

TECH TIPS

For Texmac **SOLO** Garment Printer

GENERAL CURING AND PRINTING TECHNIQUES

In this document are listed several techniques for light and dark shirt printing with SOLO, at just about every stage of the process to help you improve overall print quality, and, mostly for this document – minimize or even prevent fading of the image during the curing process.

TECHNIQUES FOR DARK SHIRTS

Colors fading on prints on dark shirts after/during the cure are caused by the color and white layer mixing or flash-boiling during curing, most often if too much ink has been used to create the print. There are several steps to lessen and even eliminate this effect:

1. Pre-treat:

- a. **Refine your pretreat technique** so the white ink lays down with crisp edges (wherever the graphic calls for it) and smooth quality
- b. **Make sure when curing the pretreat that it is COMPLETELY dry.** Even after the pre-treat is cured on the shirt, (and, rightly so, feels completely dry almost like a thin [BUT NOT THICK!] smooth laminate over the shirt) – even then, areas that may have been sprayed (soaked) a little too heavily may still have wet pretreat underneath, which can re-wet the dried layer after a few minutes. The solution is to cure a little more aggressively than you'd think, testing your work by gently touching not only the front but also the inside reverse of the pretreated material. Alternately, you can cure the pretreated shirt and let it hang dry overnight if time allows.

2. At the printing stage:

Fading can be caused by too much ink used. These techniques help eliminate this cause.

- a. **Minimize white ink output:** Believe it or not, test your white ink output levels and set to the MINIMUM level of white ink output needed to get good coverage using the halftone underbase. On a good setting for the underbase, (normally between 10-12) the whitest areas will just barely look wet and solidly covered.
- b. **Use no more color ink than necessary.** We set the color levels to 100% for shirts that will have a white underbase printed under them. (but more for shirts that don't have a white underbase, read on)

3. At the curing stage:

- a. **Flashing with a device:** Use an IR flash curing device if you have one. Even if you have too much ink from (2) above, the flash curing device will stabilize even a "thick" layer of white and the color layer on top of it. Some are placing it inline as the shirt comes out, letting it "set" the white layer before the platen is fed back in to print the color layer, then setting the color layer. This doesn't completely dry it, but it DOES dramatically reduce and even eliminate fading, and even significantly reduces curing time (down to 2 minutes on dark shirts)
- b. **Flashing with your heat press:** If you are not in a hurry (and/or don't want to spend money on a flashing device) you can use your heat press as a flash curing device. To do so, place the garment as normal on the press, then hover the heat platen to 1/2" above the shirt. (must sit level and parallel with the surface) Leave in place for several minutes. Afterwards, lift away the heat platen and allow any water vapor to escape for a few seconds, then proceed with normal cure. The effect is very similar to flash curing with a device as in 3a above - you'll see almost zero fading.

Heat Press technique: Flash curing isn't absolutely necessary. If your ink levels are set efficiently enough, follow this heat press cure technique:

- c. **Put shirt on press and lay teflon gently on top.** Be sure it sits flat with no raised wrinkles.
- d. **Gently de-vaporize the shirt.** Lower heat platen onto the teflon and let it just sit there, no pressure. Leave it there for 5-20 seconds, then lift (5 seconds if you think your print is too wet with too much ink but don't want to flash cure.)
- e. **Lift the heat platen and teflon.** Fan away the water vapor and note about how much there is.
- f. **Repeat the devaporizing step as needed** if you think your print is really wet (too much ink was laid down. To do so, repeat steps **d** and **e** above a few times as you deem necessary. Doing this

repeatedly will gently let the pigment particles "settle" onto the shirt, preventing them from shifting (and fading the image) as the water vapor is gradually let out.

However, if you think you've optimized (minimized) the ink output, you can usually just do step **d** and **e** only once.

4. Final/Main Cure

- a. **Finally, replace the teflon, and let the heat platen down directly on the teflon** (but with no pressure). Let it cure at 330 deg. F for 3 minutes (2:30 at the most for white shirts). At the last 30 seconds, optionally, lock the platen lever fully downwards and let the press apply medium (50% of its max) pressure. This will smooth out any rough-feeling ink without adding too much of a sheen to the shirt.
- b. **Test your results** On a shirt printed with a halftone white base, the printer lays more white ink in areas of the images that have lighter/brighter colors. You'll even notice that when lifting the press, more water vapor comes off these lighter areas. At 3 minutes, the darker areas of the print will therefore more likely be cured. When cool enough to touch, run your hand gently over the darker areas. Properly cured ink will feel smooth and not sticky or rubbery but not necessarily crust- or bone-dry. Compare against the lighter colored areas of the graphic - if the lighter areas feel significantly more "rubbery"/grippy/wet than the darker areas, it's a hint that additional curing needs to be done until those areas feel similar to the darker areas.
- c. **More curing cycles** - If the light areas of your image still feel "wet" as in (6) above, immediately return the heat platen down onto the shirt (no pressure needed) for 30-60 seconds. Lift and note the water vapor coming off the lighter areas and check how they feel compared to the cured dark areas.

Repeat if need be, but it is rare see the need for total curing time (even without flash curing) to exceed 3:30 or 4:00.

TECHNIQUES FOR WHITE SHIRTS

Set the color ink output for white shirts (on C, M, Y, and K) to 200%. You can even save a "setting" for white shirts with this output level and name it accordingly (so you don't have to set the levels every time). See below.

SOFTWARE/COLOR PROFILE

In the VARIO software, using the newest color profile for the prints. To do so at stage 1 or 2 (not stage 3/Preview or 4/Print), click File..Preference and click the Print tab. Then click SETUP next to the ColorPrinter. For Paper, choose SOLO 1440x1440 and not the default MMP813-BLAK. To copy the profile, click the (+) button to the right, which opens a duplicate copy, making the settings visible. Set the gamma to +10, and for dark shirts, leave everything else alone, and name and save as "Settings for Dark Shirts".

COLOR INKS

Use the new Magenta and Yellow color inks. When re-ordering color inks, Texmac has replaced the Magenta and Yellow colors with newer versions that will produce more accurate color prints and less fade to dark on some shades. If you don't flush the color lines completely clear, you may go through several cartridges of the new color inks before the effect of the 1st generation magenta and yellow is completely washed away. You can tell the new color inks because the yellow or magenta color swatch is filled with a dot pattern on both the box and on the mylar bag.

Note: Information in this document may be subject to change.