



SolarFast™ Step Wedge Instructions

WHEN TO USE IT:

- Using the SolarFast Step Wedge is completely optional. In fact, most printers will never need to use it—the exposure times suggested on the SolarFast labels will almost always produce great prints on sunny days.
- Use the SolarFast Step Wedge only if you are printing in unusual conditions, such as if you are printing with artificial light, or if it is an unusually cloudy day.

NOTE: When using artificial light to make SolarFast Prints, the exposure time will depend on the UV output of the bulb, and will likely be significantly longer than exposures made in direct sunlight. Perform a step wedge test to determine the optimal exposure time!

WHAT IS A STEP WEDGE?

- The SolarFast Step Wedge should be printed through an inkjet printer onto SolarFast Film or another high-quality transparent film.
- Hold your step wedge up to a light source: on one end it should be completely transparent (step 0), and on the opposite end, it should be completely opaque (step 10).
- If step 10 is not completely opaque, either adjust your printer settings to output more ink, run the film through your printer a second time, or layer two step wedges for greater opacity and contrast.
- The step wedge consists of 10 steps, ranging from completely opaque to completely transparent, with a 10% difference in optical density (how much UV light passes through) from one step to the next.

HOW TO USE THE SOLARFAST STEP WEDGE:

1. Make a SolarFast print using the SolarFast Step Wedge, according to the SolarFast instructions.
 2. Wash and dry your print before analyzing your results. The perfect exposure will result in a print with each step value clearly differentiated, ranging from the deepest depth of shade (step 0) to white (step 10).
- If underexposed, white areas will extend past step 10 on the resulting print. Conversely, if overexposed, the darkest value will extend past step 0.
 - Just as each step value represents a 10% difference in optical density (how much UV light passes through), each step also represents 10% of the total exposure time. Increase exposure time by 10% per step to differentiate values on the high end (steps 6-10), or decrease exposure time by 10% per step to differentiate values at the low end (0-4).
 - If steps 9 and 10 are undifferentiated on your initial print, for example, increase the exposure time by 10% (from 10 minutes to 11 minutes, for example). If steps 8-10 are undifferentiated, increase exposure time by 20%, and so on. On the other end, if steps 0 and 1 are undifferentiated on your initial print, decrease exposure time by 10%.
 - If steps 0-2 are undifferentiated, decrease exposure time by 20%, and so on. By adjusting your exposure time according to your step wedge results, you will be able to find the optimal exposure time quickly and easily. If your darkest value (step value 0) looks pale, you may need to increase the overall time. (If this doesn't do the trick, see our [FAQ's, Tips and Tricks](#) page).

NOTE: Step wedge tests are used to determine exposure times in all kinds of photographic processes, from darkroom photography to screen printing and lithography, and each system is unique and presents its own unique challenges. Another way to say this would be to say that each chemistry has a different threshold of value differentiation, inherently. You may find that, with SolarFast, it is difficult to achieve differentiation between all 10 values: you may lose your lighter values if you are trying to bring out the darker ones, and vice versa. Additionally, each color may present unique challenges or have different thresholds of value differentiation. This is typical of all photographic systems, and is inherent to the SolarFast chemistry.

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