

PRODUCTION METHODS OF PRINTED FABRICS

SCREEN PRINTING

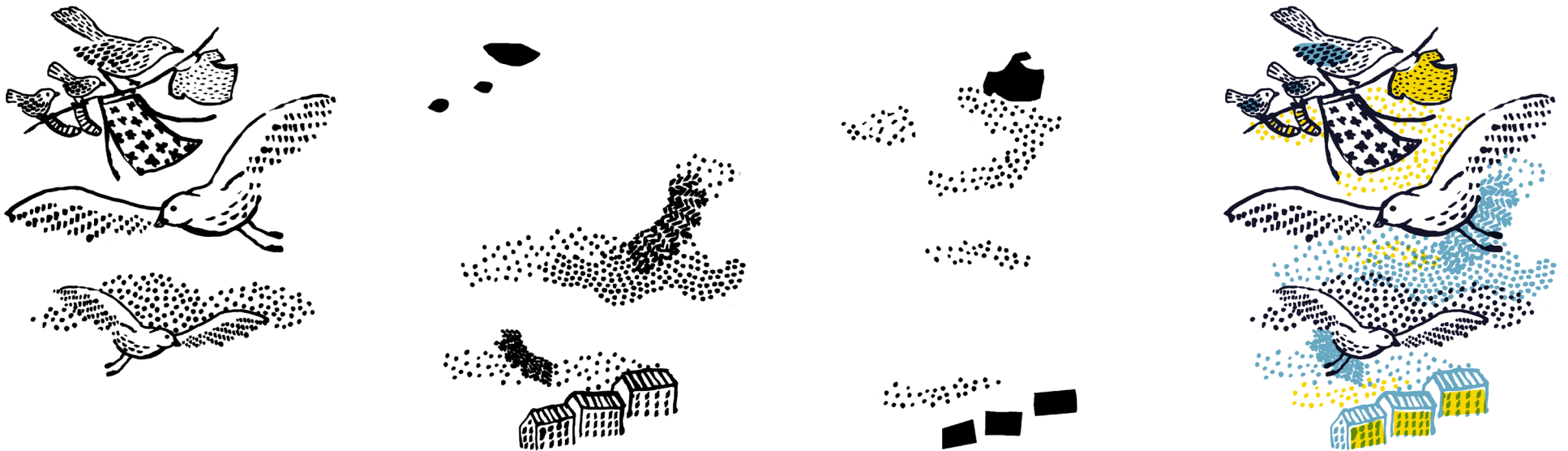
Screen printing is a method in which color is printed on a fabric through a screen mesh/fabric stretched in a frame.

The screens can be flat (flat screen printing), or shaped as cylinders (rotation screen printing)



SCREEN PRINTING

Each color needs its own screen, which is why screen printed designs must be color-separated.



EXAMPLES OF HAND PRINTED FABRICS



Fanni Lyytikäinen & Christine Valtonen, photo Guillaume Roujas

Lucille Piallot, photo Guillaume Roujas

INDUSTRIAL FLAT SCREEN PRINTING

REPEAT SIZES

- Repeat sizes even in industrial production depend on the size of the screen
- Various sizes are used: width can be up to the width of the fabric and height up to over 2 m.

COLOURS

- Usually max. 8-12 screens = print colours
- The more colours are used, the more expensive the result is

Hand operated printing “carroussel” for printing T-shirts:

https://www.youtube.com/watch?v=o_CNBCcNW2U



Flat screen in Marimekko

EXAMPLES OF INDUSTRIALLY SCREEN PRINTED PRODUCTS



Josef Frank



Satu Maaranen, Petit Bateau



Maija Fagerlund, Arabia



Maija Louekari, Marimekko

ROTARY SCREEN PRINTING

Rotary printing is also a screen printing method, but the printing screen is cylindrical instead of flat. The color is inserted inside the cylinder, from where it is printed through the screen (= the outer surface of the cylinder) on a fabric. The rotation of the cylinders is very fast compared to moving a flat screen, making rotary printing more affordable in price.

(See the machine printing: <https://www.youtube.com/watch?v=R04Dbm3ZRAE>)

From the point of view of a designer, possible repeat sizes in rotary printing are quite limited, but otherwise the method is very similar to flat screen printing.

REPEAT SIZES

- The height of the repeat depends on the circumference of the cylinder shaped screen
- The most often used rotation screens are **64 cm** in circumference = the most common repeat size in rotation screen printed fabrics is 64 cm or any number dividing evenly in it (32/21,33/16/8 cm)
- In the width of the repeat there aren't any limitations

COLOURS

- Usually max. 8 screens = print colours
- The more colours are used, the more expensive the result is



EXAMPLES OF ROTARY SCREEN PRINTED PRODUCTS



Maija Fagerlund for Eurokangas, Ren Tong for Vimma

Rut Bryk for Tapettitalo, Maria Korkeila for R-Collection, Maija Fagerlund for Lauritzon's, Teija Puranen for Marimekko

DIGITAL PRINTING ON FABRIC

In digital printing the colorant is printed directly onto the pre-treated fabric, using a printer similar to ink-jet printer. Digital printing is especially suitable for production of small batches as well as test prints as there are no screen making expenses to start with. However, the production speed in digital printing is slower than in rotary screen printing, making it more expensive in the long run. This situation is probably due to change, as the print speed of the newest models has increased (as the number of printheads in the printers has increased.)

- No restrictions with the amount of colours or repeat sizes



Digital printing in Lodetex, photo Petra Haikonen

EXAMPLES OF DIGITALLY PRINTED FABRICS



Petra Haikonen



Miia Puustinen, Aarrelabel



Gunilla Lagerhem Ullberg, Kasthall

REPEAT

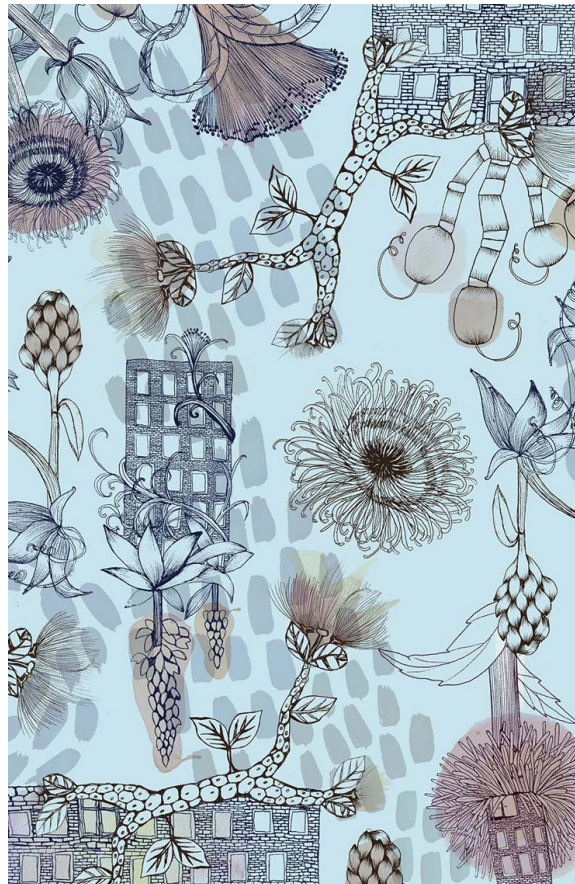
One of the important factors in printed fabrics is the rhythm of the repeat. Often the aim is to make designs, where repetition is not obvious - where you don't really see repeat, but of course the repetition can be also used as an effect. Motives in the design can run in one, two or four directions. One way designs suit well e.g. for curtains, wallpapers, bedlinen and other products where there is no need to cut the fabric into patterns, whereas 4-way designs are often used e.g. in clothing and upholstery.

1-way design



Maija Fagerlund

2-way design



4-way design



Mina Perhonen

If the fabric is intended to be cut into patterns, consider how the design will repeat in them



PLACEMENT DESIGNS

Print designs, which are not in repeat but rather printed directly onto a certain place in a product, are referred to as placement prints.



Kenzo



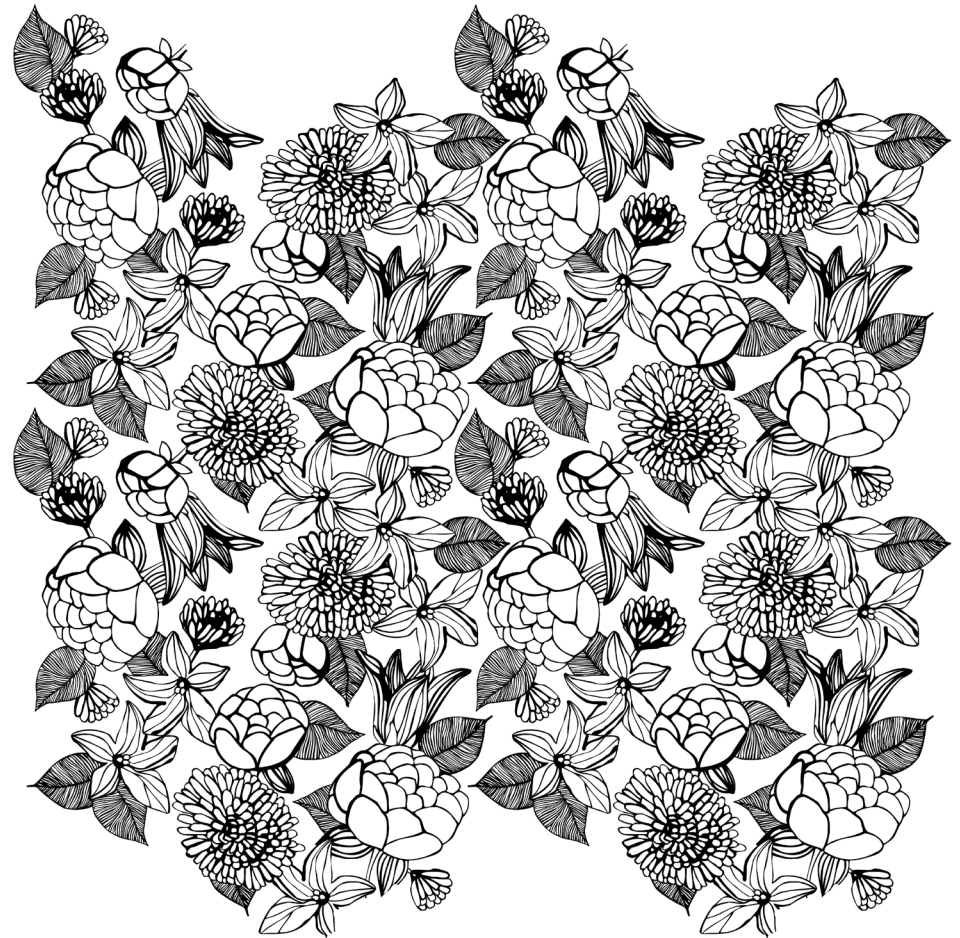
Miira Zukale for Mary A Jalava



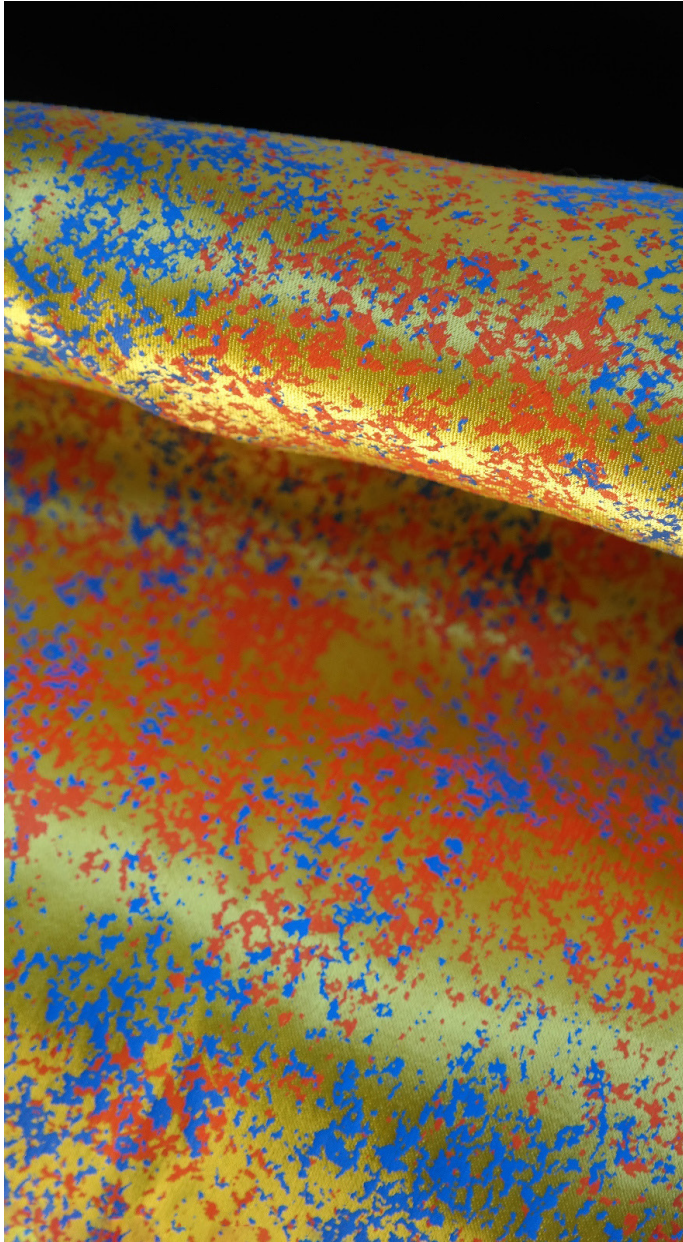
Eveliina Netti for Vallila Interiors

SCREEN PRINTING REPEAT

When printing designs in repeat by hand - or by industrial flat screen printer - the repeat must be made so, that as few elements as possible are cut on the edges of repeat.



FABRICS CAN BE PRINTED IN REPEAT BY HAND, BUT THERE´S NO NEED FOR ALL HAND PRINTED FABRICS TO BE MADE INTO A REPEAT - ON THIS COURSE, PRINTED FABRICS STUDIO, DESIGNS DO NOT NEED TO BE PRINTED IN REPEAT



Helmi Liikanen, photo Helmi Liikanen



Antonina Sedakova, Lucille Piallot, photos Guillaume Roujas

