

Topics of the month: Importance in defining correct washout conditions**=Facts=**

It is very important to process plates with optimal wash out time. Inappropriate wash out time would bring various problems to the quality of plate and printing. Hereunder, method for determining the optimal wash out time has been shown.

=Tips=

- 1) The correct wash out time must be defined according to the targeted relief depth (to the amount of polymer to be removed). The shortest adequate time will guarantee the best final result. However, to make sure the unexposed photopolymer is completely removed, it is advisable to set the wash out time slightly longer. For instance, a plate with a targeted relief depth of 1.00mm will be washed out with the time (or speed) corresponding to 1.20mm relief depth on the wash out graph. This will guarantee to deep and complete wash out process.
- 2) The wash out solvent must be carefully checked, and must fit the manufacture's recommendations, which is temperature, solvent ratio, and so on. If this is not respected, a poor or faulty result will be produced.
- 3) Too short wash out time will leave unexposed photopolymer on the floor layer, and affect the relief depth. This fault is virtually impossible to detect, as the raw material will later (during post exposure) be hardened. It will also reduce the relief depth of the plate. It may give the impression that relief depth is correct, when it is actually far too deep (but invisible), and lead the major copy problems during the face exposure (see fig. 1.)

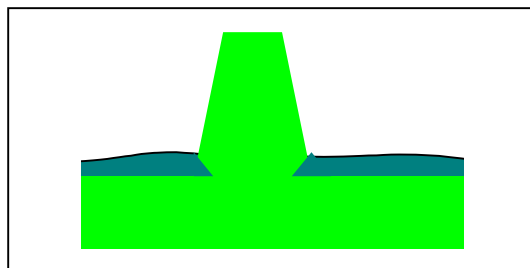


Fig.1 Too short wash out time may leave unexposed photopolymer on the floor and hide the shape of unstable dots which is caused by an insufficient exposure time.

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- 4) Too long wash out time will swell the plate, and can provoke chipping defects on fine details and wavy line. It will also leave brush marks on the floor layer.
- 5) Do not touch the polymer while it is swollen by the wash out solvent. Not conforming to this recommendation can result in damaged printing image and/or ugly marks on the plate floor layer.
- 6) When handling the wet plate, do ensure you are not breathing solvent vapors.

=Hints=**Solvent consumption & Regeneration**

- 1) The average solvent consumption is about 10 to 15 liters per square meter / per mm relief depth – this must only be considered as an indication, as it can vary depending on solvent type, temperature of solvent in use, wash out type, and so on.
- 2) It is also a must to make sure that the wash out solvent is not containing a too high percentage of dissolved polymer – this percentage depends on solvents but usually never exceeds 5 to 10% - otherwise poor wash out may result. Fresh solvent must be regularly added to maintain the saturation at an acceptable level.
- 3) Balance of the solvent component should be also checked on a regular basis and proper care should be taken. In general, portion of alcohol content should be in a range of 20 –25%. If the balance differs from this range too much, it will affect the quality of processed plate.