

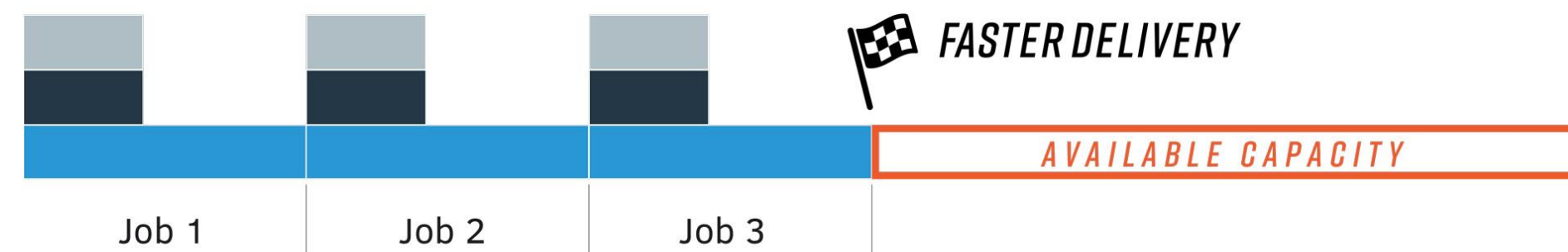
File Preparation instructions Go Produce Laser Edition



Summa Vision system

- Summa's in line vision system is capable of scanning the material during media feed, and at the same time analysing the data.
- Adding extra registration marks will not slow down the process, it will **only increase cutting accuracy**.
- This allows to achieve very accurate cutting results. Without compromises on process speed.

Cut-on-the-fly method



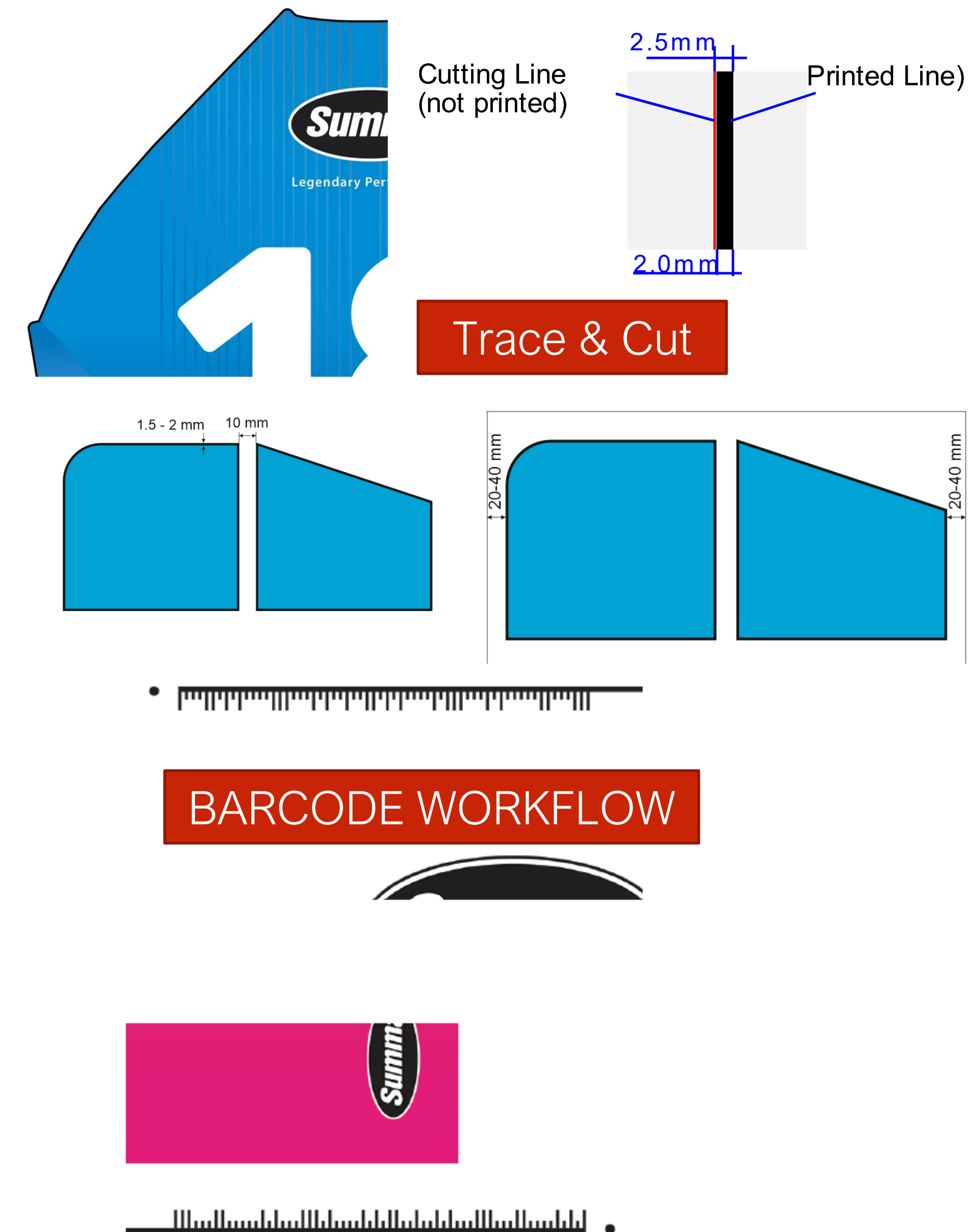
Traditional working method



Summa Vision system

Several methods:

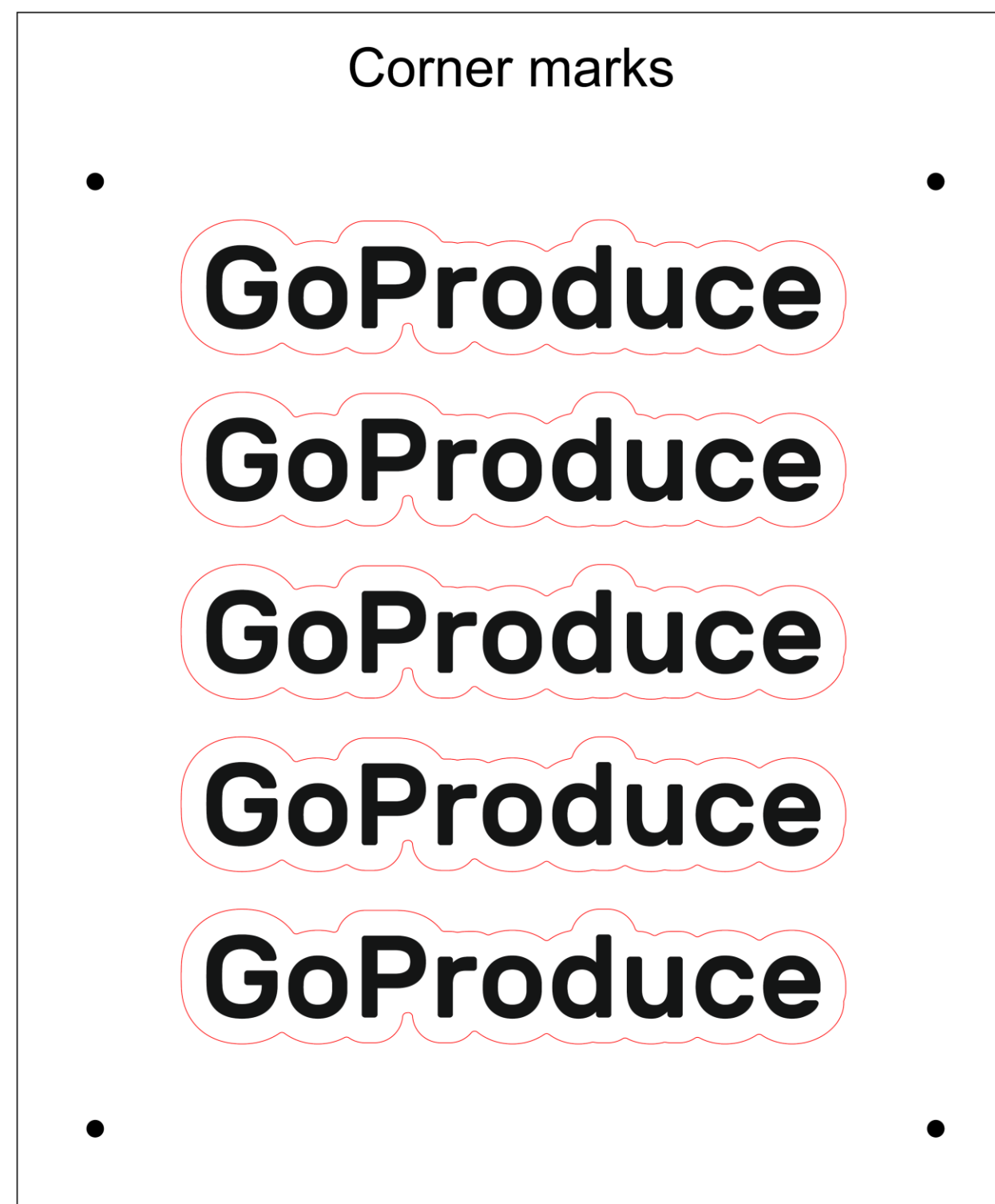
- Trace & Cut
 - adding a black box around the designs and automatically tracing the black contour lines
 - A method without the need of cutting data
 - Barcode workflow
 - Automatic job retrieval.
- These workflows remain unchanged and are described in the GO PRODUCE SDK
- Go Produce SDK will explain the basic principles, this document explains the specifics with regard to textile file preparation



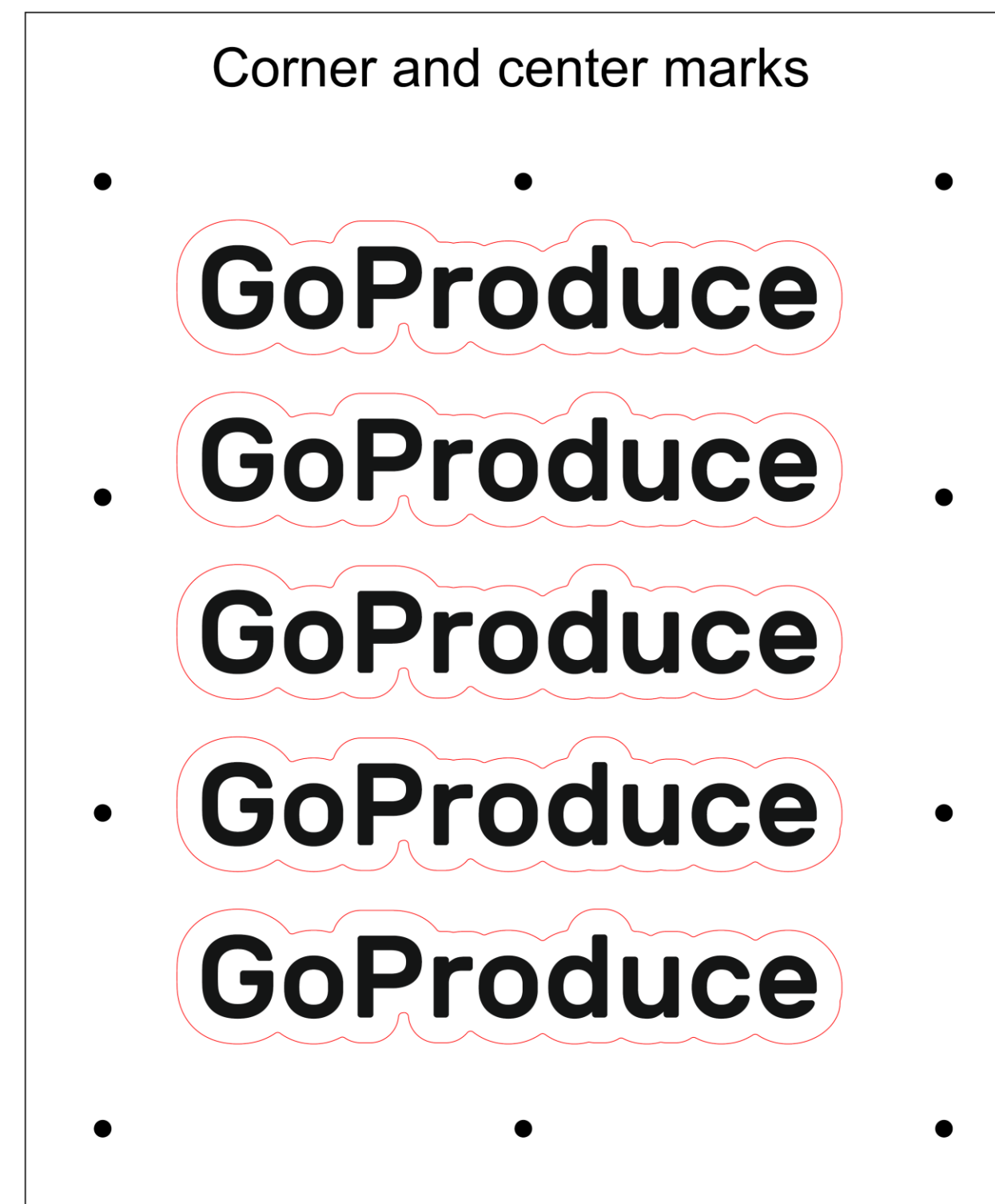
Textile Specific File Preparation TIPS

- Detailed instructions can be found in the more general **Go Produce SDK** manual
- More registration marks means more accuracy, best result is obtained by adding as many marks as possible

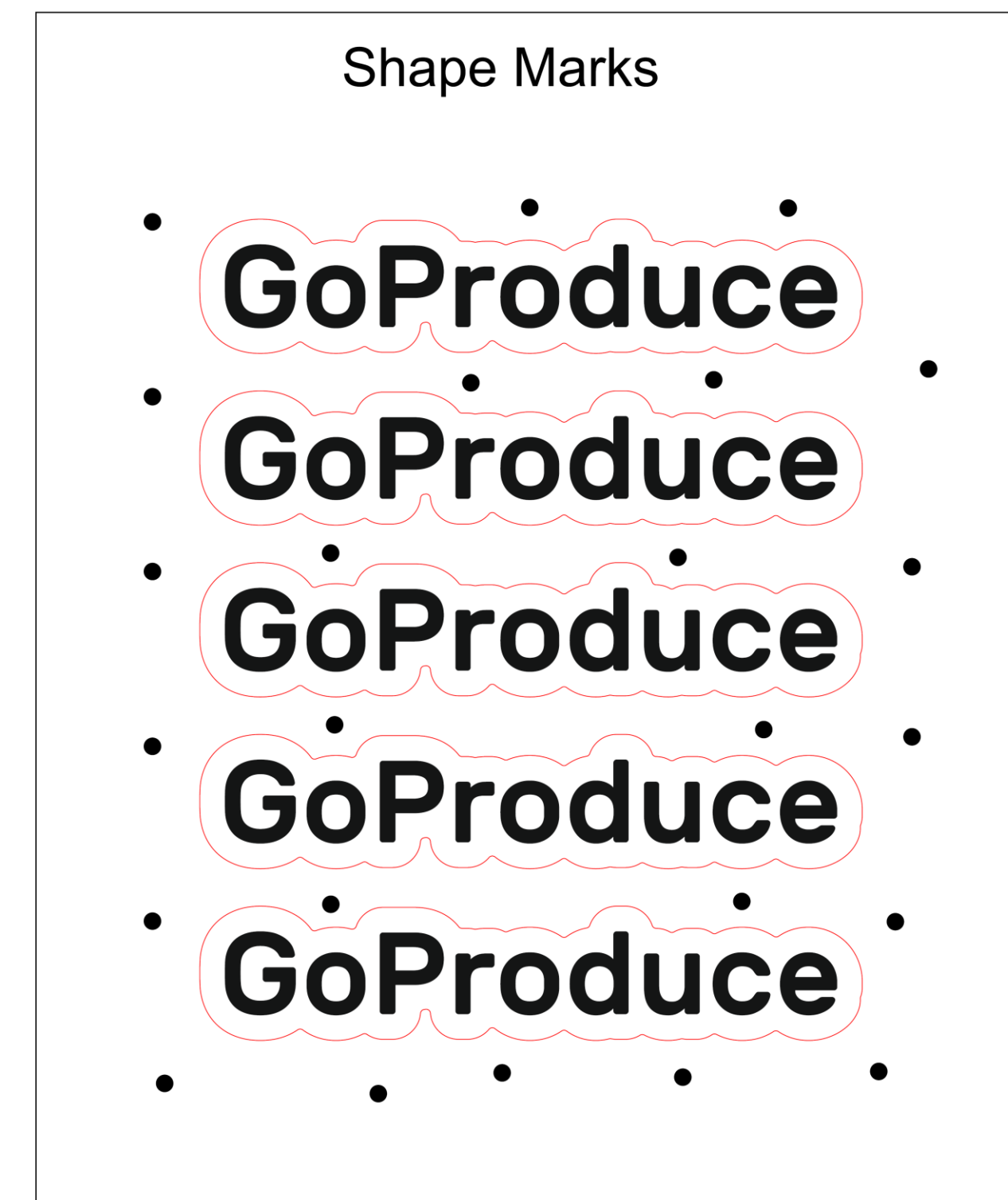
Not Suitable for textile



Suitable, not recommended



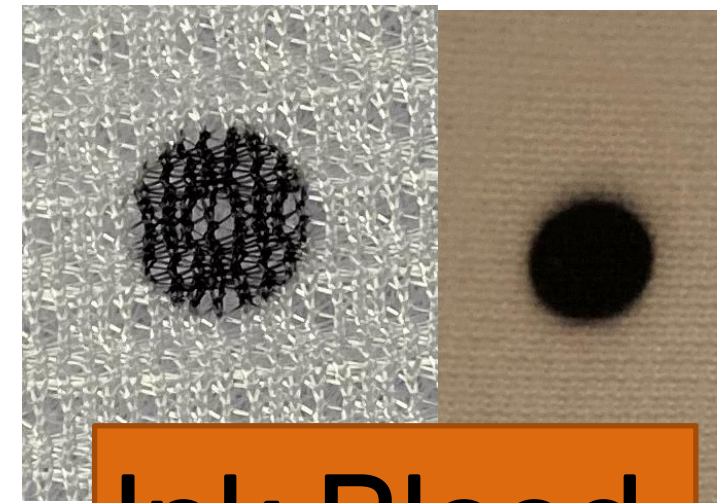
BEST



Typical Textile Challenges

Typical Effects

- Media bowing on cutter bed
- Media meandering during media transportation on cutter bed
- Stretch and shrinkage in pre-process (calendaring and printing)
- Ink bleed
- Stretch during media feed
- Structured textiles
-

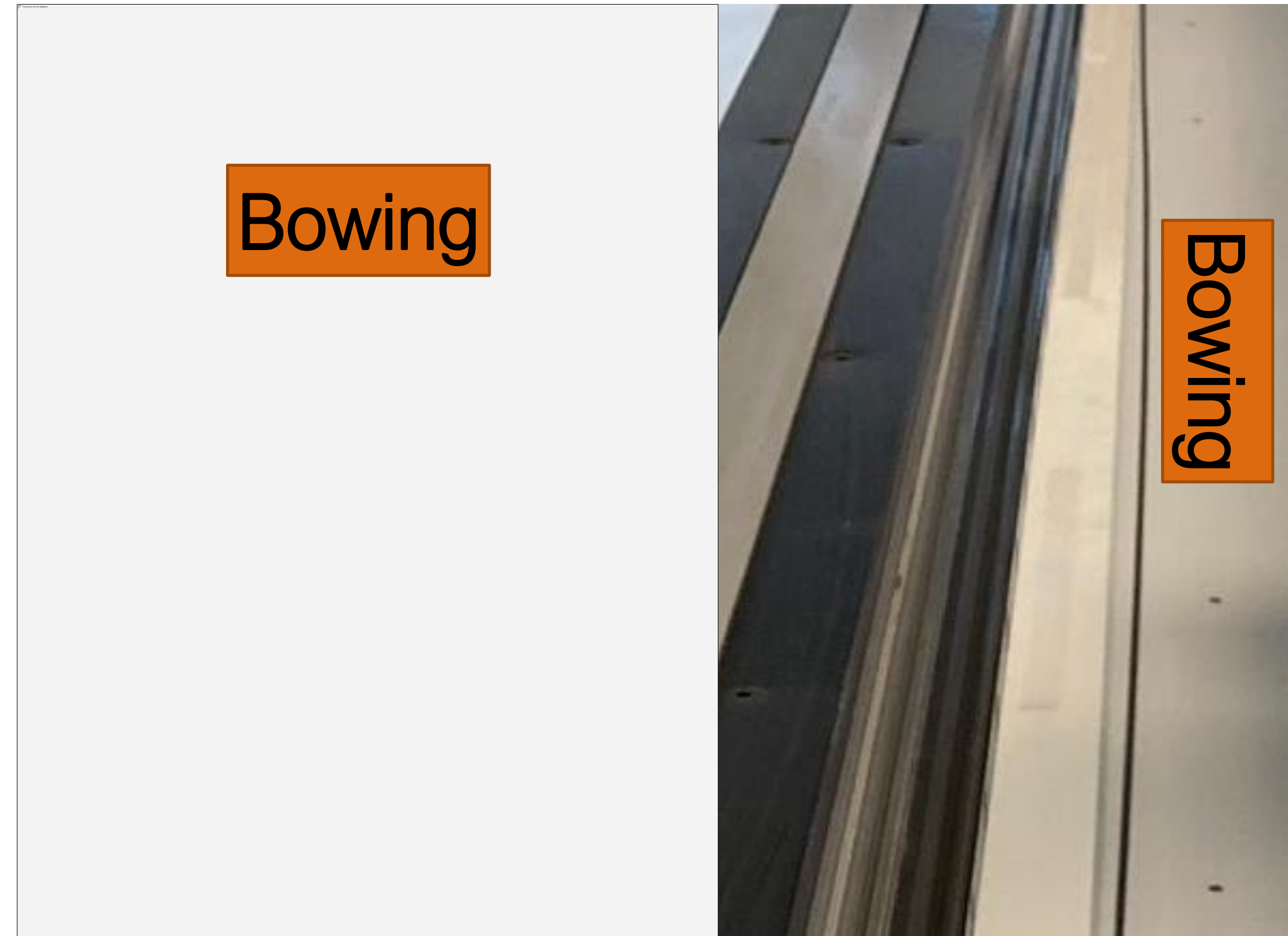


Ink Bleed

Meandering



Bowing



Bowling

Typical Textile Challenges

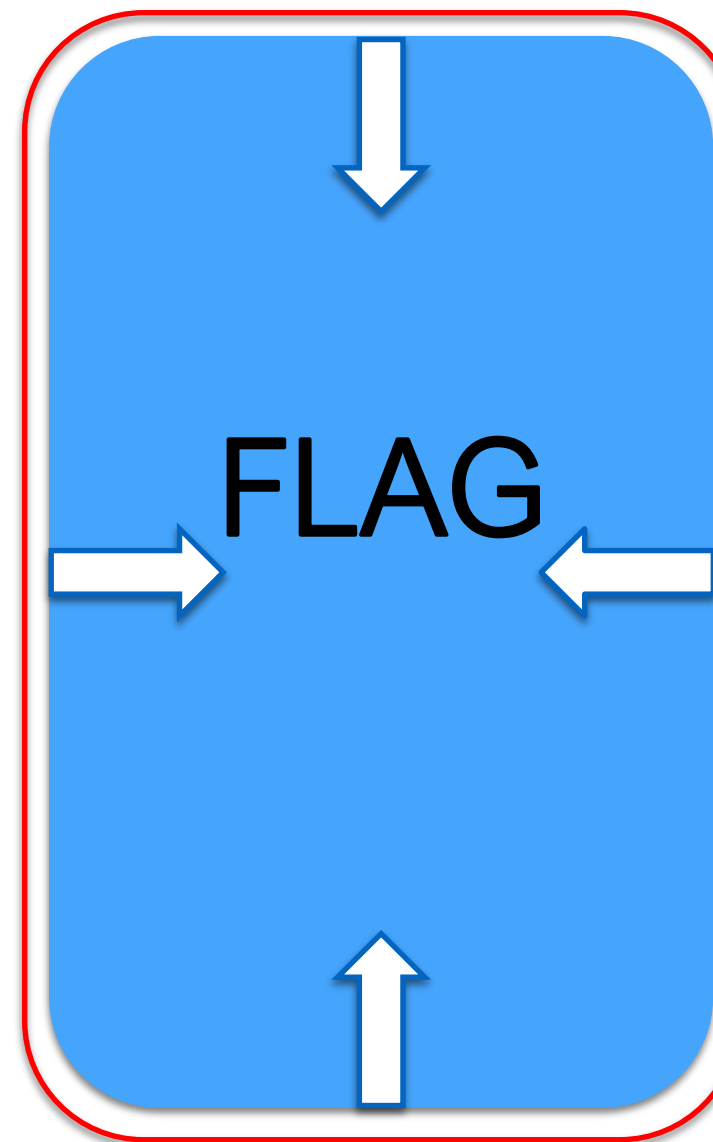
Shrinkage

- Stretch and shrinkage in pre-process (calendaring and printing) When calendaring/heating polyester, the textile will shrink.
- In RIP software specific for textile printing, it is possible to compensate for the anticipated (textile specific) shrinkage, without changing the cutter settings.

→ Make sure the cutting data settings are made separately, so do not shrink cutting lines together with printed media!

Original design:

FLAG



Printing* should be
scaled Separately

No changes to cutline!

FLAG

Without printed size* compensation

Scaling and adding extra
bleed, will get the best results

*textile shrinkage compensation is done in the RIP or job preparation SOFTWARE, before printing

Registration marks

What are the rules

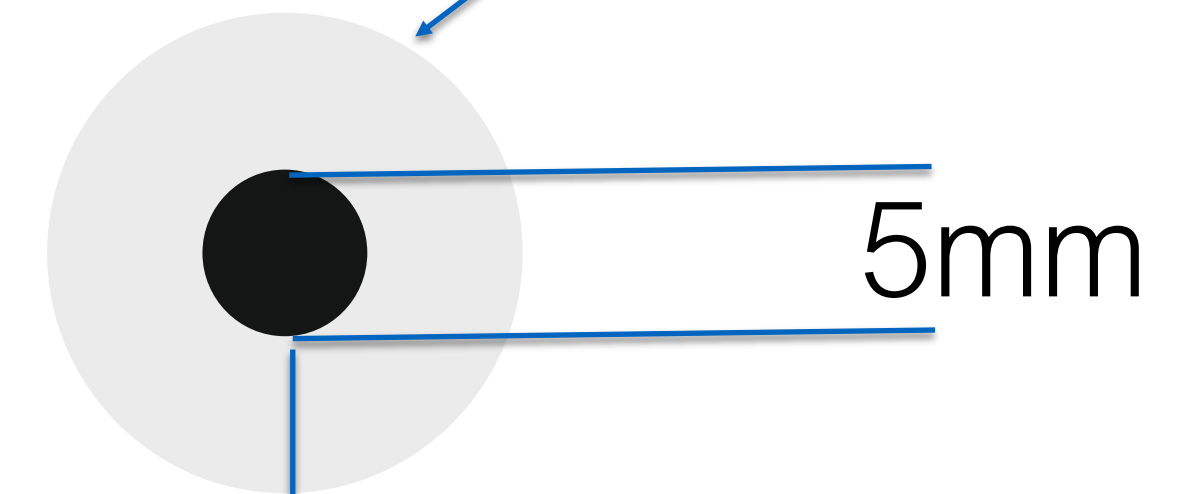
- We specify registration marks of 5 mm. Due to ink bleed the original registration mark may grow to more than 7 mm.
- Registration marks are recognized by contrast when they stand free in a white space of minimum 5 mm.

Conclusion:

Due to (textile specific) dot gain, we recommend distance between center point of registration mark and other objects of **minimum 1 cm in all directions**.

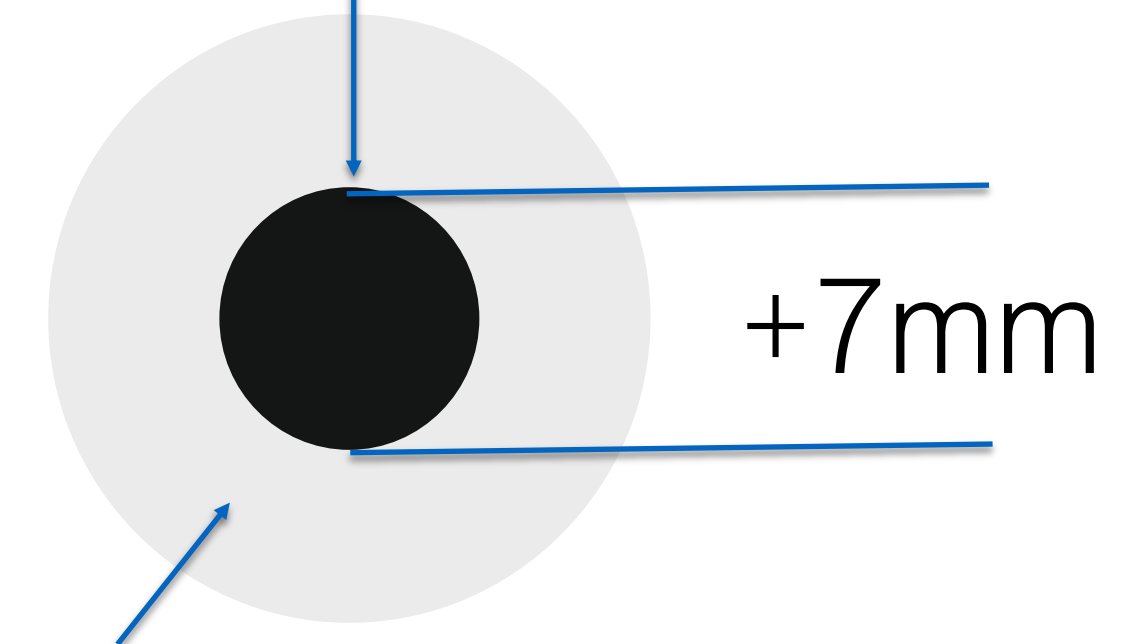
Design :

White space around the dot 5mm,
Theoretically a circle of 1,5 cm



With (heavy) dot gain

Real output :



Due to dot gain, in order to maintain 5 mm white space, we recommend a white **circle of 2 cm**

File Preparation TIPS

- When high accuracy is required, we recommend registration marks in contour of each individual object.
- In media feed direction it is recommend to have a distance between the registration marks of about **15 cm for high stretch media and 30 cm for other media are recommended**. More registration marks will increase accuracy.
- In carriage movement direction it is recommended to have a distance between the registration marks of **15 cm**. More distance is possible when textile allows (not too stretchy), or accuracy is not needed

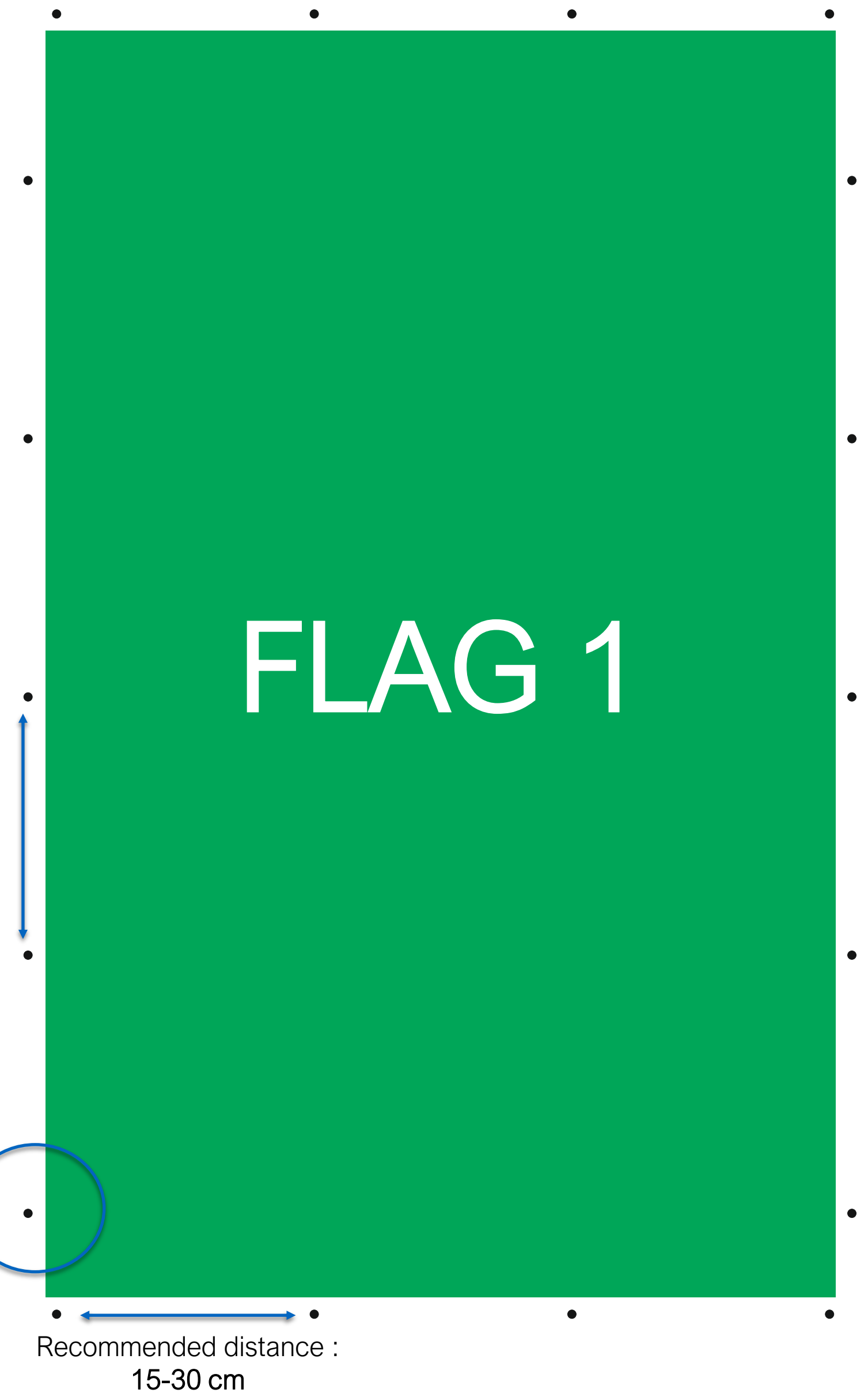
Make sure crop mark has 5 mm white space after printing



We recommend a distance of **1 cm of center point**

(to compensate for dot gain, and ink bleed)

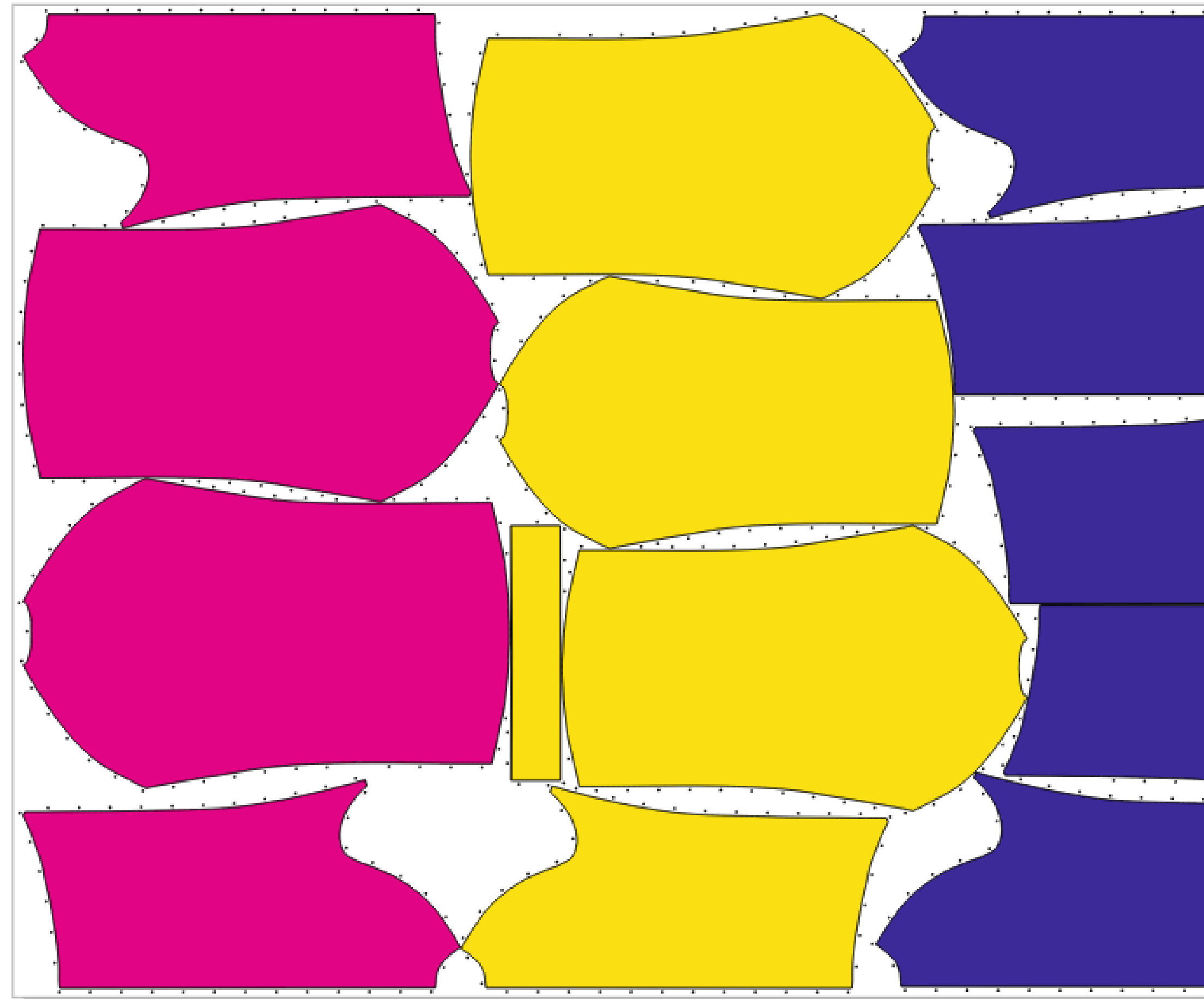
Recommended distance :
15-30 cm



File Preparation TIPS

Example of contour based nesting

- Every object has a registration mark contour
- For stretch textiles, more registration marks will provide the best accuracy.
- This method will work best, but may consume more media since registration marks “take space”

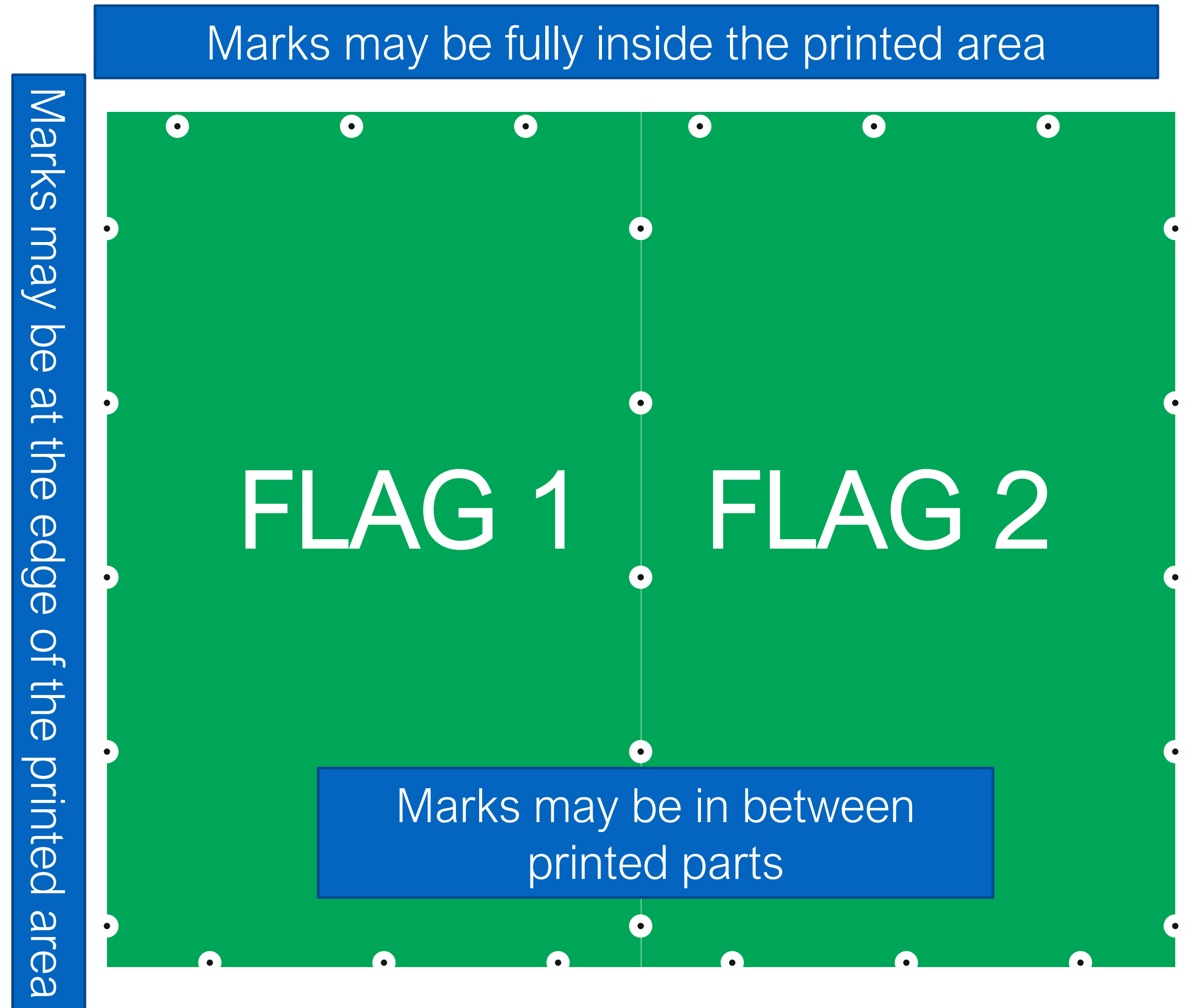


File Preparation

Media saving tips

- Media Efficiency
 - When **edges are hemmed**, the crop marks may be inside the print. This will save considerable amount of media

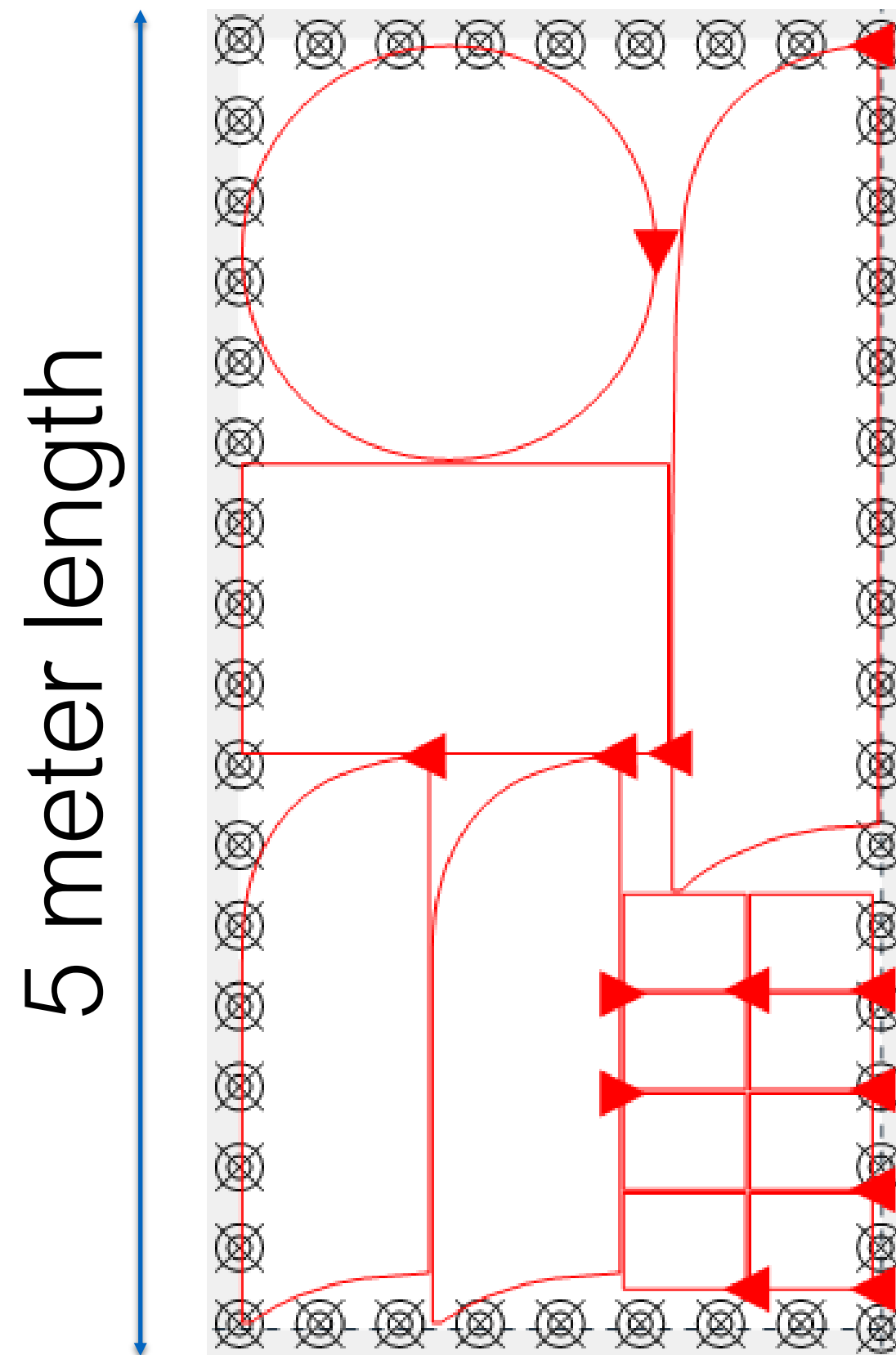
→ Always make sure there is enough white space (5 mm)



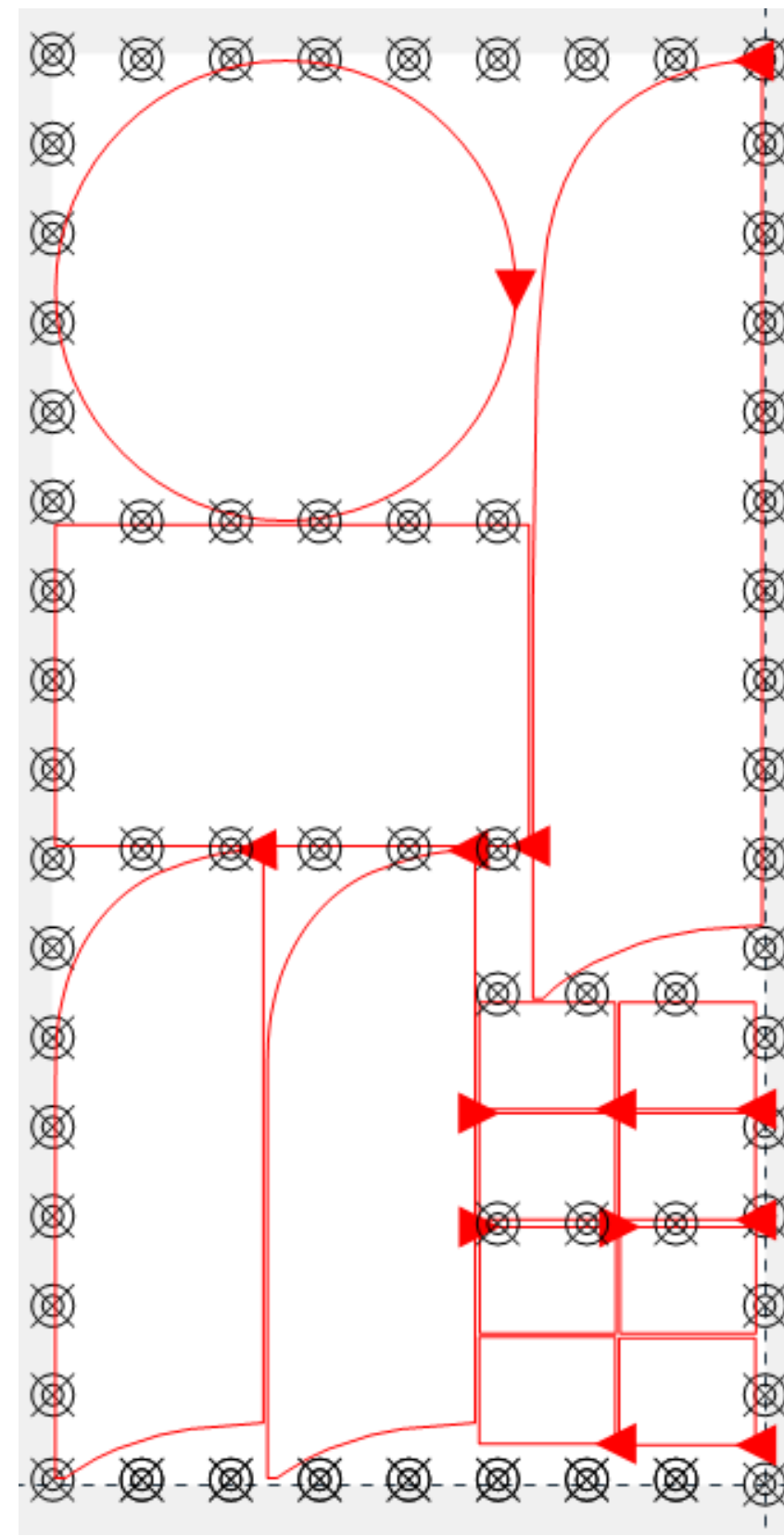
A few Examples

- In order to save media, some workflows/RIPS do not put contour registration marks
- A few examples, same design, different amount of registration marks → different results

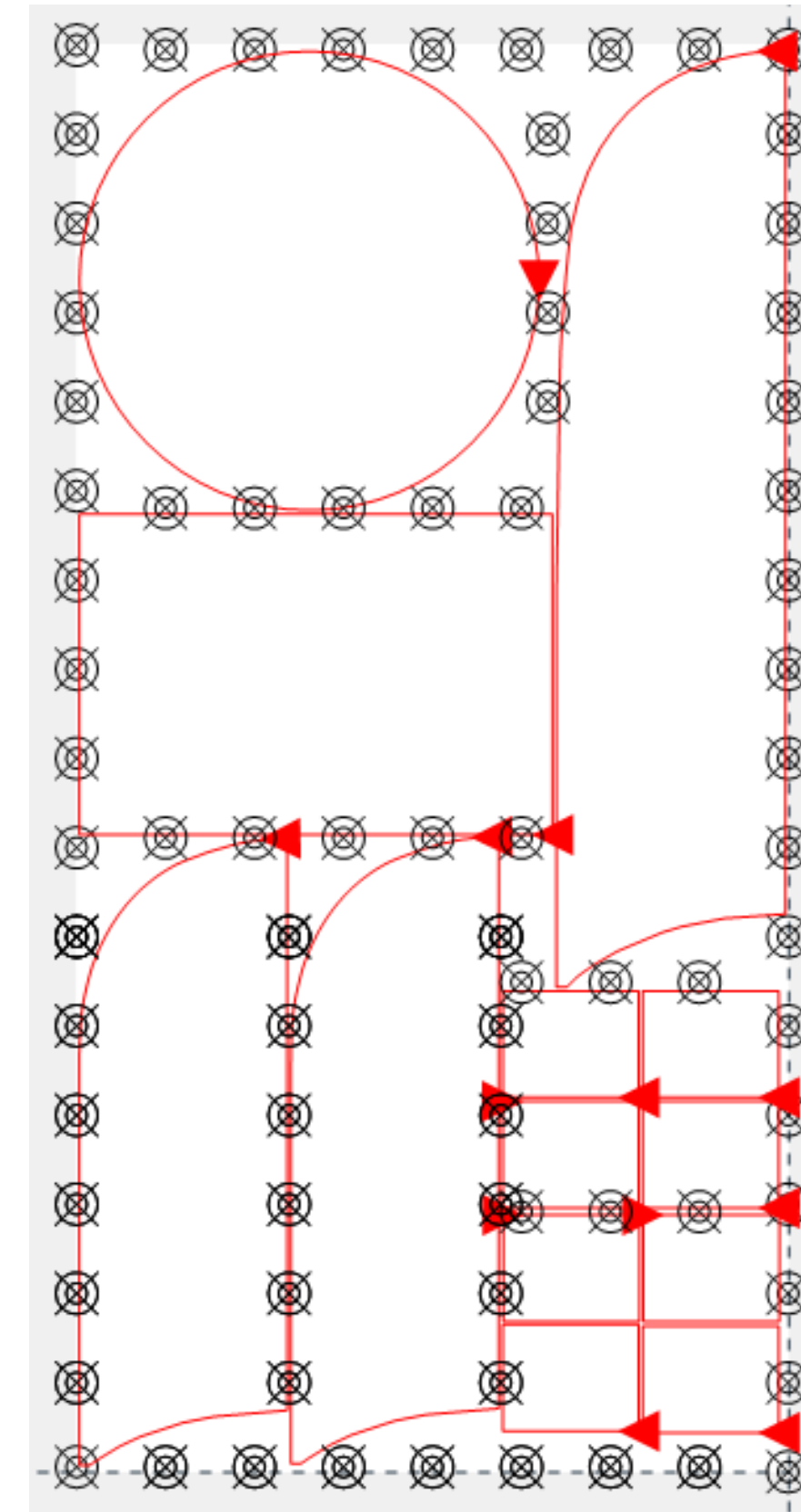
Not Suitable



Suitable, for most applications

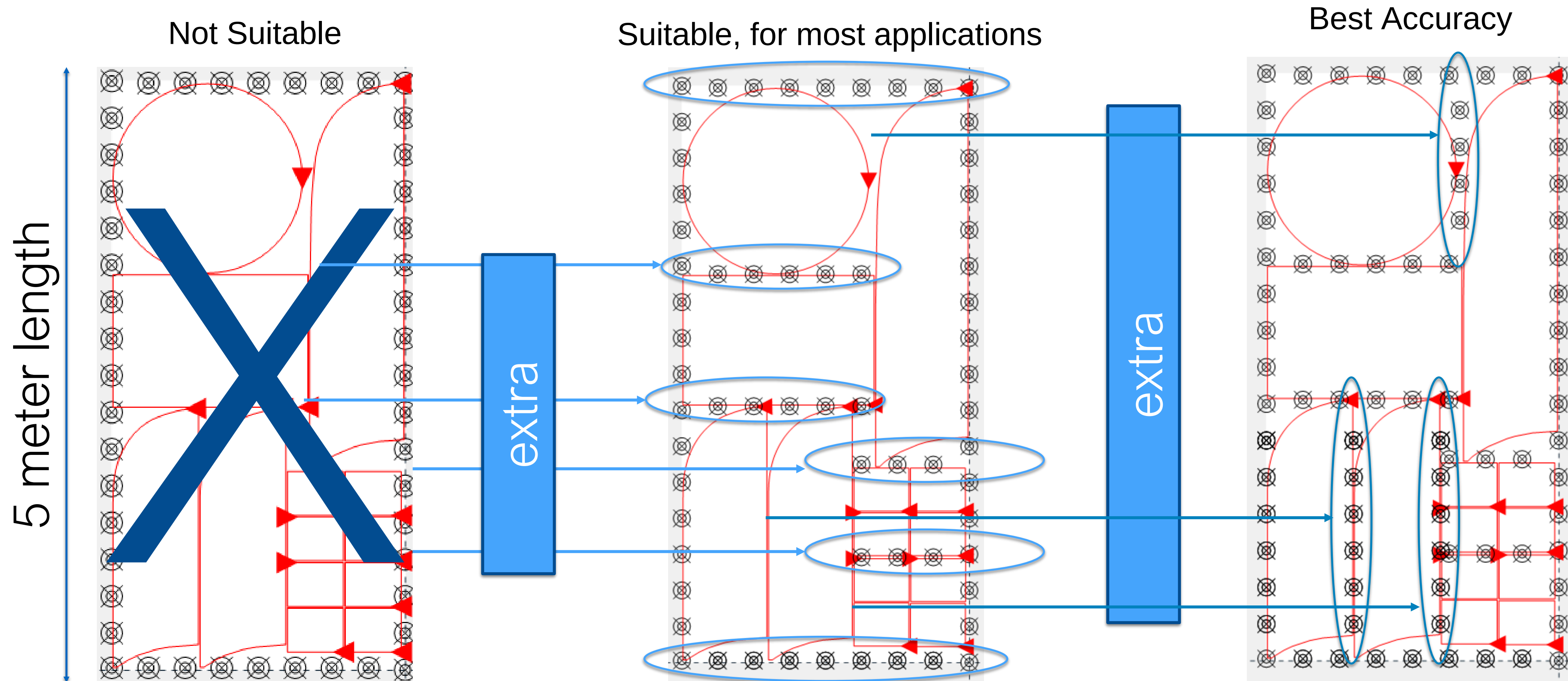


Best Accuracy



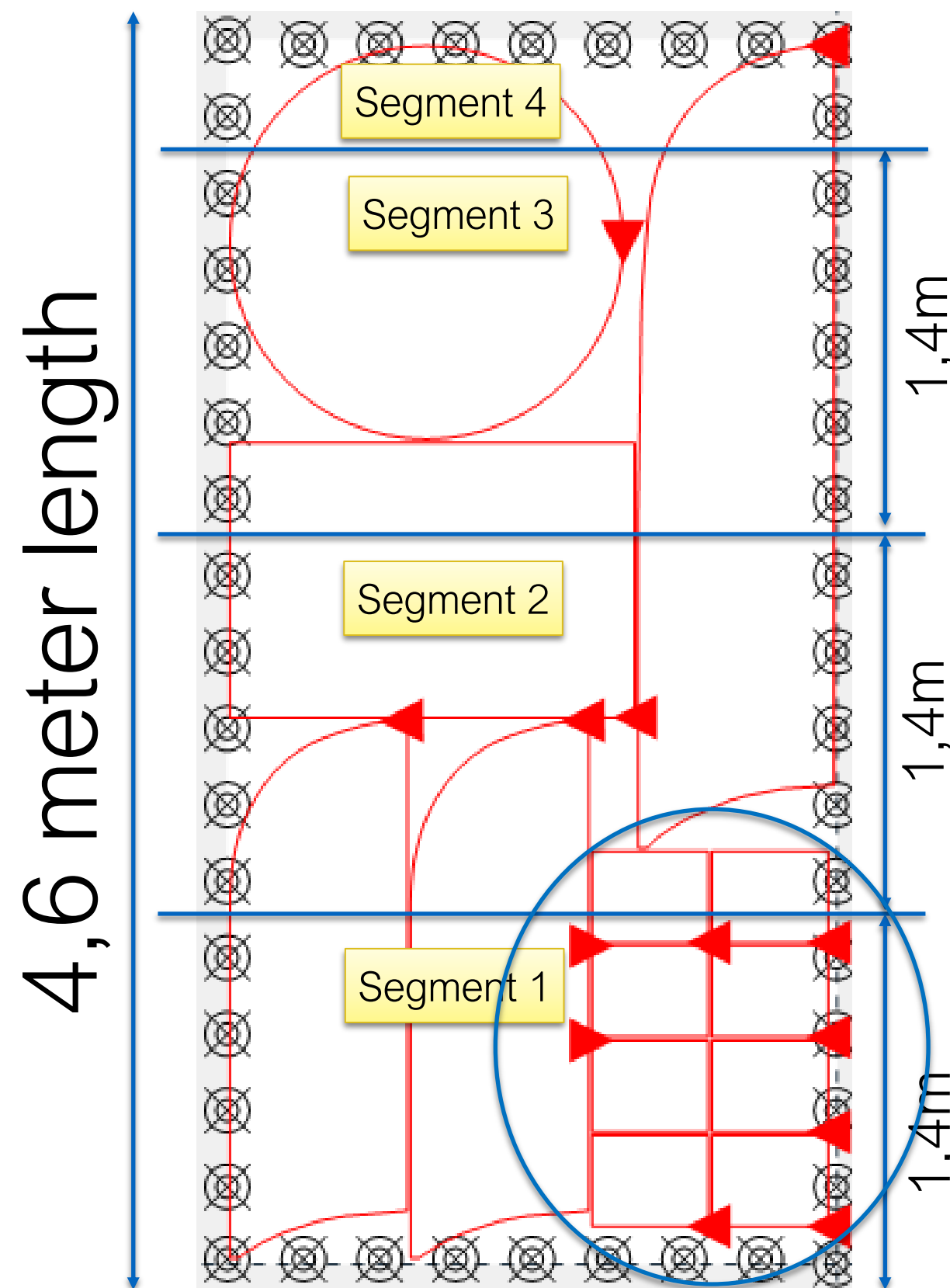
A few Examples

- L3214 works in segments of 1,4m. Make sure marks are in horizontal direction **in segments of each 1,4m**
- L1810 GEN 2 works in segments of 95 cm. Make sure marks are in horizontal direction **in segments of each 95cm**
- **Adding marks in between vertical elements, will improve vertical accuracy too**



A few Examples for L3214

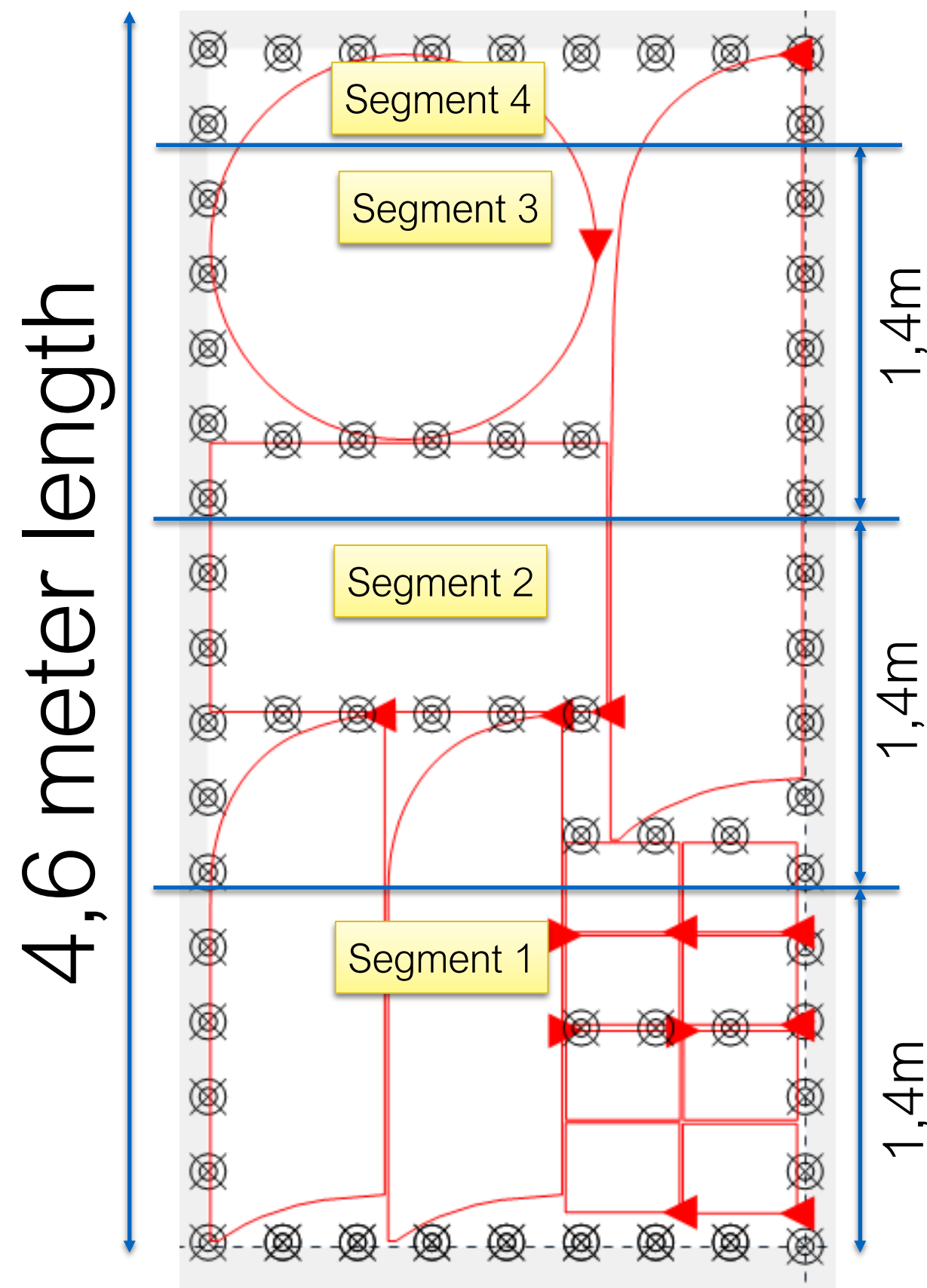
Not Suitable



- L3214 cuts endless rolls in **segments of 1,4 meter**. Media positioning may vary between segments. Therefore every segment needs sufficient registration marks in X and Y direction (unless there are only vertical lines to be cut)
- Segment 2 and 3 have **no horizontal** registration marks, bowing effect will not be compensated, cutting accuracy of horizontal lines in segment 2 and 3 will be very poor
- Segment 1 is OK, but small parts may need extra marks in between to improve accuracy.
- Segment 4 is OK

A few Examples for L3214

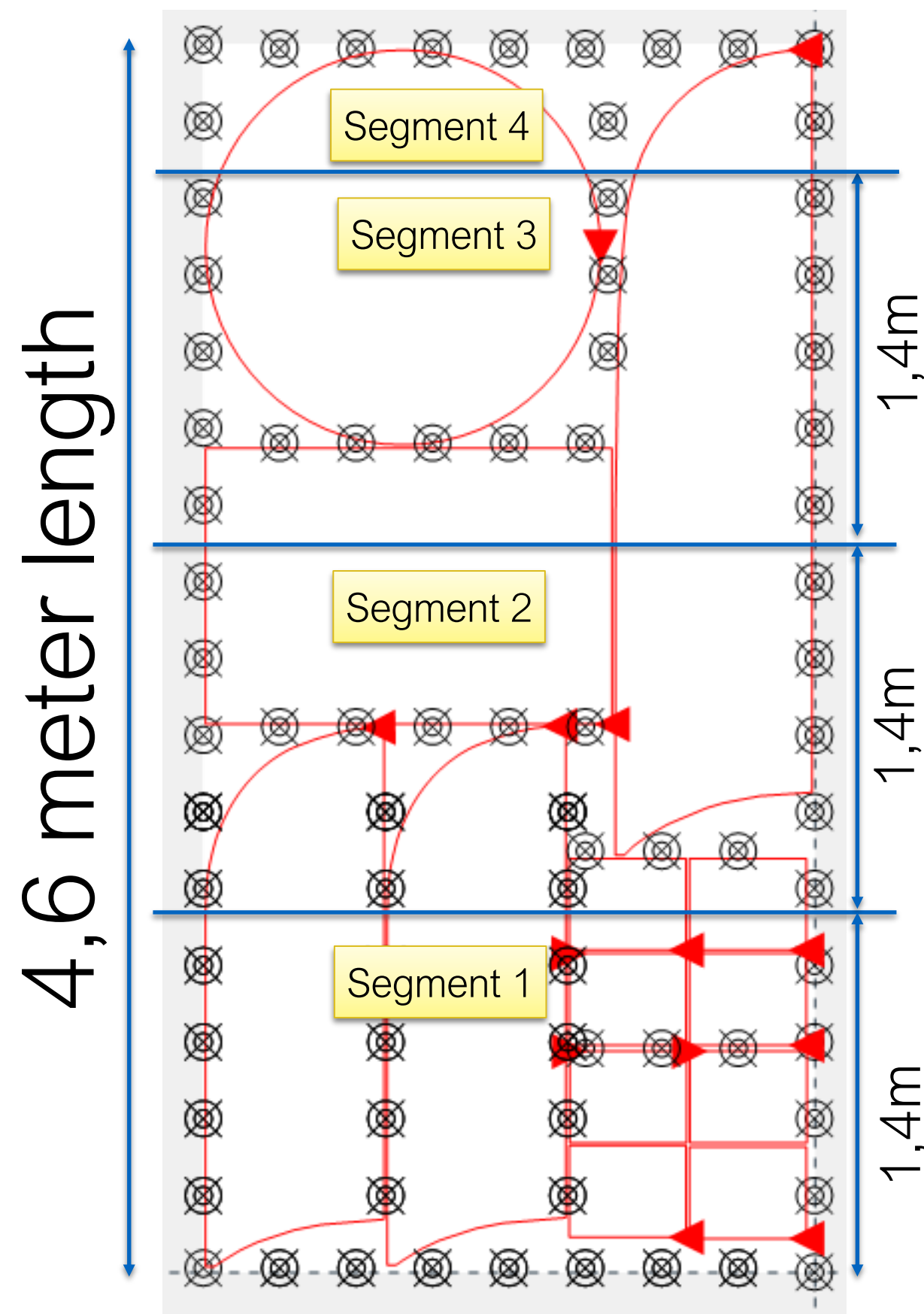
Suitable, for most applications



- The horizontal crop marks in segment 2 and 3 will make sure the bowing effect is compensated, and cutting will be very accurate.
 - The extra horizontal registration marks in segment 1 will improve accuracy when cutting smaller parts,
- Of course having contour based marks around every small object, will provide the best accuracy, especially for small parts where visibility is important!

A few Examples for L3214

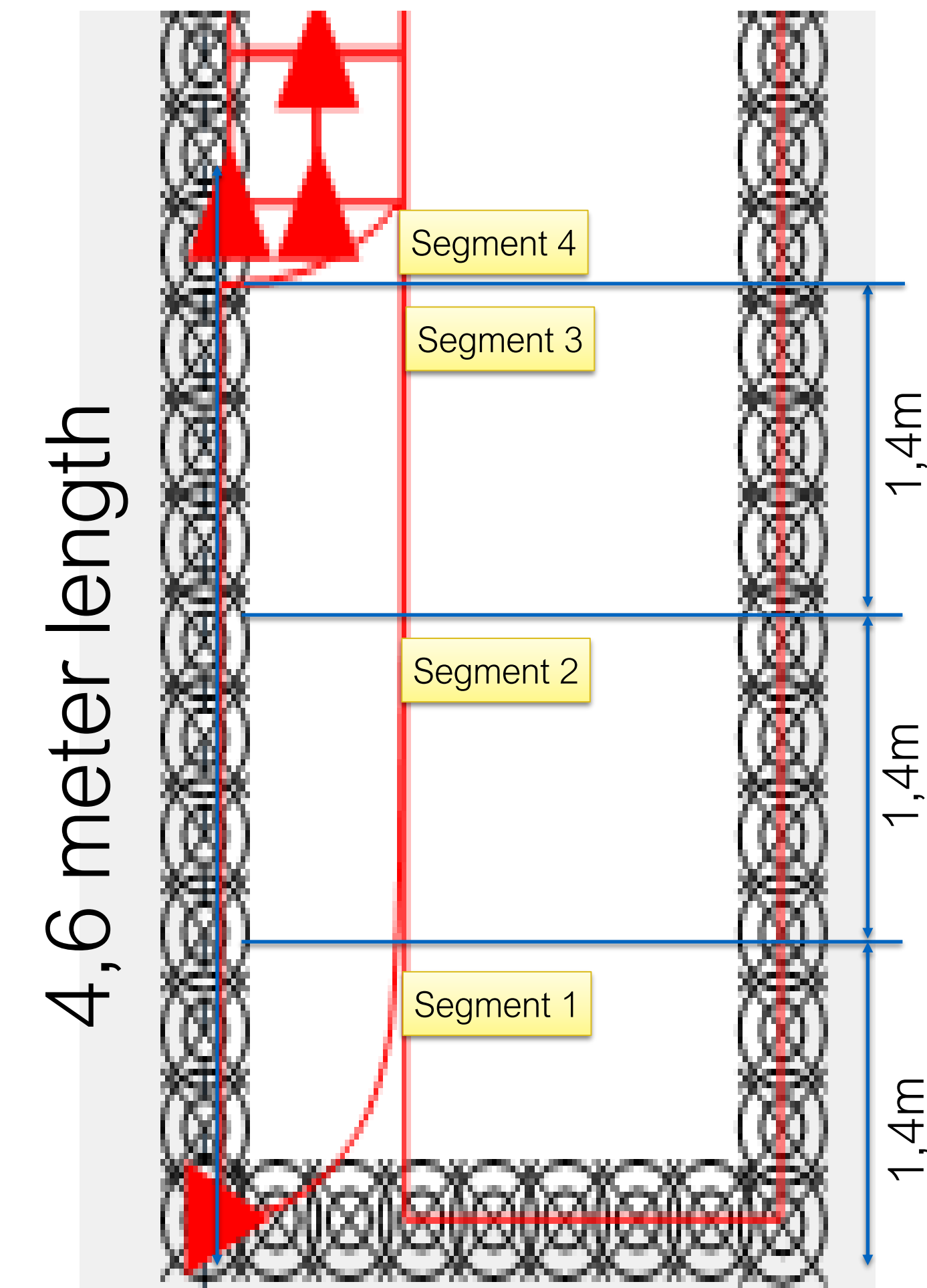
Better Accuracy



- Additional registration marks in vertical direction will further improve cutting accuracy

A few Examples for L3214

Only vertical cutlines



- In case of **Segment 2 and 3** no horizontal cutlines are present, the vertical side registration marks will usually offer sufficient accuracy to have an accurate cut. Adding vertical marks in between flags, will of course increase accuracy.

An Example of nesting with random registration marks



- There is no limit to the number of registration marks that can be used.
- In case of nested items, they can be put at random in between the white space.
- Of course the distance between registration marks is preferably between 15 and 30 cm. In case the distance is larger, the cutting accuracy may be less

Typical Textile Challenges

Shrinkage

Shrinkage and cutting compensation methods

Summa uses two cutting compensation methods



Typical Textile Challenges

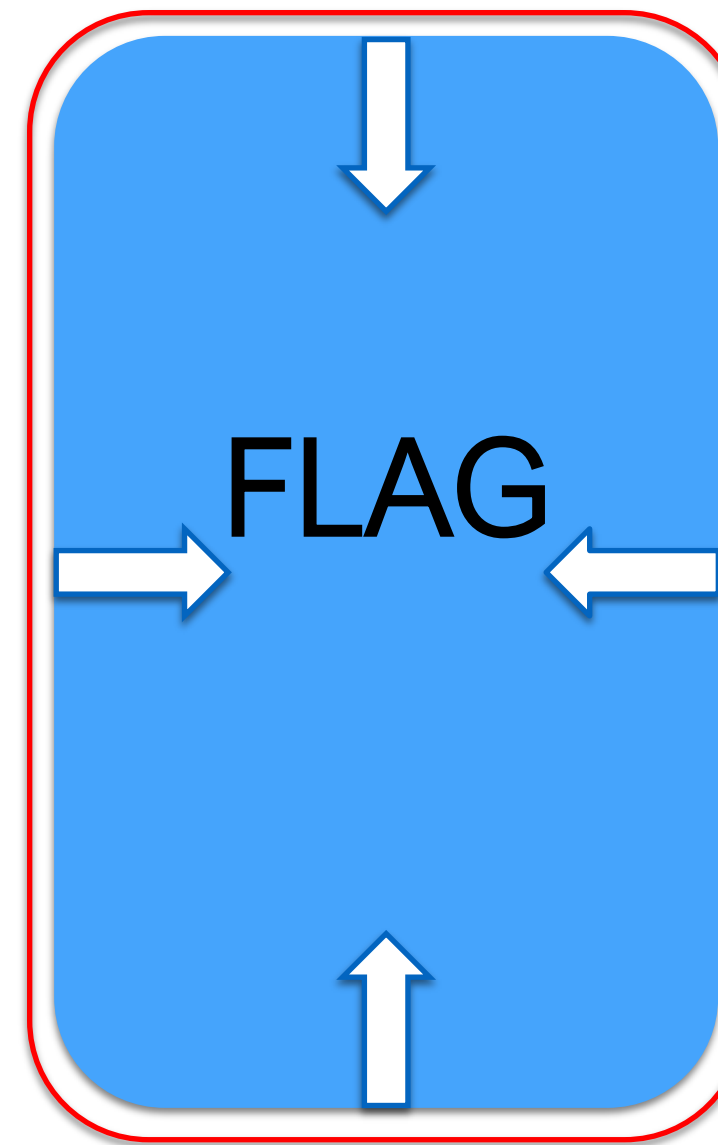
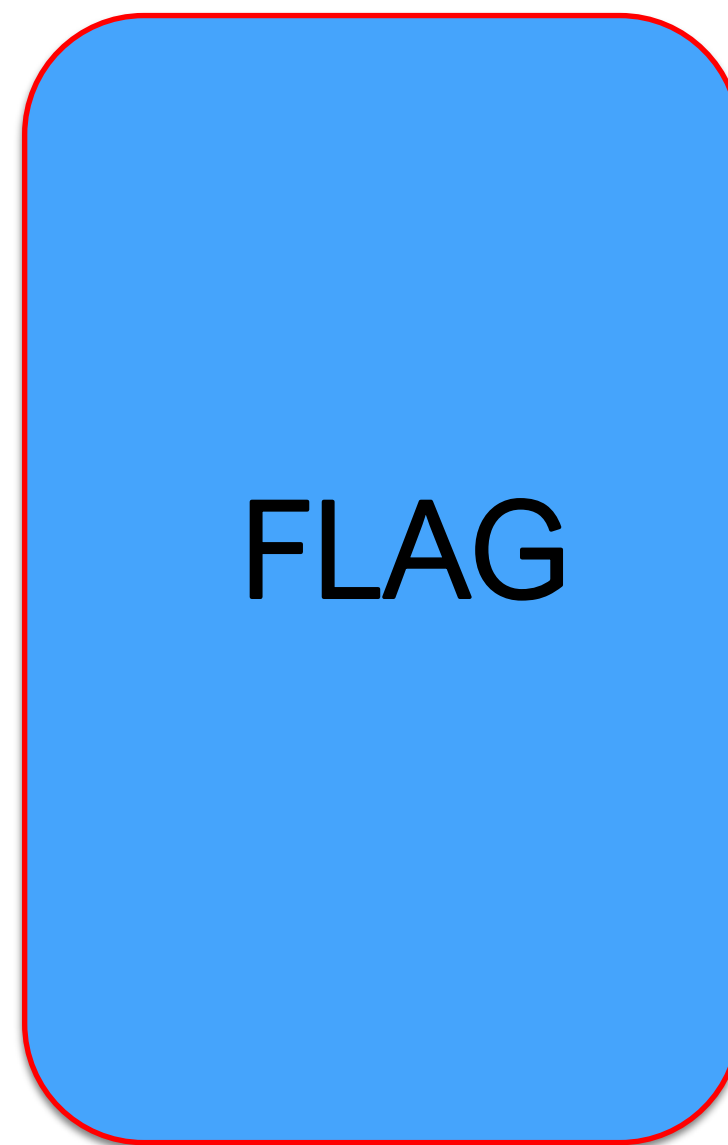
Cut Compensation methods

Best Fit

→ This method focuses on following the printed designs, “wrong size” printed, will result in wrong size cut.

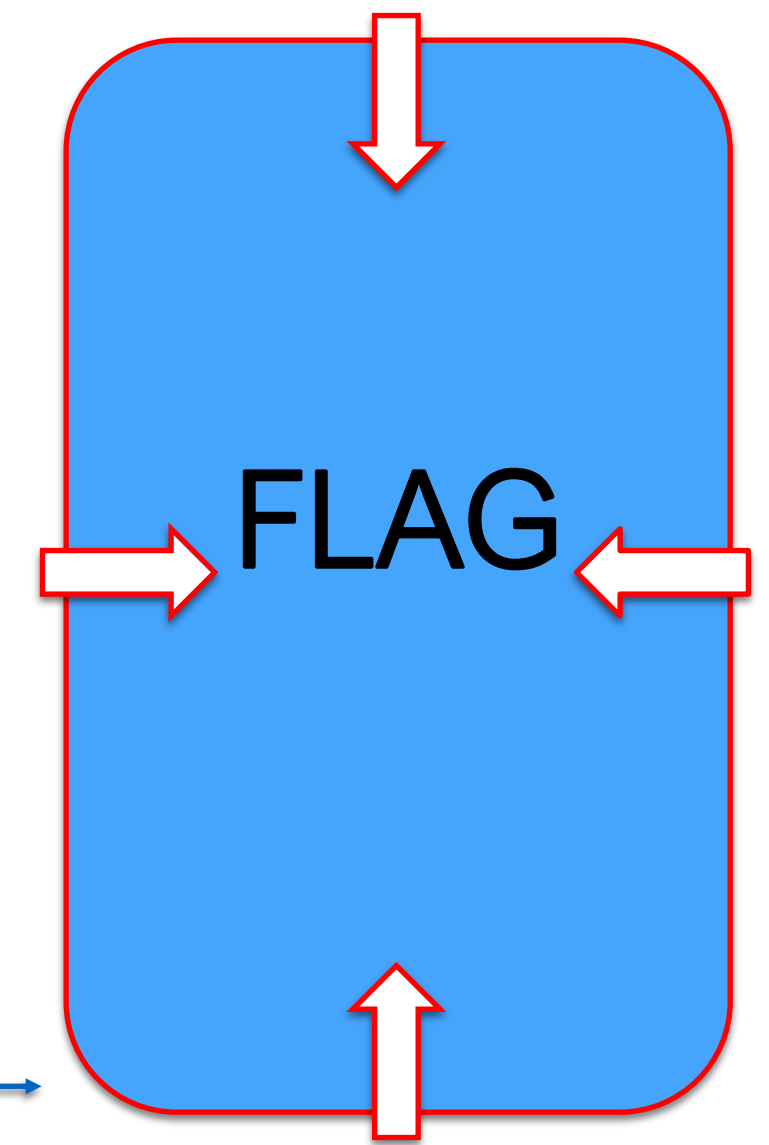
Mainly used for fashion, ect....

Original design:



Cutting lines are fit to the shrunk textile

Printed has priority



Textile shrinkage, cutting size has become larger than printed textile

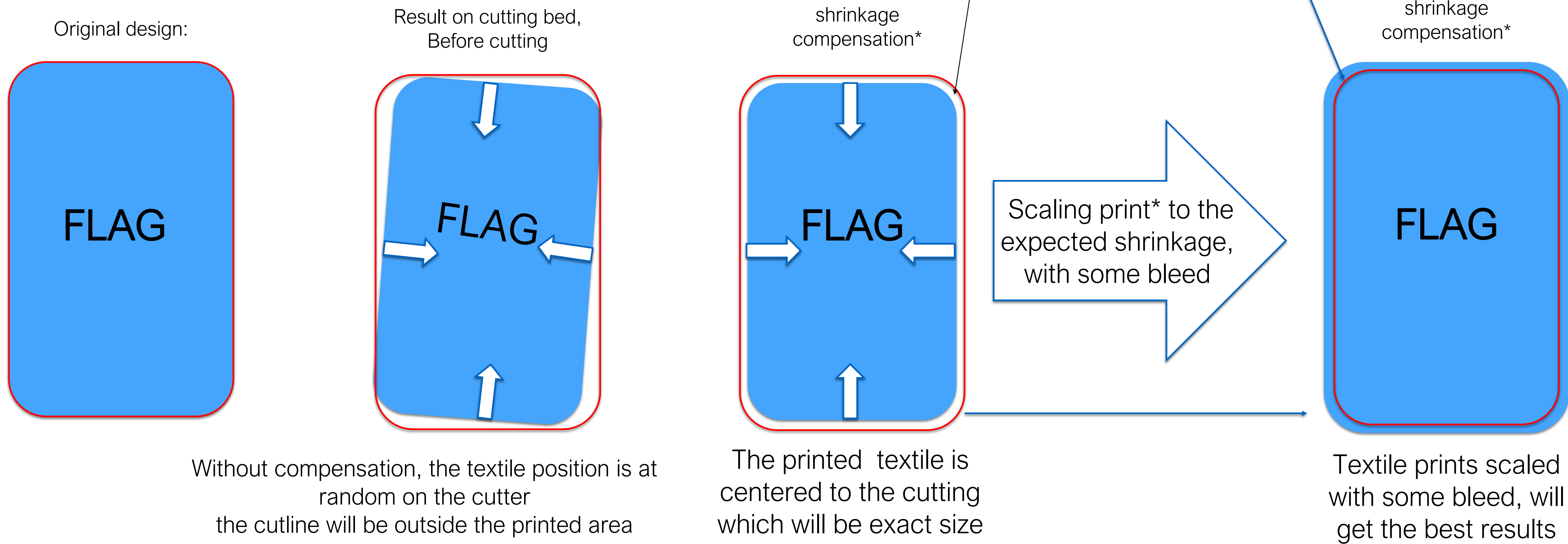
Cut will fit print, but size result may be inaccurate

Typical Textile Challenges

Cut Compensation methods

Cut to Frame, fixed size

→ This method's goal is to cut a fixed size, and position the printed into the fixed size. Mainly used for SEG frame application



*textile shrinkage compensation is done in the RIP or job preparation SOFTWARE, before printing