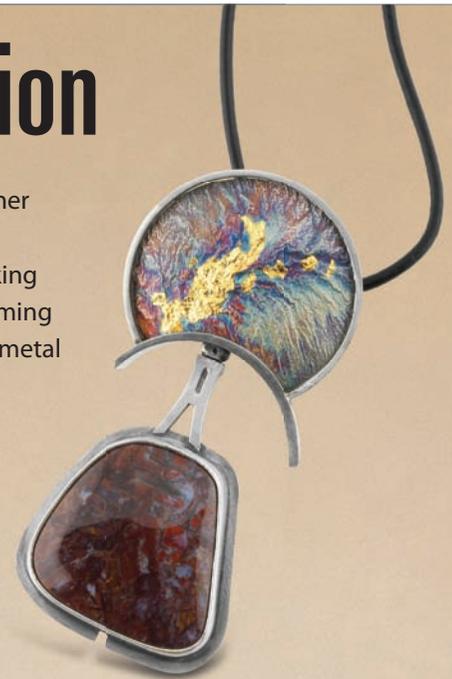
Guest:



Mark Nelson

Depletion Gilding & Reticulation

Specially-formulated reticulation silver alloy contains a lower percentage of silver and a higher percentage of copper (80/20), making it ideal for reticulation. Done effectively, reticulation presents a beautifully patterned surface finish. This is an excellent beginner project for working with metal; it teaches the artist to look at metal and notice how it reacts under heat and forming techniques. As always, test a new technique such as depletion gilding on a smaller piece of metal or scrap until you have refined your skills.



depletion gilding:

Depletion gilding is a process of drawing a layer of fine silver to the surface of a silver alloy. First, the silver is heated sufficiently to cause oxidation of the copper in the surface layer, then the oxidized copper is removed by soaking the silver in a mild acid (pickle) solution (the "depletion"). This process leaves a thin layer of fine silver on the surface of the metal (the "gilding").

1. Place the silver metal near the center of the Solderite™ pad.
2. Using a neutral flame, heat the silver until it begins to darken (oxidizes). Hold the metal at temperature (showing a light pink color) for two minutes, then move the silver to a cool place on the pad and let stand for one minute.
3. Using copper tongs, pick up the silver and quench it in hot pickle solution. **Caution:** The metal is still hot; use care to prevent acid from splashing onto skin, clothing or surrounding equipment. Allow the piece to soak for 3–5 minutes or until all oxides are removed, leaving a pure silver layer, and the surface of the piece turns white.
4. Remove the piece from the pickle with copper tongs and rinse in water.

You will need to repeat this process approximately three times. Each successive step brings more copper to the surface, and produces less and less oxidation on the surface of the metal. By the third repetition, you will notice little or no oxidation, and the metal surface will appear a frosty white. This is exactly what you want to see before proceeding to the next step. As each repetition of the heating process eats a little deeper into the surface of the metal, the surface becomes slightly porous. Now the surface is gilded with fine silver and is ready for the reticulation process.

—see reticulation instructions on reverse side—

⚠ CAUTION! Always wear eye protection when performing these processes.



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supplies:

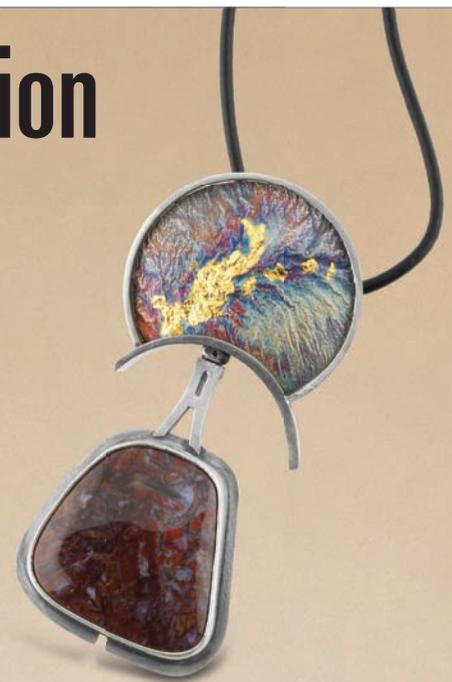
Order #	Description
500-105	Smith® SilverSmith acetylene torch
502-006	Silquar™ high-heat block
502-063	Solderite™ pad
503-048	Automatic torch igniter
501-017	Heavy-duty bent copper tongs
501-012	Little Dipper™ economy pickle pot
501-023/3	Rio Pickle™; 3-lbs.
103-120	3" reticulation silver, 20-ga., dead soft
103-122	3" reticulation silver, 22-ga., dead soft
103-520	3" x 3" pre-reticulated silver sheet, 20-ga. dead soft
201-054	Citation™ safety glasses
—	Bowl of water

Depletion Gilding & Reticulation

reticulation:

The depletion gilding process will cause the silver and the copper to separate; the reticulation process causes them to cool at different rates, which will create the crinkled reticulated texture. Reticulation is not an exact science, so enjoy the process and play!

1. Apply the torch once again to your metal and focus the heat evenly over a smaller area of the silver, moving smoothly back and forth across the surface. The metal should be heated to a dull red color before moving along to the next small section. **Please Note:** To ensure the best result, we suggest using a hot, oxidizing torch flame.
2. Smoothly work your way over the entire surface of the metal, taking care to be consistent with the flame concentration. As you move away from each section, you will notice the surface layer begin to fold and crinkle as it cools at a slower rate than the alloy layer beneath it. The deeper your fine-silver surface layer is, the more pronounced the reticulation effect will be. When finished, allow the metal to fully cool.
3. Turn off the flame and observe what it created—including the back of the piece. If you aren't happy with the results, try heating the metal again and re-working it. Once you're satisfied with the result, quench in water, then in the pickle. The result will be coppery; if you prefer a piece with less of a copper look and more white, simply depletion gild once more.



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