

601 INTRODUCTION

Before proceeding with the following instructions, we recommend that you re-read Sections 100, 300 and Appendix B.

We offer two Metalphoto additives for sealing baths, our Liquid Sealing Concentrate and a No-Nickel Liquid Sealing Concentrate. Metalphoto, Metalphoto Plus, PolyColor and UltraColor plates may be sealed using either of these concentrates. Each bath allows plates to seal in 10 to 15 minutes at a rolling boil.

The Liquid Sealing Concentrate bath will seal approximately twice the number of plates as its No-Nickel counterpart, before it is depleted. The No-Nickel bath offers the advantage that it contains no heavy metal salts and can be discarded without treatment to wastewater drains.

Sealing in plain deionized or distilled water, without sealing additive, is only recommended for image intensified black and silver Metalphoto plates and the sealing time must be extended to approximately 45 minutes. If background or selective coloring has been added to Metalphoto plates, sealing additive must be used to prevent loss of color!

602 MIXING SEALING BATH

Metalphoto Liquid Sealing Concentrate and the No-Nickel Sealing Concentrate are each packaged in plastic gallon bottles. Prepare the sealing bath by mixing 1 part Concentrate to approximately 25 parts deionized or distilled water according to the package instructions in a Type 316 stainless steel tank.

Heat the solution to boiling for use.

IMPORTANT: Tap water contains minerals which interfere with the sealing process and must not be used for preparing the bath or for subsequent replenishment.

610 SEALING METALPHOTO, PRE-DYED METALPHOTO PLUS, POLYCOLOR AND ULTRACOLOR PLATES

Using Metalphoto stainless steel clips and rods, immerse a properly rinsed and dried plate for 10 minutes in the sealing solution maintained at a rolling boil. (Fig. 610.1)



Fig. 610.1

(Seal no more than 4 plates at a time to minimize a drop in temperature that is caused by immersion of room temperature plates into boiling sealing solution). Remove the plate after sealing and immerse it in a dilute solution of Metalphoto Post Sealing Treatment for 1 minute. Remove the plate from the solution and hang up vertically to air dry *without water rinsing*. Metalphoto Post Sealing Treatment helps the plate dry without spotting and loosens smut left on the plate during the sealing process thus eliminating tedious rubbing that would otherwise be required. After the plate is dry, it can be wiped, if necessary, with a damp sponge or polished (see Section 650) as a final step prior to

IMPORTANT: If the sealing smut is especially thick or difficult to remove even with polishing, drain the sealing bath, clean the tank thoroughly, and prepare a fresh bath.

An alternative to the use of Metalphoto Post Sealing Treatment is to rinse the plate thoroughly after sealing and hang, wipe, or force air dry. If the plate is rinsed and sponged clean immediately after sealing, without allowing it to dry, the sealing smut is more easily removed. When the plate is dry, polish it (see Section 650) to remove sealing smut and to produce an attractive sheen. It is essential that clips and rods used for sealing any dyed or colored plates be clean and dry to prevent contamination of the sealing solution with dye. In addition, clips and rods used for sealing any dyed or colored plates must be meticulously cleaned before being used for sealing other types of plates.

IMPORTANT: Plates with color must be completely dry before placing them in the sealing tank.

620 ALTERNATE METHOD FOR SEALING IMAGE INTENSIFIED BLACK & SILVER METALPHOTO PLATES ONLY

An alternative method for sealing image intensified black and silver Metalphoto plates is to use deionized or distilled water without any Metalphoto Sealing Concentrate. This requires immersion for 30 to 45 minutes in boiling water. Plates sealed in this manner have clearer backgrounds but may appear slightly weaker in image density (less black) and definitely have more sealing smut on the surface. Sealing in deionized or distilled water without any Sealing Concentrate is not a preferred sealing method.

IMPORTANT: Only image intensified black and silver plates may be sealed b

by this method. Colored plates must use one of the Metalphoto Sealing Concentrates.

630 REPLENISHMENT

The volume of the sealing bath decreases due to evaporation as it boils. Replenish the volume with distilled or deionized water (not tap water). Do not add Metalphoto Liquid Sealing Concentrate. Replenishing with pure water alone restores the bath to the proper level.

IMPORTANT: If the sealing smut is especially thick and difficult to remove even with polishing, drain the sealing bath, clean the tank thoroughly, and prepare a fresh batch. For sealing tank cleaning procedure, refer to Appendix A- Equipment Maintenance.

640 USEFUL LIFE OF SEALING BATH

A sealing bath that has been prepared properly from Liquid Sealing Concentrate lasts for 3 to 4 weeks of normal use. Baths made from No-Nickel Sealing Concentrate normally last for 1 to 2 weeks of use. However, the best way to determine how long a sealing bath should last is based on the number of plates sealed. Do not exceed the recommendations listed in Fig. 640.1 as poor results with respect to evenness of color and completeness of seal can occur.

**USEFUL LIFE OF SEALING BATH
NUMBER OF PLATES FOR EACH
GALLON OF WORKING
STRENGTH SEALING SOLUTION ***

PLATE	NUMBER	SIZE
Metalphoto	75	10x12
Metalphoto Plus, pre-dyed	30	10x12
UltraColor, pre-dyed	30	10x12
UltraColor, clear	30	10x12
PolyColor	30	10x12

Fig. 640.1 * - Assumes no Contamination

641 IODINE CHECK FOR SEALED PLATES

A plate can be checked for completeness of sealing using tincture of iodine (red).

1. Dry a corner of the plate outside of the usable area which contains some black image.
2. Place a drop of iodine on the black image and let stand.
3. After 5 minutes, put drops of fixer on the same spot over the iodine. Wipe off after 15 seconds. If no blemish is visible in the black area, the plate is sealed and the sealing bath is still functioning properly.

650 POLISHING

Properly sealed Metalphoto, Metalphoto Plus, PolyColor and UltraColor plates can be polished if desired. Polishing plates has the same effect as polishing a car. A very attractive luster or sheen appears that is particularly desirable for plaques, dress plates, signage or any product where aesthetics are most important. On the other hand, it is an additional step requiring some labor and should not be done unless absolutely necessary. Section 610 on sealing plates refers to Metalphoto Post Sealing Treatment. If that technique is used, the need to polish will be virtually eliminated.

To polish, simply pour a small amount of Metalphoto Polish on a clean soft rag and apply it to the sealed plate. (Fig. 650.1) Allow the polish to dry to a white film, then buff with a clean soft rag. (Fig. 650.2)

IMPORTANT: *Matte and #4 finish plates should not be polished. The surface of these materials is too rough to be polished evenly. Also, if you plan to use protective overlam in your fabricating step, do not polish any plates. Overlam materials will not adhere to a polished plate.*



Fig. 650.1



Fig. 650.2