

How To Silver Sheet Glass

with a Sheet Glass Mirroring Kit
from AngelGilding.com

These instructions show you how to mirror flat sheet glass with silver. We have separate instructions for Angel Gilding, Copper, Bright Copper, Galena and Antique Silver mirrors.

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

These photos are taken from our 30 minute how-to DVD, *Creating a Mirror on Glass; Silver & Gold*. A free copy of the DVD is included in your Sheet Glass Mirroring Kit. You can watch clips from this video on our website at http://angelgilding.com/Mirror_Videos.html

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:

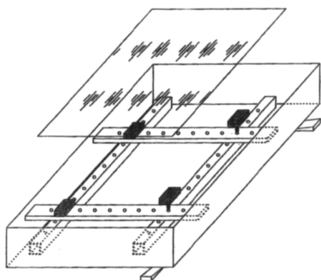
- **Storage:** Store the chemicals in a cool, dark place away from children and pets.
- **Staining:** The silver creates brown stains. Wear rubber gloves and cover your bench with several layers of newspaper. Silver Remover removes silver stains from skin and clothes.
- **Fumes:** Silver chemicals contain ammonia. We have respirators designed to mitigate ammonia and formaldehyde fumes. Go to Supplies/Safety at 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 8 square feet of glass. Refill supplies are available.

You will need to provide:

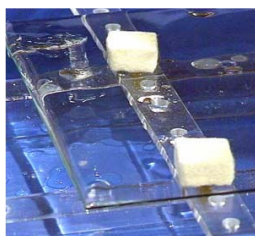
- The glass to be mirrored
- A few gallons of steam distilled water
- Two clear plastic quart bottles for Waste Treatment
- A clock with a second hand
- Sheets of old newspaper

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Step 1: Assemble the Tray

Set the hollow bars lengthwise in the bottom of the blue tray. Set the flat bars on top across the hollow bars. Line up the holes and insert the felt-topped pins. Set the glass on top. Adjust the rack so that the glass extends beyond the felt pins about 1 inch. The liquid on the glass will tell you if the glass is level. Adjust the shims under the tray - not under the glass - to level the glass.



Step 2: Practice Using Surface Tension

You do not need to dam the edges of the glass to keep the chemicals in place. Surface tension will do the job for you.

Set the glass on the pins and pour water on top. Hold the edges of the tray and tip it. Notice that you can get the water to go to the edges of the glass without spilling off. Use this fact as you rock the silver on the glass.



Step 3: Mix the Tin for Silver

Use the 10 ml cylinder to measure out **2 ml** of concentrated Tin for Silver. Pour it into the 16 ounce measuring cup. Add **2 fluid ounces** of steam distilled water. You will need about **2 fl oz per square foot**.

Diluted tin has a shelf life of 6- 8 hours. **Mix fresh daily**.



Step 4: Measure the Silver

Pour the Silver chemicals into the appropriate Mek dispenser bottles. Squeeze up **15 ml each** Silver Solution, Silver Activator and Silver Reducer for each square foot of glass to be mirrored. Cap the bottles and set them aside for now.



Step 5: Clean the Glass

Wear rubber gloves to keep your fingerprints off the glass. Clean the glass well with a little concentrated powdered glass cleaner, **hot** tap water and paper towels. Clean the edges to remove cutting oil. Rinse the glass with **hot** tap water.



Step 6: Polish the Glass

Place the glass on the cleaning mat – mirror side up – and polish it with a little cerium oxide, a little powdered glass cleaner, **hot** tap water and the maple-backed felt polisher. Scrub in a circular motion. The slurry should be thin – like pink milk.



Step 7: Remove the Cerium Oxide

Remove the cerium oxide by rubbing the glass with the sponge – under a running tap, if possible. Cerium oxide sticks to the glass and must be **rubbed** off. Do not use this sponge for any other purpose.



Step 8: Rinse with Distilled Water

Remove all of the tap water by rinsing the glass with distilled water. The water must sheet off the mirror side of the glass without beading. Tip off the excess water. Do **not** dry the glass. Set the glass on the rack in the tray – clean (mirror) side up.



Step 9: Tin the Glass

Pour on about **2 fl oz** mixed tin per square foot and note the time. Let the tin sit on the glass for **30 seconds**. Tip it off into the tray. It is better to use more tin rather than less – the quantity does not have to be exact. Timing is important – watch the clock or use a timer.



Step 10: Rinse the Glass

After **30 seconds**, tip off the tin and rinse the glass well with distilled water from your spray bottle. Tip off the rinse water and place the glass back on the rack – tinned side up. Do not let the glass dry before you silver it.



Step 11: Mix the Silver

Take two new paper cups and pour the 3 measured silver chemicals into one cup. Pour them into the other cup to mix them. The chemicals should not change color in the cup (**very pale yellow** is ok).

If the silver turns dark right away, it is possible that you are using Concentrated Silver solutions. Check the label on the bottle and refer to our website for instructions on diluting Concentrated Silver. The Kit comes with Silver Ready-To-Use.

Watch the video clip on the How To/ Videos page at on our website.



Step 12: Pour the Silver

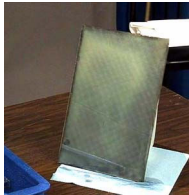
Pour the mixed silver onto the glass. You do not need to hurry or go slow. Start from the edges and work in. Set your timer for **5 minutes**.

Step 13: Silver the Glass

Using surface tension, rock the tray to distribute the silver evenly. Adjust the shims to keep the glass level. As you wait for the silver to deposit, rock the tray occasionally to make sure that it is depositing evenly.

After **5 minutes** you should have a bright layer of silver covered with yellowish-brown chemicals. Tip the used chemicals into the tray. Spray the silvered glass thoroughly with distilled water.

You can add a second layer of silver if you like. Measure, mix and pour on more silver. Do **not** re-tin the glass.



Step 15: Dry the Mirror

Set the mirrored glass on edge to dry. If you dry it flat, you could get watermarks in the silver. A heated fan or hair dryer speeds things up.



Step 16: Paint the Mirror

When the mirror is completely dry on both sides, paint it with backing paint using a brush or a roller. You could also screen print it or paint it free-hand and remove the unprotected silver with Silver Remover.

Step 17: Clean the Mirror Face

When the backing paint is completely dry, clean the face of the mirror with glass cleaner, Silver Remover and maybe a little pumice.



Stand back and admire your handiwork. Once you know how to silver glass, you can make Gold, Copper, Galena and Antique Silver mirrors too.

Our tray measures 16" x 26" For guidelines on how to construct a mirroring bench for larger sheets of glass see [Building a Large Mirroring Bench](http://angelgilding.com/Written_Instructions.html) at http://angelgilding.com/Written_Instructions.html

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