

# Accent Gold for Silver™ (AGS2)

## Pure 24K Gold Embellishment - Application and Firing Instructions

This new, improved version of Accent Gold for Silver™ (AGS2) now includes a binder that creates a smooth, creamy, 24K gold paint that is a dream to apply and fuse to articles made from both fired and unfired silver clay, fine silver, sterling silver, and Argentium™ sterling silver.

These instructions are exclusively for AGS2 and do not apply to previous versions of the product. This improved version of Accent Gold for Silver™ is now the easiest, most affordable way to add the pure 24K gold accents to your jewelry creations.

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### Surface Preparation

Prepare the surface to receive Accent Gold for Silver™ according to the metal used:

- Fine Silver: Apply a satin finish or pickle to a bright white.
- Fired Silver Clay: Apply to white, freshly fired surface or pickle to a bright white.
- Silver Clay Greenware: Do all pre-fire finishing. Clay can be dry or partially dry.
- Sterling Silver: Depletion gild to a bright white.
- Argentium™ Sterling: Apply a satin finish or pickle to a bright white.

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### Gold Preparation

After removing the shrink wrap from the Accent Gold for Silver™ container, tap the jar on a flat surface to gather the gold at the bottom of the container. Add 12 drops of distilled water and 4 drops of glycerine to the Accent Gold for Silver™ powder using the provided dropper. Mix the liquid into the powder by agitating the container quickly back and forth. It takes just a few seconds to fully wet the dry ingredients. The material will tend to gather into a blob when completely mixed. Light patches on the surface are unincorporated gold powder. Agitate until the material is fully wetted. Use a wetted #3 Red Sable paintbrush to stir the gold mixture and test the consistency.

The consistency you are aiming for is a smooth and creamy paint. It should not be runny. If the mixture is too thick, add water one drop at a time and stir with the paintbrush. If the mixture is thin and drippy, allow it to sit open for a few minutes to evaporate some of the water. The consistency can be somewhat thick or a little thin and be applied successfully once you learn the ideal thickness of the coat.

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### Application

Accent Gold for Silver™ can be applied using a paint brush, clay shaper or any other tool that you deem usable for this purpose. Paint, draw, daub, or drizzle it on.

For flat, broad areas, draw, paint or daub using a #3 Red Sable paintbrush. For drizzle designs or to draw, try a Clay Shaper. I like the Flat Chisel shape for the precise line I can get. The chisel edge also works well as a squeegee for the gold container, and because the tip is silicone, the gold flakes off for easy recovery.

Apply in one or two even coats, drying thoroughly between coats. Accent Gold for Silver™ will not bond properly if the gold is not completely dry.

The gold layer should be applied sufficiently thick that the silver below cannot be seen through the gold. The gold layer should be even and fully opaque, however if the gold is applied too thickly, it will fail to bond properly. The layer should be about as thick as 2 pieces of paper.

Make sure the edges of your gold design are sharp and crisp. Where the material is not thick enough, it will partially alloy into the silver and appear very pale. If the material puddles in crevices, spread it out for an even coat.

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### Firing

#### **Torch Firing: Fine Silver, Silver Clay Greenware, Sterling and Argentium™ Silver**

Heat until the silver glows dull salmon and the gold glows bright orange. Hold for 2 minutes.

#### **Kiln Firing: Silver Clay Greenware**

Items are placed on a kiln shelf and inserted into and removed from the kiln while its at its target temperature, so be prepared with a firing glove and tongs for fast insert and removal. Kiln tongs are a great accessory for moving a kiln shelf in and out of the kiln safely and quickly. Fire for 20 minutes in a pre-heated kiln at any temperature between 1110F and 1650F.

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### Finishing

It's important to compact the fired surface very well and a curved burnisher is very good tool for the job. After compacting or "burnishing" the surface, you can polish and buff or tumble. 24K gold is very soft and easily abraded. Do not use aggressive abrasives or files. Use only polishing grits.

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## Tips



### Design

- Accent Gold for Silver™ is best on smooth, flat or low relief surfaces. It is difficult to burnish tight areas after firing, so textures with fine lines are not a good choice for adding AGS as the gold tends to "clog" up the lines and obliterate detail.
- Try stick-on type templates as a mask to apply Accent Gold for Silver™ in intricate patterns and designs. For best results, use the template on a flat surface, burnish to seal the edges. Apply AGS with a brush in 2 even coats. Don't worry if the gold gets on the template, it will be recovered later. After the second coat has dried, peel off the template over a piece of clean white paper to catch the bits that will flake off of the template. The pattern will come away clean leaving dried gold on the template surface. Scrape the dried bits back into the container to recycle.
- For metal clay greenware, check the manufacturer's firing schedule for the clay you want to use. If it can be properly sintered in 20 minutes at any temperature between 1110F and 1650F, it is a good candidate for co-firing. You'll also have to determine if the item you wish to make is suitable for a shorter firing. The longest, hottest firing recommended for co-firing is 20 minutes at 1650F, which is decent firing for strength. If you feel the item you want to add gold to needs a longer firing you'll have to fire your silver first and then add Accent Gold for Silver™ to the freshly fired surface and torch fire for 2 minutes or kiln fire for 20 minutes at 1110F. Firing beyond 20 minutes in a kiln will result in partial alloying of the gold into the silver. If the firing is too short, the bond will not be complete.



### Storage

- Keep the jar tightly closed when not using to keep the product hydrated. If you do not plan to use the paint regularly, check the moisture content of Accent Gold for Silver™ every week or so when not using and add a drop or two of water as needed to keep it hydrated.
- Any bits of dried gold from a brush or any other tool you use can be added back into the Accent Gold for Silver™ container and recycled.
- If the material ever dries out completely, just add a couple of drops of water and allow it to sit for a minute or two to rehydrate. An Angle Chisel Clay Shaper works great for scraping down the sides of the container without losing any material. Allow the gold to dry on the Clay Shaper, then scratch the dried bits back into the jar with your fingernail to recycle.

# Pickling & Depletion Gilding Instructions

to prepare sterling silver, fine silver, Argentium™ sterling, and fired silver clay to receive Accent Gold for Silver™

Before applying Accent Gold for Silver™ to silver and silver alloys, the surface must be cleaned thoroughly and pickled. For sterling silver (except Argentium™), the metal must also be depletion gilded. Pickling gives the metal some "tooth" that allows the gold to bond more easily to the surface.

Pickle is a mild acid solution that dissolves oxides from the surface of silver and silver alloys. Pickle is usually made in a glass or stainless steel pan that can be kept warm on a stove or in a crock pot. A lid is best to keep the the liquid from evaporating too quickly and burning.

A traditional pickle is called sodium bisulphate. Sodium bisulphate is a by-product of making sulfuric acid (a highly corrosive chemical), and it requires special handling and disposal because it is a toxic chemical. Sodium bisulphate should be kept hot, but not boiling.

A safe alternative to a sodium bisulphate pickle is a natural product such as a citric or vinegar and salt pickle. You can make your own vinegar/salt pickle by adding a teaspoon of table salt per cup of strong white vinegar. Natural pickles work best at boiling temperatures and must be watched to keep them from boiling dry. Citric-based pickles, such as Cool Tools' Silver Prep tend to work very quickly on silver and silver alloys.

## **Clean and Pickle Argentium™ silver**

Prepare a batch of pickle according to the manufacturers' directions. Clean the metal with a brass brush in warm, soapy ammonia water (hot water with some dish soap and ammonia added to it). Heat the item to a dull salmon color, then cool and soak in the pickle until the surface is opaque white. Rinse in clear water. Do not disturb the pickled surface. Allow to air dry.

## **Clean and Pickle Fine Silver**

If the article is finished and polished silver clay or fine silver, it can be heated in the kiln to 1650F for 10 minutes to remove the finish and create a clean white surface without pickling, so long as there is nothing that precludes this process such as a heat sensitive embedded stone or solder that would flow if heated.

## **Freshly Fired Silver Clay**

If the article is freshly fired silver clay, do not disturb the pristine white surface. Apply Accent Gold for Silver™ directly to the freshly fired surface with no additional preparation. Note that Accent Gold for Silver™ can be applied to unfired silver clay and co-fired. Instructions for co-firing can be downloaded from [www.cooltools.us](http://www.cooltools.us)

## **Depletion Gilding Sterling Silver**

Traditional sterling silver is alloyed with copper. The copper, although it's a small amount, forms oxides when it's heated. Accent Gold for Silver™ cannot bond to oxidized silver, so the copper is removed from the surface by depletion gilding to create an enriched layer of fine silver. We're using a simplified gilding process that produces a heavy layer of fine silver for the gold to bond to.

The process of depletion gilding for this process is simple:

- Heat the metal with a torch until the surface is grey or dark grey
- Soak in the pickle solution until the oxidation disappears\*
- Rinse in clear water
- Repeat the cycle of heating and pickling until you cannot make the metal darken when it is heated
- Pickle one last time, then rinse in clear water and allow to dry without disturbing the opaque white surface

If you use a sodium bisulphate pickle, it will take 5 or more heat/pickle cycles to gild the surface sufficiently.

If you use a vinegar/salt pickle, it will take 5 or more rounds to gild the surface sufficiently.

If you use a citric pickle, it will take 3 to 4 rounds to gild the surface sufficiently.

\*If the item still has traces of oxidation after 5 minutes in the pickle, clean it with the brass brush and soapy water, then continue the heating/pickling process.

## **Pickled metal handling**

Do not touch the metal in the areas you wish to embellish with Accent Gold for Silver™. Finger oils prohibit complete bonding.

# Depletion Gilding

Step by Step Photos



1. Parts are heated to oxidize.



2. Pickle until the oxidation is gone.



3. Heat again to further oxidize



4. Pickle until the oxidation is gone.



5. Heat again to further oxidize



6. Pickle until the oxidation is gone, then repeat until no further oxidation is possible, then pickle one last time, rinse and air dry