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POURING INSTRUCTIONS

Silvering New Glass and Resilvering

Many substrates may be silvered. We will deal with plain glass in this text for simplicity.

Deionized, demineralized, or distilled water is essential in the production of a long-lasting blemish-free mirror. The minimum acceptable limit of dissolved solids is 10ppm. Dissolved solids adversely affect the deposition of the silver, especially chlorides and sulfates. A brown silver deposit as a bright, metallic color is due to impurities in the water. A simple purity check of your water is to add one drop of concentrated silver solution to 15 ml (½ fluid ounce) of water and heat for twenty minutes. A cloudy or white precipitate indicates water impurities.

PREPARATION OF SOLUTIONS

The Peacock Laboratories method of silvering allows you to get the maximum use of the silvering chemicals. By diluting the Silver, Activator, and Reducer in three separate bottles, the diluted chemicals have a shelf life of over 30 days. Silvering can be done whenever you wish. You do not have to wait until there is a large quantity of mirrors to do before you can silver efficiently. **KEEP STOPPERED AND REFRIGERATED.**

1. Measure four fluid ounces (125 ml) of concentrated Silver Solution “A” into one gallon of distilled or deionized water and mix.
2. Then add four fluid ounces (125 ml) of concentrated Activator Solution “B” into a separate container and dilute to one gallon with deionized water.

NOTE: CONCENTRATED “A” AND “B” SHOULD NEVER BE MIXED TOGETHER!

3. Measure four fluid ounces of concentrated Reducer Solution into a separate container and dilute with water to one gallon.
4. Measure 4 fluid ounces of #93 Sensitizer or 1/16 Av. ounce of Stannous Chloride into a container and dilute to one gallon. This solution must be prepared fresh daily.

Step 1 - Preparing the glass for silvering

Using a felt block or cellulose sponge and a paste made with Red or White Rouge, Cerium Oxide or other polishing agents and water, thoroughly scrub the glass surfaces to be silvered. A solution of #77 Cleaner can be added to the paste of polishing agent. #77 Cleaner is an excellent detergent and neutralizer for residual acid which may be on the glass. Following the surface scrubbing, thoroughly wash off the residual polishing paste using a separate sponge or bristle brush and running water. While still wet, carefully rinse with distilled or demineralized water.

For new glass, scrubbing with 4F Pumice or White Rouge and water is sufficient. For resilvering, block polishing with a Red Rouge of Rare Earth Compound (Cerium Oxide) is recommended.

Make the glass as level as possible. Check its level with the rinse water.

Note: Beginning with the final rinse, the surface being treated must always be wet. Avoid contacting the surface with anything except distilled or demineralized water or pertinent chemical solutions since the cleaned surface can be

easily spoiled.

Step 2 - Sensitizing (Tinning)

It is essential to thoroughly sensitize the surface to be silvered. Immediately following the distilled or demineralized water rinse stated above, apply the #93 Sensitizing (tinning) Solution with a sponge, brush, or just pour it on. Be very careful to insure uniform distribution of the sensitizing solution over the entire area to be silvered. Let the Sensitizer sit on the glass for 10-20 seconds.

Rinse the object thoroughly with deionized water following the sensitizing step. Silvering the object should be initiated immediately following sensitizing. The surface must not be allowed to dry.

Step 3 - Silvering

Begin application of silvering solutions immediately following the final rinse under step #2. **HE-300** is Peacock's latest development in the field of electroless silver deposition is a solution that has been demonstrated to be superior to other silver formulations. The efficiency, the amount of silver deposited versus the amount of silver solutions used, has been increased significantly. Adhesion of the silver to the substrate is tenacious. The reaction is sludgeless, providing a clean and an exceptionally bright reflective surface.

HE-300 is a three part concentrated solution consisting of the following:

- A- Concentrated Silver Solution
- B- Concentrated Activator Solution
- C- Concentrated Reducer Solution

The dilution ratios of the silvering solutions to water can be varied to suit the needs of individual applications. A more concentrated ratio will increase the speed of reaction and a more diluted solution will decrease the reaction rate.

When adequate silver film has been deposited, rinse thoroughly to remove residual silvering chemicals. One pint of concentrated solutions will silver between 300 to 500 square feet of glass.

The Pouring Process:

Mix equal amounts of Diluted Silver, Activator, and Reducer in a plastic or glass pouring cup. Use from 1 to 2 ounces of each dilute chemical per square foot of glass. Stir and pour onto the wet, sensitized glass. Start in the center and work your way to the edges using a circular motion. Let the solution set on the glass until the desired silver film is deposited (No longer than 2-3 minutes). There is enough silver on the glass when a light is still visible through the silver film. Following the silver solution application, the film should be thoroughly rinsed with deionized water. The water film should be removed by a forced air blast using clean, dry compressed air or a hair dryer.

Solutions can be used at ambient temperatures or heated to improve the rate of reaction. The recommended range of heating the solutions is 85-100 degrees.

ALL YOU NEED TO GET STARTED RESILVERING MIRRORS USING THE POURING METHOD:

(We prefer UPS ground for shipping your packages. For those who do not have an account with us, we can ship UPS COD (COD charge is an additional \$10.00). We also accept AMEX, Discover, MasterCard and VISA.

HE-300 Concentrates. One pint unit including:

- 1 pint Silver Solution.
- 1 pint Activator Solution.
- 1 pint Reducer Solution.

#93 Sensitizing Solution: One pint (makes 4-6 gallons).

Silver Strip Powder: 5 pound jar.

#77 Cleaner: One gallon.

Red Rouge: 5 pound bag.

4F Pumice: 5 pound bag.

Copper-Tite Vehicle #3: One gallon.

#281 Mirror-Backing Thinner: One gallon. Use with Copper-Tite Vehicle #3.

Peacock Copper Powder: 6 pounds, enough for mixing with 4 gallons of Copper-Tite Vehicle #3. Use if spraying only.
Mirro-Bond 175: One gallon. Use as a top coat over Permalac with or without Copper Powder. Can be brushed or sprayed on.

#178 Mirror Backing Thinner: One gallon. Use to thin #175 Mirro-Bond Backing Paint.

EQUIPMENT:

Graduated Cups: Four 4 ounce size and four 16 ounce size.

No. 3000 Brush: One only.

Rubber Gloves: Two pairs, assorted sizes, please specify.

Safety Glasses: Two pairs. Wear a pair at all times when working with chemicals.

Clear Vinyl Aprons: Two only.

Cartridge Type Respirator: Includes two ammonia cartridges.

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