

At Big Frog we print with a digital process called direct to garment printing (DTG). To print on every color shirt DTG printing requires 2 different sets of equipment. Our CMYK printing process is used for white and light to mid colored shirts. Our DSWI process (Dark Shirt/White Ink) is used for printing on dark colored shirts and any shirt that requires white ink. Here's an explanation of each process: CMYK and DSWI

CMYK - CMYK printing actually puts ink **INTO** the shirts where it is heat set and permanently becomes part of the cotton in the garment. CMYK printing uses a very "green, environmentally friendly" type of vegetable based ink that reacts with heat to bond to the cotton fibers of the garment. When printing with our CMYK process you can't feel the print and the print breathes as if it wasn't there. CMYK printed shirts can be hot ironed, washed normally and the print designs will usually outlast the shirt itself. Because CMYK printing puts ink into the shirts and dark shirt colors are the combinations of many other colors the CMYK printing process blends or gets absorbed by the dark colors and become obscure. The darker the shirt color the fewer options we have with our CMYK process. The best example of this is the color black - since black is the combination of every color - anything we print on black with our CMYK process will completely disappear. The best CMYK printing colors tend to be the midrange to lighter colors. We print on many blues, greens, yellows, pinks, grays, browns, etc. with great success and amazing clarity - we offer about 40 different shirt colors to choose from. The CMYK process will produce approximately 45 to 50 average size prints per hour.

DSWI - The Dark Shirt/White Ink process puts ink **ON TOP** of shirts. DSWI printing is not screen printing. It is somewhat softer than screen printing and has about the same washability. DSWI printing requires a base or pretreatment layer to be applied to the printing area prior to printing. Pretreatment allows the ink to sit above the shirt while it is being applied. Pretreatment has to be heat set for approximately one minute and is an additional step not required for CMYK printing. Pretreatment washes out of the shirt after the first wash. After a shirt has been pretreated it is now ready for printing. DSWI printing requires two printing passes for one print. The first pass lays down a white underbase and the second pass applies all the color. The finished printed shirt must now be heat set for three minutes. The final heat set cures the ink and adheres it to the shirt. The DSWI process will produce approximately 15 to 18 average size prints per hour.

Both of our printing processes have the same advantages of printing in unlimited colors and we never charge for set-up or design with either process. Our CMYK process gives us the best opportunity to deliver on our 24 hour turnaround for in stock store items. 24 hour turnaround with our DSWI process is difficult most of the time due to other customer commitments and time itself. Based on promises to other customers and time we usually like to tell our customers to be prepared for a two to three day turnaround and sometimes longer. The difference in price between CMYK and DSWI are based strictly on time requirements.