

# Accent Gold for Silver™ (AGS)

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

This new, improved version of Accent Gold for Silver™ (AGS) now includes a finer particle size and a binder that creates a smooth, creamy, 24K gold paint. AGS 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.

This improved version of Accent Gold for Silver™ is now the easiest and most affordable way to add 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 several drops of distilled water to the Accent Gold for Silver™ powder. Mix the liquid into the powder by stirring. A wetted #3 Red Sable paintbrush is useful to stir the gold mixture and test the consistency. Add enough water to just 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. Mix until the material is fully wetted.

The desired consistency 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 or other suitable paintbrush. For drizzle designs or to draw, try a Clay Shaper. Use a Flat Chisel shape for the precise line. 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 and dry thoroughly between coats. Accent Gold for Silver™ will not bond properly during firing 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 thick 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 10 minutes in a pre-heated kiln between 1450F 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 this purpose. After compacting or burnishing the surface, you can polish and buff or tumble. 24K gold is very soft and easily abraded, so do not use aggressive abrasives or files. Use only polishing grits.

### Design

## Tips

- 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 fill 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 and 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 provides good strength. If you believe the item you want to add gold to needs a longer firing time you will 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.

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### 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 of 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 to recycle.



Accent Gold for Silver™ is a product of Jewelry Material Innovations, Inc.  
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# Removal of Copper from Silver Alloys

This document describes the process for preparing sterling silver, Argentium™ sterling, and fired silver clay to receive Accent Gold for Silver™

Before applying Accent Gold for Silver™ to silver alloys, the surface must be cleaned thoroughly and *pickled* to move alloyed copper in the near-surface region. Pickling also gives the metal some "tooth" that allows the gold to bond more securely to the surface.

Pickle is an acid solution that dissolves copper oxide from the surface of 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. Use a lid to keep the liquid from evaporating too quickly.

A traditional pickle is made from sodium bisulphate. Sodium bisulphate is a by-product of making sulfuric acid and requires careful handling and disposal because it is a toxic chemical. Sodium bisulphate should be used hot, but not boiling.

Safe alternatives to a sodium bisulphate pickle are natural products 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 tend to work very quickly on silver and silver alloys.

## Depletion of Copper in Sterling Silver

Sterling silver is alloyed with copper. The copper, although it is a small amount, forms oxides when the alloy is heated. Accent Gold for Silver™ cannot bond to oxidized copper, so the copper must be removed from the surface by chemical depletion, or pickling, to create an enriched layer of fine silver. Below is a simplified process that produces a layer of fine silver for the gold to bond.

The process of copper depletion is as follows:

- Heat the metal piece with a torch until the surface is grey or dark grey
- Immediately soak the hot piece in the hot pickle solution until the oxidation disappears\*
- Rinse in clear water
- Repeat the cycle of heating, pickling, and rinsing until the metal does not darken when it is heated
- Pickle one last time, then rinse in 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 prepare the surface sufficiently.

\*If the item still shows traces of oxidation after 5 cycles, clean it with a brass brush and soapy water, then continue the heating/pickling process.

## Pickle Argentium™ silver

Clean the metal with a brass brush in warm, soapy ammonia water. Heat the item to a dull salmon color, then cool and soak in the pickle until the surface is opaque white. Rinse in water and allow to dry without disturbing the opaque white surface.

## 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. Accent Gold for Silver™ can also be applied to unfired silver clay and co-fired. Refer to instructions for firing Accent Gold for Silver™.

## Handling Pickled Metal

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

Accent Gold for Silver™ is a product of Jewelry Material Innovations, Inc. For more information about this product, please contact:



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