



## POSSIBLE SOLUTIONS

### GRAIN-TOUCH

**Diffusion Dither Image:** creates a random dither pattern. (Preferable for illustration unless you want the half-tone dots look). Once **Grain-Touch** option is selected, there are no **Screen Frequency/Angle** settings available.

### SCREEN-COVERED

**Bitmapped Image:** creates half-tone dotted patterns.

### SCREEN FREQUENCY

Control the size of the dots produced.

**Higher numbers = Smaller & more dots** ↓

Suggested **Screen Frequency** numbers: **75, 80, 85**  
(Try to don't go higher than 90)

### SCREEN ANGLE

Control the angle that the pattern is set to in order to avoid moiré effect. For one color work, a typical angle is **45°**. For two colors work, You will put **30°** angles apart from each other **15°, 45°** (Usually the lighter colors get the lower angles). For CMYK printing:

**Yellow:0° Pink:75° Blue:15° Black:45°**

### COLOR OPACITY

Keep the color opacity between **80% - 90%** (Never 100%). When you have a large flat area of 100% ink coverage, the paper would probably get stuck to the drum.

### INTERVAL PRINTING

Slow down the printing speed by using **Interval Printing**. This may avoid ink transfer from heavily inked areas on to the back of the next sheet.



## PHOTOSHOP FILE PREP

Photoshop separates out each color channel or layer into individual grayscale PDF files:

Make your image CMYK

[Image > Mode > CMYK Color](#)

Split your image into separate color channels

[Channel Window > Split Channels](#)

Adjust brightness and contrast for each color channel

[Image > Adjustments > Levels or \(Brightness and Contrast\)](#)

Save each color channel to PDF file format

[File > Save as > Photoshop PDF \(High Quality Print\) > Option \(Do Not Downsample\) > Compression \(None\)](#)

TIPS

Alternatively, if you have prepared your color separations in layers instead of channels, you can convert them to grayscale and use the **"Layers to Files"** function to split them into individual PDFs.

Make your layers to PDF files format

[File > Export > Layers to Files > Select PDF > Encoding \(Zip\)](#)



## ILLUSTRATOR FILE PREP

Illustrator separates out each layer into individual grayscale PDF files:

Save each color layer to PDF file format

[File > Save as > Adobe PDF \(High Quality Print\) > Compression \(Do Not Downsample\) > Compression \(None\)](#)

Adjust brightness and contrast for each color channel

[Edit > Edit Colors > Adjust Color Balance](#)



## POLICIES & PROCEDURES

A PrintFX staff member must be present when using the Riso printer. Students may NOT load paper into the machine, change ink drums, or touch the internal components of the Riso printer.



## PRICING

Please refer to our Riso ordering form for pricing.



R I S O

F I L E P R E P

G U I D E L I N E S

## HOURS OF OPERATION

Monday - Friday 9 am - 6 pm

Pomerantz Center 5th Floor D529A

212 217.5470 | [www.fitnyc.edu/printfx](http://www.fitnyc.edu/printfx)



## RISO PRINTER

Riso printing is like digital screen printing, you print one color at a time. Each color requires a separate screen "Master" (Riso printing language) to produce a single color print. The Riso printer uses environmentally friendly soy oil or rice bran liquid based emulsion ink. It is semi-transparent, providing the opportunity to use a layering technique to produce multi-colored prints.



## PRINT AREA & PAPER TYPE

The Riso printer cannot print full bleed to the size of the paper. The maximum printable area is 10"x16" on 11"x17" paper.

We don't use coated paper because smooth and glossy surfaces don't work well with Riso ink.



## INK & DRYING TIME

Riso uses Rice oil (Soy oil) based ink with no drying agent. Ink dries purely from absorption to the paper. When you are printing more than 2 colors, the recommended wait time to print the 3rd/4th color will be about 4-8 hours, preferably one day downtime. If the print has a lot of heavy ink coverage or dark colors, preferably wait for 2-3 days.



## PRINTING

Your artwork should be separated into individual grayscale pdf files (300dpi) for each color that is to be printed. You can print two colors at a time and up to four colors.

**Single Color = 1 file (Monotone)**

**Duo Colors = 2 files (Duotone)**

Duo color images are created by layering one color over another. This is a duotone image printed using Blue and Pink.



Blue



Pink



Duotone Image

Photo by Charles on Unsplash

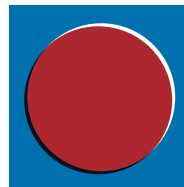
Typically the most prominent color or darker color printed first and the lighter color printed last, but the order can be switched to achieve a different effect. If you want a specific color to be more prominent, that color should be printed first, because the first color soaks into the paper and the overlay color loses vibrancy when printed on top of the other ink.

The Riso printer uses inked drums to create the image. It takes a minimum of 15-30 prints to fully ink up the drum and print correctly.

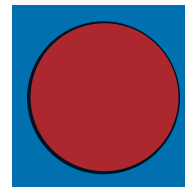


## REGISTRATION

Registration is fairly accurate with two color artwork. Printing more than two colors will require more than one pass, and it's best to assume that misregistration will likely occur. Include trapping where necessary. It is difficult to line up your artwork perfectly, so bear this in mind in the designing process.



Mis-registration Example

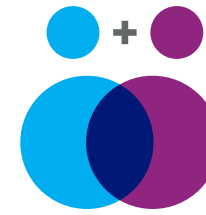


Trapping Example

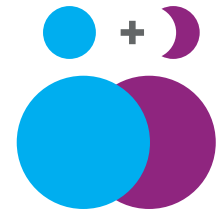


## OVERPRINTING VS KNOCKOUT

Overprinting is when colors are printed over each other. This creates new blended colors. Knockout is when you cut out overlapping colors from the lower layers so that you only print with the pure spot colors.



Overprinting Example

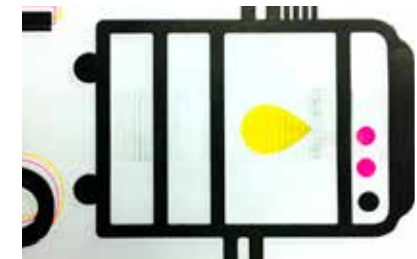


Knockout Example



## ROLLER MARKS

The Riso printer feeds in paper using a set of rubber rollers. If there is a lot of ink on the page, be aware it might be transferred onto the rollers leaving unwanted track marks on your next print (pass).



Roller Marks Example

Try to avoid printing in the center of the page until the end, to avoid excessive roller marks. Also, give some drying time and ask the lab technician to clean the roller if necessary.