

# How To Silver 3-D Glass Objects

with a 3-D Glass Mirroring Kit from [AngelGilding.com](http://AngelGilding.com)

These instructions tell you how to mirror small, non-flat 3-D glass objects with silver. The metal layer that produces a mirrored surface is formed by molecular attraction rather than gravity. You can mirror any shape so long as the glass is clean and it is in contact with the right chemicals for the right amount of time.

**The mirroring process is the same for all metals.** Once you have learned how to create a silver mirror, you can use the same process to create gold, copper and galena mirrors. See our Angel Gilding, Copper and Galena Instructions for details. To distress a silver mirror, see our Antique Silver Instructions.

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Mirroring is a chemical process; the following procedures are *important*.

- **Cleanliness:** The glass must be absolutely clean, including the edges.
- **Gloves:** Wear gloves to keep your hands and the glass separate.
- **Careful measurements:** Be careful but not fanatical with measurements.
- **Distilled Water:** Always use steam distilled or de-ionized water. The minerals in tap water will ruin the mirror.
- **Timing:** Use a clock with a second hand to time the tinning process in Step 5.
- **Concentration:** Arrange your time so you can work without interruption.

## SAFETY:

- **Storage:** Store the chemicals in a cool, dark place away from children and pets.
- **Staining:** The silver creates brown stains. Wear rubber gloves and cover your bench with several layers of newspaper. Silver Remover removes silver stains from skin and clothes.
- **Fumes:** Silver chemicals contain ammonia. We have respirators designed to mitigate ammonia and formaldehyde fumes at [www.angelgilding.com](http://www.angelgilding.com).
- **Disposal:** These chemicals contain heavy metals. Follow the instructions in your Waste Treatment Kit to keep heavy metals out of the public sewer system.

This Kit contains enough silver to mirror about twelve 3-D glass objects depending on their size. Refill supplies are available at [www.angelgilding.com](http://www.angelgilding.com).

## You will need to provide:

- The glass to be mirrored
- A few gallons of steam distilled water
- Two clear plastic quart bottles for Waste Treatment
- A clock with a second hand
- Sheets of old newspaper

## How To Make a Silver Mirror



### Step 1: Mask the Glass

Mask the side of the glass you want to stay clear with adhesive vinyl paint mask. After the mask is rubbed down, put on your rubber gloves.



### Step 2: Mix the Tin for Silver

Use the 10 ml cylinder to measure out **2 ml** of concentrated Tin for Silver. Pour it into the 8 or 16 oz measuring cup. Add **2 fluid ounces** of steam distilled water.

Use fresh tin for each object you mirror. Diluted tinning solution has a shelf life of 6 to 8 hours. Mix fresh daily.



### Step 3: Measure the Silver

Measure out **10 ml each** of Silver, Silver Activator and Silver Reducer. Use a separate plastic dosage cup for each solution. Do not mix the three solutions together.



### Step 4: Clean the Glass

Scrub the glass with hot tap water and powdered glass cleaner using a dedicated sponge. Rinse the glass under a running tap. Rinse it again with distilled water to remove the tap water.



### Step 5: Tin the Glass

Place the glass, **mask side down**, in the Tin tub. Pour on the Tin and note the time. Rock the tub gently so that the glass is completely covered with tinning solution for **30 seconds**. Lift it out by its edges, taking care not to touch the tinned surface.



### Step 6: Rinse the Glass

Hold the glass, tinned side up, over the Rinse tub and spray it with distilled water. Tip off the rinse water. Place it **mask side down** in the Silver tub.



### Step 7: Mix the Silver

Get two new paper cups. Pour the three silver solutions into one cup. Pour this mix into the other cup and box them back and forth two to three times to mix them. The solutions should be clear. Pour the mix on the glass. Note the time.



### Step 8: Silver the Glass

Rock the tub gently so that the silver flows continuously over the glass. As the silver deposits, the glass turns brown and then gray. The solution also turns brown – this is normal. Continue to rock the tub for **5 minutes**.



### Step 9: Rinse the Mirror

After 5 minutes, the glass should be covered in bright silver. Lift the glass carefully out of the tub. Spray it thoroughly with distilled water. If the glass was properly cleaned, the silver will not come off as you rinse the glass.



### Step 10: Dry the Mirror

Set the mirror, **silver side out**, on edge to dry. If you let it dry flat, water spots could show up in the finished mirror. A heated fan or hair drier speeds up the process.



### Step 11: Paint the Mirror

When the glass is completely dry on both sides, place it **silver side up** on newspaper and paint the silver with backing paint.\* When the paint is dry, clean the mirror face with remover and maybe a little pumice on a cotton ball.



### Step 12: Stand Back and Admire Your Handiwork

When you are the mirror maker, you control the process. Any color, any texture and any shape of glass can be mirrored in four different metals to explore the creative potential of reflected light.

- For a translucent or one-way mirror, use Clear Permalac. The light transmitted by a perfect silver mirror with a clear backing is a deep powder blue.
- To make an Antique Silver mirror, please see our [Illustrated Antique Silver Instructions](#).

AngelGilding.com  
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Photos by Frank Pinc, Oak Park IL