

RISO *ME*

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A GUIDE TO RISO; FILE SETUP, COLOUR & LAYOUT



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01

RISOGRAPH INTRO

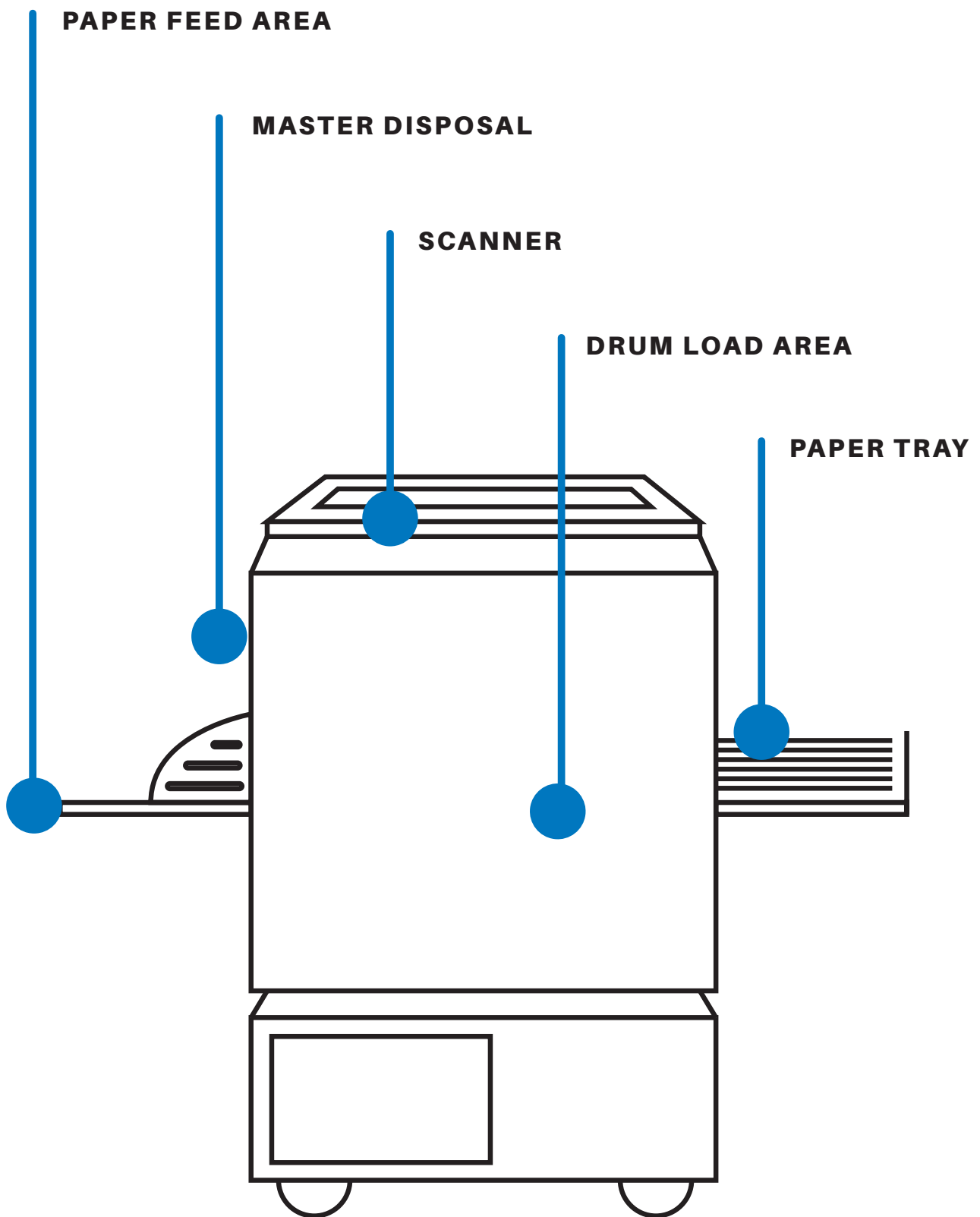
Risograph printers were designed to bridge the gap between a conventional photocopier and a laser / litho printers. RISO printing is a super energy efficient and sustainable printing method.

The process uses very little energy, non toxic water based inks and stencils made from plant fibres. This makes it a brilliant, economical way to produce unique, quality prints cheaply and is often compared to an alternative to silk screen printing due to the nature of how it works

The RISO works by transforming your artwork into a stencil. Your chosen colour drum is then inserted into the riso machine, and the stencil is wrapped tightly around it. Paper is fed flat through the machine, passing under the rotating drum, which transfers your artwork onto the paper at high speed. Stencils are made specifically for each drum and are non transferable. One colour is printed at a time, and multicoloured prints are created by switching out drums, then over printing; passing the paper through the RISO again and again!

The RISO process is fantastic for graphic artwork, typography, illustrations and photographs making it perfect for printing posters, prints, booklets, zines, leaflets.

To make the most of RISO understanding the process is key as it will enable you to experiment with opacities, colour layers and the offset nature of printing. If you are familiar with silk screen printing, your existing knowledge will lend itself to understanding the RISO process, as both rely on a layering technique to achieve multi coloured prints.



02

RISOGRAPH INKS

The RISO inks produce a unique texture, resulting in a hand printed and tactile finish. The inks are soy-based, non-toxic, and unique to the riso process. Colours produced can not be truly represented on the web or through digital print giving you unique print results.

The RISO printer contains two ink drums making it possible to print two colours in one pass of the paper. But essentially each colour is printed one at a time. For more colours the paper is passed through a second or even third time, but allowing drying time between these passes is very important.

Because of the high speed process, the RISO printer will register the artwork within 0 - 5mm, this is worth bearing in mind if you have art work with multiple layers of colour that require a tight registration. It is these differences in overlying ink which mean that each print is a unique piece of artwork.

"It is the unpredictability, happy accidents that the RISO does so well"

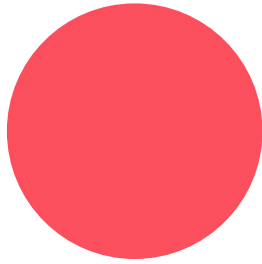
The inks are all slightly translucent, even at 100% and they can be used at difference opacities [set in your artwork], the lower it is the paler the colour. The darkness of your artwork on screen will reflect in the intensity of the ink.

This allows for interesting outcomes when you layer the inks on top of each other and worth thinking about what colour you will have when you do layer them.

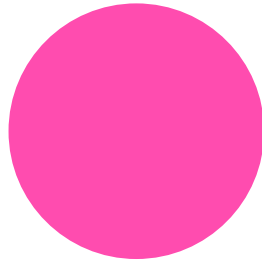
We recommend your finished artwork is viewed in grey-scale so you can clearly see the opacity of the finished piece.

Dense, large areas of colour, especially dark colours such as blue, do not print very well. The ink never fully dries which can result in smudges and roller marks.

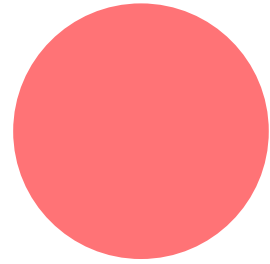
With artwork containing a lot of ink, try reducing the opacity (70% - 80%) to help the ink dry quicker.



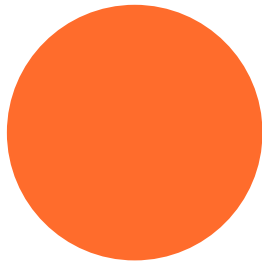
Bright Red
PANTONE 185 U



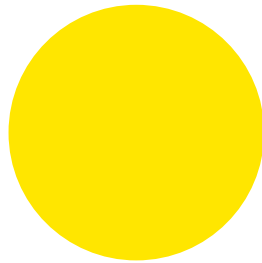
Fluorescent Pink
PANTONE 806 U



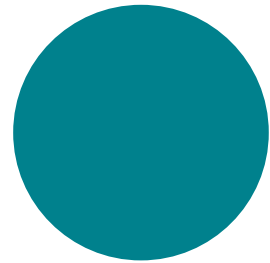
Fluorescent Orange
PANTONE 805 U



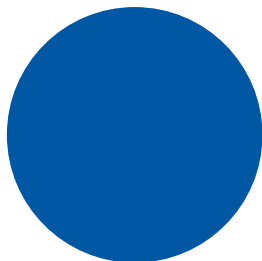
Orange
PANTONE ORANGE 021 U



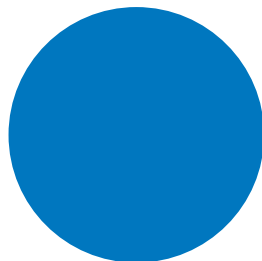
Yellow
PANTONE YELLOW U



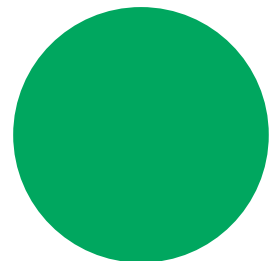
Teal
PANTONE 321 U



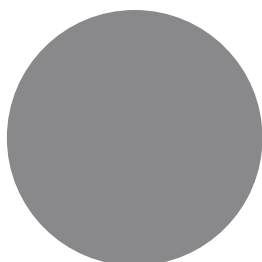
Medium Blue
PANTONE 286 U



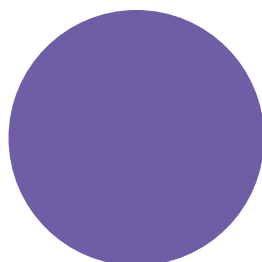
Blue
PANTONE 3005 U



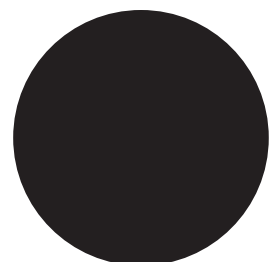
Green
PANTONE 354 U



Light Grey
PANTONE 424 U



Purple
PANTONE 2685 U



Black
PANTONE BLACK U

03

CONSIDERATIONS: INK COVERAGE

Too much ink coverage can cause paper to stick to the stencil / drum, which can jam the machine and tear up the paper. This will stop us being able to print, and will require the artwork to be amended by you.

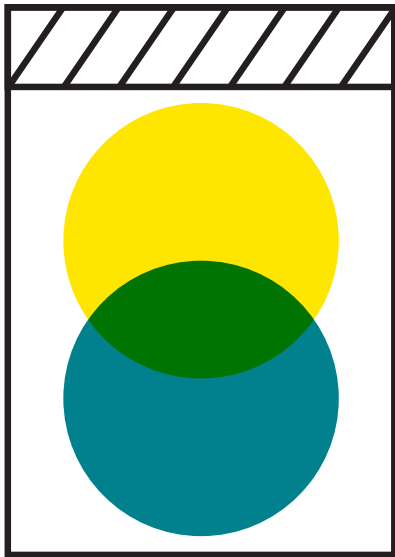
Heavy ink can also cause extra splashes, needle marks and smudges on prints, as the paper is separated at an uneven rate. Large areas of ink set between 90 -100% can result in a visibly varied print consistency due to ink flooding across the stencil.

Firstly, try to avoid large coverages of ink if possible, especially with darker colours such as blue, which take a long time to dry.

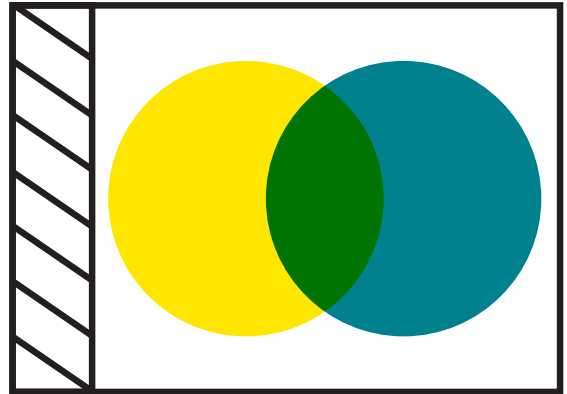
Printing heavy borders around the edge of the page will not work. The paper will stick to the drum due to the amount of ink around the lead edges. Either reduce the opacity to 70%, or create blocks to stop the border at both lead ends of the page.

The RISO can't print 100% ink density across 100% of the paper. You will need to reduce the opacity of your artwork to 70%.

Large areas of solid colour can also cause problems! Especially around the edges and top/bottom of stencil (keep one end clear and again, reduce the opacity to between 70% and 80 % depending on the darkness of the colour)



← If possible, leave the area at the top (or the left side if landscape) of your art work clear or with a light ink coverage.



For 100 % or large coverage / Solid borders
Reduce the opacity to 70%



04

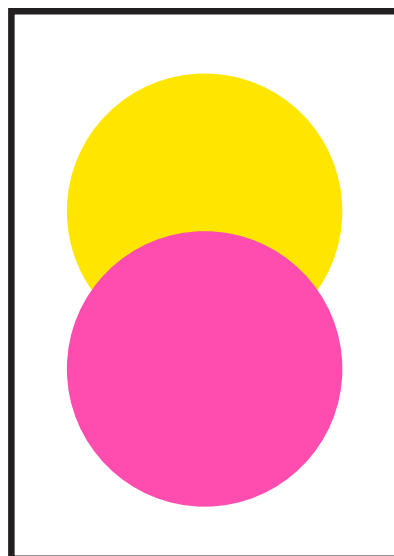
CONSIDERATIONS: OVERLAY / OPACITIES

RISO inks are all slightly translucent which means they can be overlayed with other RISO inks which creates many new colour options.

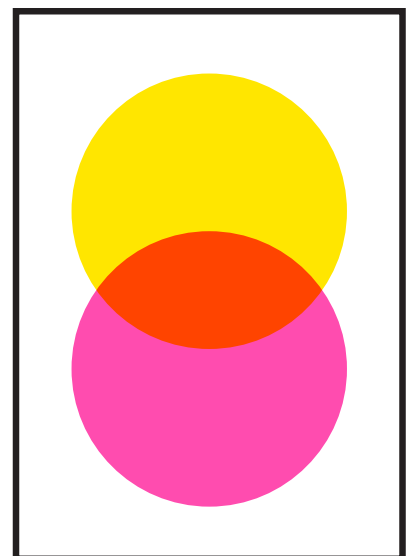
To view the effect of overlay you can use the MULTIPLY effect in your adobe file. By altering the opacity in your artwork you can change the intensity of the effect. The darkness of your artwork on screen will reflect in the intensity of the ink.

Convert your colours into grey-scale to clearly see how the opacities will work in the finished piece. This is how we will print the file as well, the RISO printer assigns a colour to the layer, it doesn't print like a CMYK printer.

You can use any combination of the inks but we recommend 1- 4 colours per print as drying time needs to be taken into consideration which can be up to a week.



NO EFFECT APPLIED



MULTIPLY EFFECT APPLIED



TEAL OVERLAYING FLOURO PINK

[scanned objects]

Cath _ Foundation Lecturer



BRIGHT RED OVERLAYING YELLOW

[scanned drawings]

Ibriham _ Illustration Student



FLOURO PINK OVER LAYING YELLOW

[using channels in photoshop]

_ Photography Student



BLACK OVERLAYING BRIGHT RED

[digital file]

Aidan Biddiscombe _ Illustrator & Graduate

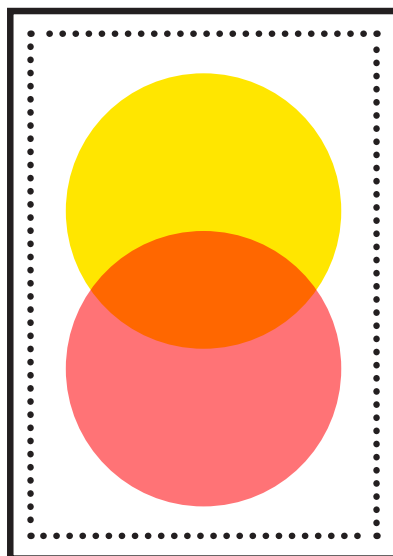
05

DESIGN LAYOUT & COLOUR SEPARATION

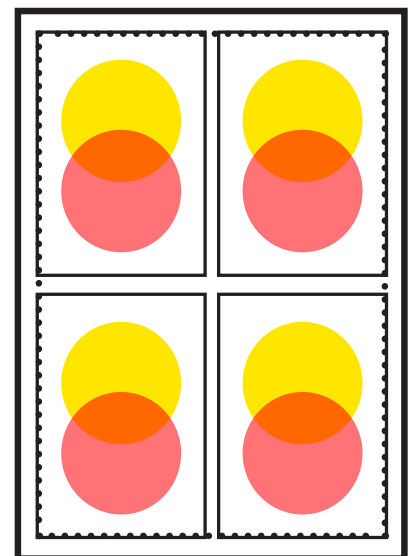
The largest paper size we can print here is A3 [297mm x 420mm]. The RISO Printer can not print the edge of the paper [full bleed]. A 10mm blank border should be left.

Don't worry if you forget, it just means we have to 'fit' the artwork to the page when printing which will be a slight reduction in the overall size of your print. As long as you are happy with this!

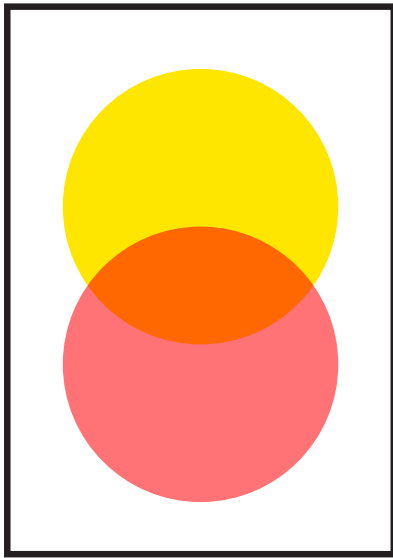
A4 and A5 paper can be used in the printer, but it is worth considering setting your artwork up onto A3 if your wanting multiple prints. Especially if you are printing business cards, flyers, small size prints.



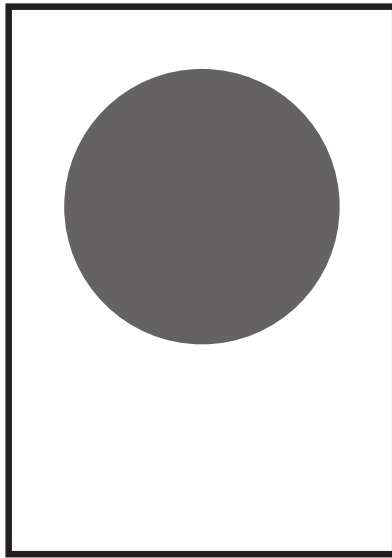
10mm BORDER



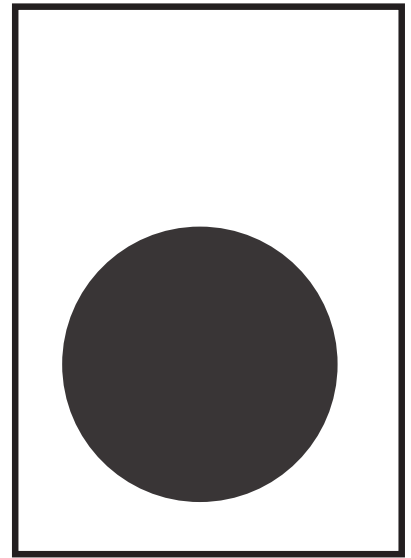
A5 | 4 UP ON A3 SHEET



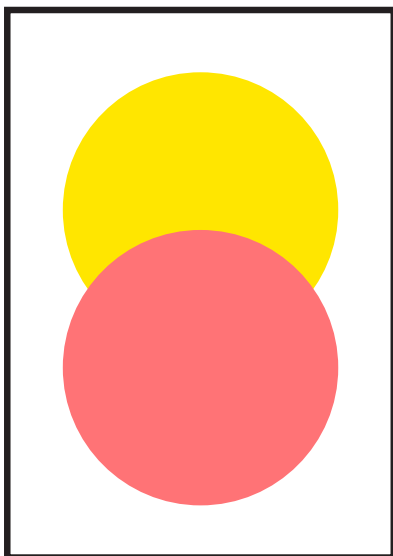
OVERLAYED COLOURS



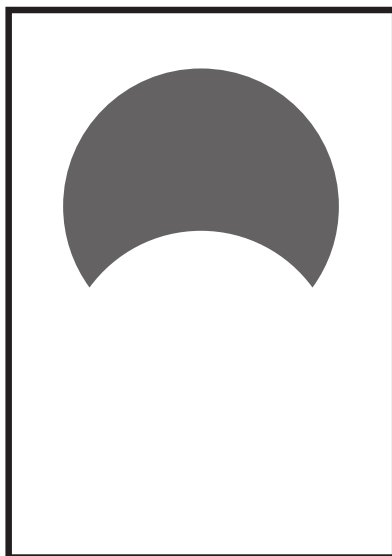
YELLOW



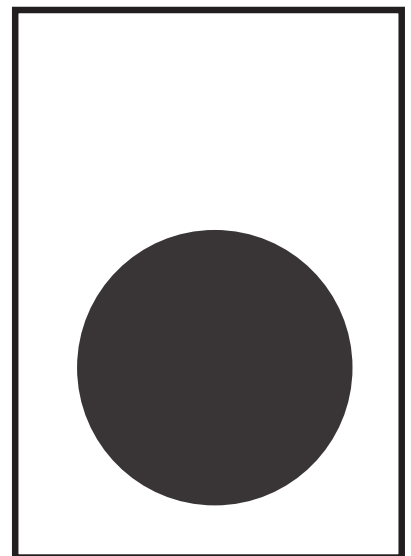
FLOURO ORANGE



**SHAPE AT THE FRONT
KNOCKED OUT OF BACK**



YELLOW



FLOURO ORANGE

**** MULTIPLY YOUR LAYERS ****
YOU CAN SEE HOW YOUR LAYERS WILL INTERACT WITH EACH OTHER
[OPEN 'EFFECTS' FROM THE 'WINDOW' TAB ON THE TOP BAR OF YOUR FILE]
MAKE SURE SHAPES / LAYERS ARE SELECTED TO APPLY EFFECT

06

FILE SET UP: PROGRAMMES

You can supply your files as **Illustrator and Photoshop**. Your layers need to be intact and clearly labelled with the **RISO ink colour name you would like**. Please make sure they are **editable and 'packaged' to contain the fonts used** [we may not have them on our system]

PHOTOSHOP

It is possible to print each layer created as long as they have been split into the colours that are going to be printed.

There needs to be one layer per colour.

If you have multiple layers/shapes which need to be the same colour then you need to 'merge' them into one layer.

Any images within your file need to be flattened to create one 'colour' layer.

Channels, if you have a photograph, you can select [and label] particular ones to print.

ILLUSTRATOR

Each colour need to be a separate layer

Any bounding boxes surrounding shapes will also print out as a 'ghost' box. So you need to make sure you remove them.

Use the **MULTIPLY** effect or preview in grey-scale, this will help you see how the opacities of the colour will look on the final print.

Pdf

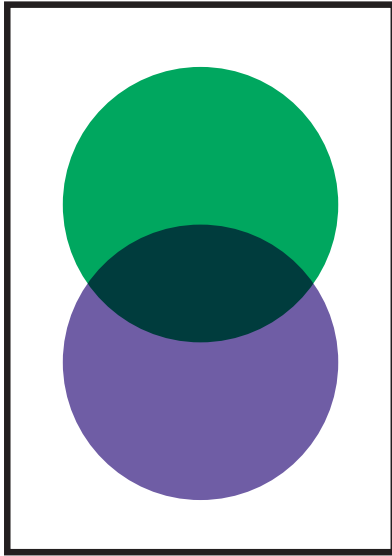
It is possible to print from pdf but each colour needs to be a different layer or file and they need to be flattened.

SCANNER

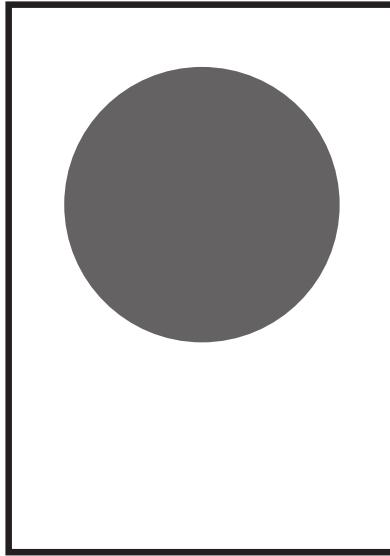
The RISO has a scanner, which means we can print from original artwork.

For each colour you will need a separate page to scan.

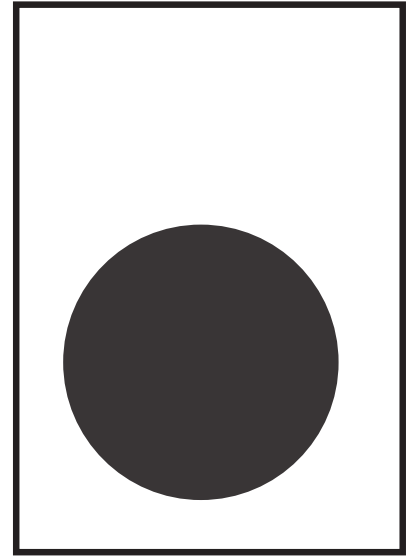
Bear in mind that it works like a photocopier so the bigger the range of contrasts to the work, the more detail it can pick up.



REFERENCE LAYER
Showing intended outcome



GREEN LAYER
[Set to Grey-scale]



PURPLE LAYER
[Set to Grey-scale]

ALL IN THE SAME FILE [PHOTOSHOP / ILLUSTRATOR] OR AS SEPARATE PDF'S

CHECK LIST

To help you make sure that your file is set up as best as it can be here is a check list of the main points for you to have done ...

ADOBE ILLUSTRATOR / PHOTOSHOP FILE

- ☐ Provide colour reference layer / final art work view
- ☐ Make sure the file is editable and linked files are intact!
- ☐ Each colour is a single layer, with required opacity set, within file

PDF

- ☐ Flattened PDF (no layers or transparencies)
- ☐ Resolution = 300dpi
- ☐ Set to Grey-scale / B&W
- ☐ Each colour layer saved as a separate file

PAPER ARTWORK FOR THE SCANNER

- ☐ Each coloured layer is a separate page
- ☐ Ideally work is in black and white

07

FILE SET UP: BOOKLET PRINTING

For us to print perfect bound booklets your pages need to be arranged into spreads ready to assemble, not in the normal numerical order.

Also because we are double sided printing - ink coverage needs to be considered carefully. Large coverages will not work well and take longer to dry.

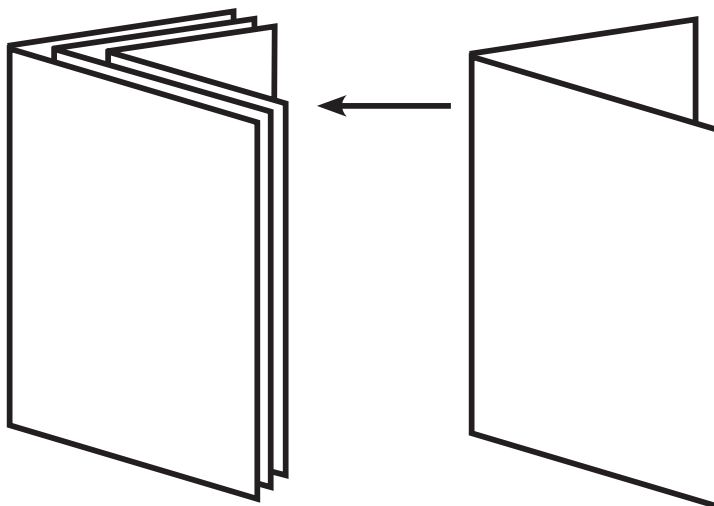
You need to manually layout the pages ready for booklet printing e.g. page 2 is positioned next to page 7, so that when the two pages are printed on the same sheet, folded and collated, the pages end up in the right order as a booklet.

You will also need to provide a file showing the actual page layout.

Note:

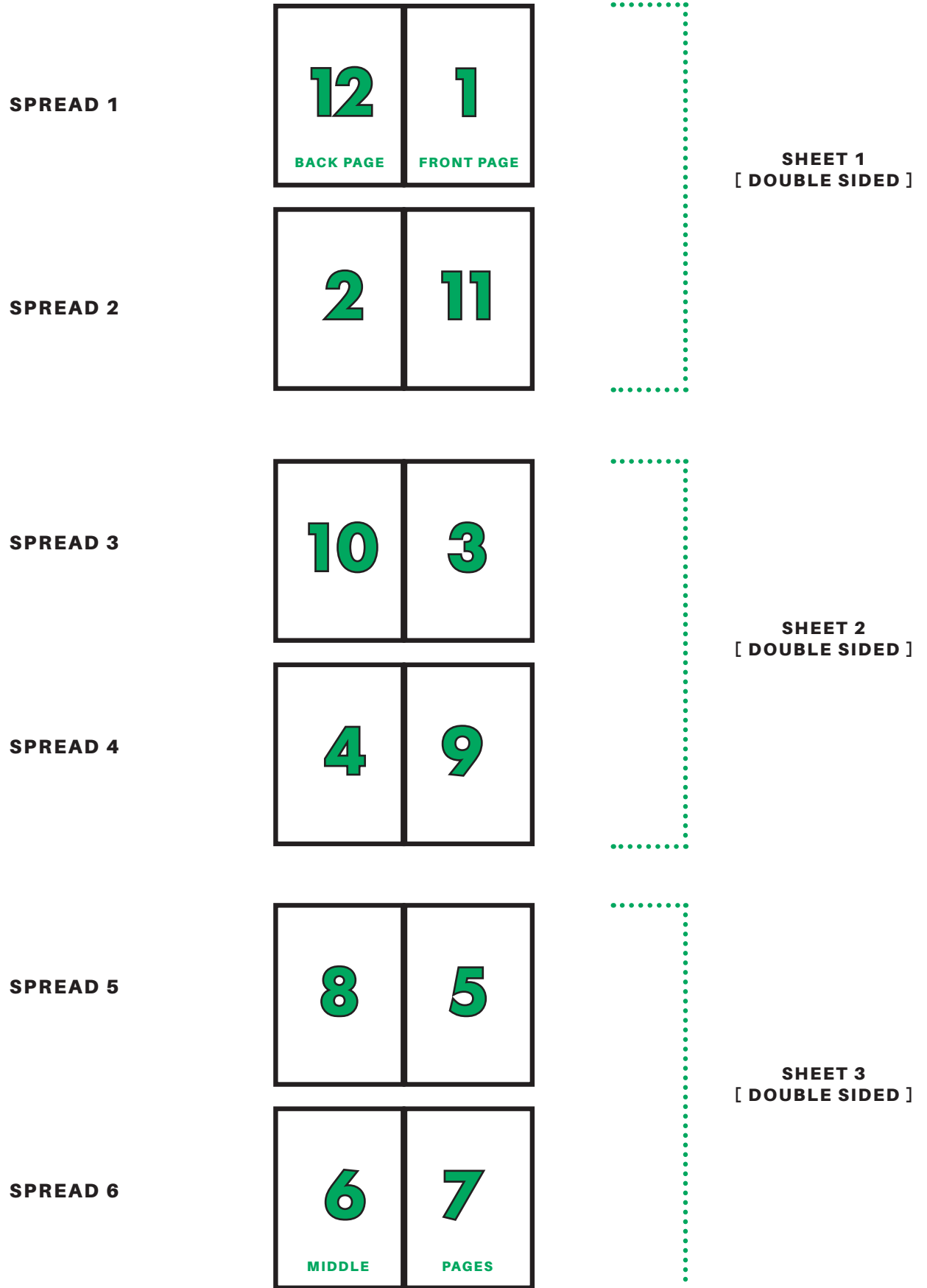
- You will need to provide a mock up of your booklet
- Pages need to be multiples of 4 [8, 12, 16, 20 etc.]
- A3 sheets = A4 Booklet / A4 sheets = A5 Booklet

**** PLEASE SPEAK TO A TECH DEM FIRST AND WE CAN LOOK AT YOUR ART WORK AND HELP WITH THIS PROCESS ****



PERFECT BOUND PAGES

MANUAL FILE LAYOUT FOR 12 PAGE BOOKLET



08

RISOGRAPH PAPERS

The RISO printer is a flat bed printer. This means that it can accept a broad range of paper stock. Uncoated paper is used and we recommend no thinner than 80gsm and no thicker than 350gsm

We are able to print up to A3 in size [297mm x 420mm] with the actual printable area being 277mm x 400mm [created by leaving a 10mm clear boarder on your artwork]

We stock between 120gsm and 300gsm uncoated white paper.
[check with us for latest!]

Also, consider the use of coloured papers and feel free to bring your own samples to test out, just make sure it is uncoated and no thicker than 300gsm.





CONTACT & BOOKINGS

If you want to book a RISO slot then you need to do this on moodle.

Please send us your files via email [or [dropbox.com](https://www.dropbox.com)]
Be sure to make sure fonts and images are linked/include.
Make sure they are set up as best as you can, this will prevent any time being used up correcting them.

Please note that it isn't possible to use the RISO printer without a technical demonstrator present.

Any questions or queries, feel free to drop us an email, or pop down for a chat if we are free!

Glenn Sherwood

Technical Officer

glenn.sherwood@uwtsd.ac.uk

MONDAY | TUESDAY | THURSDAY | FRIDAY

Morwenna Chapman

Technical Demonstrator

morwenna.chapman@uwtsd.ac.uk

WEDNESDAY

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REFERENCES & USEFUL WEBSITES

Here are just a few UK based RISO studios and printers.
Check out their galleries and get inspired for RISO!

RISOTTO STUDIO

RISOTTO makes all paper goods from their zero-waste workshop in Glasgow, where a small and passionate team work hard to design, test and launch new products; sustaining the power of small-scale artisan quality, as an alternative to mass production.

risottostudio.com

HATO PRESS

Hato Press is an independent printing and publishing house based in London. Established in 2009, Hato is thought of as an autonomous experimental space to encourage collaborators to develop ideas and facilitate both the production and distribution of new content.

hatopress.net

DRUK

Druk was the first company in the UK to specialise in Risograph printing as an artistic technique and is a world leader in terms of quality and innovation. Risographs were developed as a means of producing high volume prints at reasonably low cost, and were mostly used by churches, schools, prisons and political parties. They were not designed for high-end print, but over the years we have found ways to wrangle them to our advantage.

druk.london/print

PEOPLE OF PRINT

Article: Top 15 RISO printing studios

www.peopleofprint.com

[/general/top-15-risograph-printing-studios/](http://www.peopleofprint.com/general/top-15-risograph-printing-studios/)

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RISO NOTES

