



Plate-making Procedure:

How to Create a 1 mil Depth Alcohol Wash Screened Printing Plates

For best printing plates:

Use equipment expressly designed for processing photopolymer plates. Minimum requirements for the UV exposure unit include: ultraviolet florescent bulbs operating in the 350 to 370 nm light band, a vacuum hold down system, a timer.

Procedure for making photopolymer plates:

First Exposure:

1. Roll up vacuum blanket on UV exposure unit
2. Remove the protective cover sheet from photopolymer plates
3. Inspect the surface of photopolymer plates for spotting or other visual defects
4. Center the photopolymer plate on the platen metal side down
5. Place the film positive (emulsion side down) on the photopolymer plate and center it on the plate
6. Turn on the vacuum and drape the vacuum blanket over the film/plate combination. Wipe the vacuum blanket smooth to ensure there are no air pockets trapped or creases in the blanket.
7. Once achieving a steady vacuum of 22 inches Hg., close the UV exposure unit and set the exposure timer according to the Table below: (Please note that exposure times will vary with different exposure units).

Table

Film Exposure	Screen Exposure	Screen Size	Depth of Etch
60 Seconds	60 Seconds	200/90	1 Mil
90 Seconds	90 Seconds	300/90	1 Mil

8. Verify that the vacuum gauge has a steady reading and start the timer sequence
9. After the completion of the timed sequence and vacuum has shut off, slide out the drawer (or open the lid) and roll back vacuum blanket
10. Remove the film positive from the printing plate

Second Exposure:

11. Place the halftone screen film on the photopolymer plate emulsion side down



12. Turn on the vacuum and drape the vacuum blanket over the film/plate combination. Smooth out vacuum blanket to ensure there are no air pockets trapped under the vacuum blanket and creases in the blanket
13. Once achieving a steady vacuum of 22 inches Hg., close the UV exposure unit and set the exposure timer according to the Table.
14. Verify that the vacuum gauge has a steady reading and start the timer sequence
- 15 After the completion of the timed sequence, slide out the door (or open the lid)

Developing Photopolymer Plates:

16. Remove the plate from the UV exposure unit
17. Using a printing pad soaked in alcohol wash developer solution rub gently to washout the uncured material from the plate for about a minute
18. Neutralize the developer solution by spraying the plate with a light mist of fresh, warm water
19. Gently blow dry both sides of the plate with clean, filtered air

Post Exposure:

20. Open the UV exposure unit and place the printing plate on top of the platen. Do not cover the plate with the vacuum blanket
21. Post-cure the printing plate by setting the UV exposure time for 10 minutes. The post-cure ensures plate longevity by fully curing the etched area and surrounding material.
22. Place the photopolymer plate into a convection oven preheated to 140 degrees F for 8-10 minutes
23. Remove the printing plate from the oven. Allow to cool down to room temperature.

Important notes about making screened printing plates:

- The first exposure time on the film positive determines the overall depth of the ink well. The SHORTER the exposure time the deeper the printing plate.
- The second exposure on the film positive determines the amount of ink, the size of the dot and the spacing between the dots.
- Reducing the 2nd exposure time on the screen will reduce the height of the dot and will let more ink transfer
- You can control the printing effects by varying halftone screens:
 - A 300 line screen will print finer graphics with shallower printing plates.
 - A 200 line screen will print medium graphics and medium depth printing plates.
 - A 150 line screen will print course graphics and with deeper printing plates.