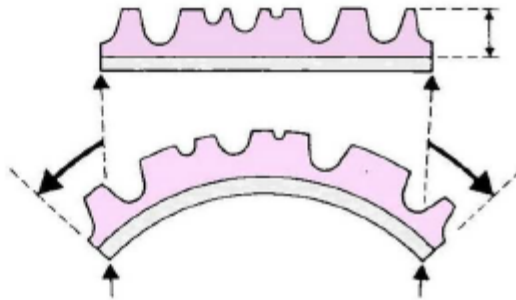


The surface of a printing plate extends lengthwise by mounting the plate onto a round printing cylinder.

As a result the printing length on a printing sample is always longer than the real length of the printing plate!



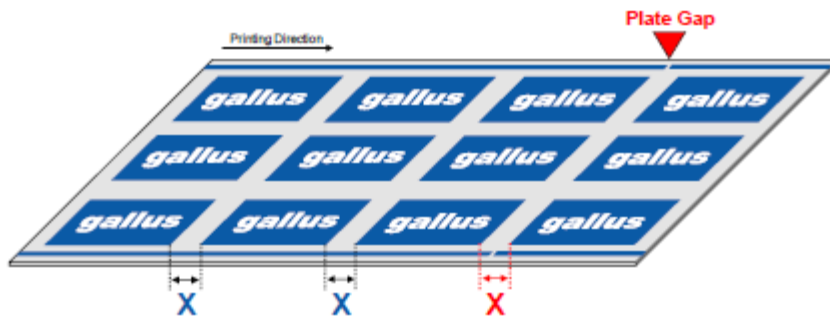
The prepress has to compensate this length difference. The result of a wrong plate distortion are different printing lengths of different processes as screen printing, die cutting, hotfoiling, etc and is well visible as a constant misregister within a printed format.

Result: The flexo printing plate must always be shorter than the real format length!

The distortion value depends on several factors such as plate type, mounting tape and printing cylinder. Independent of the format size, the distortion values in the length are always constant (in the contrary, the values in % differ from one format size to another). The values in this chart are just approximate values. They might differ slightly. Use these values for the very first print and adjust them if necessary.

	Printing Plate 1.14mm (45 mil) Tape 0.38mm (15 mil)	Printing Plate 1.70mm (67 mil) Tape 0.38mm (15 mil)
Gallus RCS 330 / 430 Gallus EM 340 / 410 / 510 S Gallus ECS 340	- 6.4 mm (- 0.252 inch)	- 9.9 mm (- 0.3897 inch)
Gallus EM 280 Gallus EM 340 / 410 / 510	- 6.0 mm (- 0.236 inch)	- 9.4 mm (- 0.3701 inch)

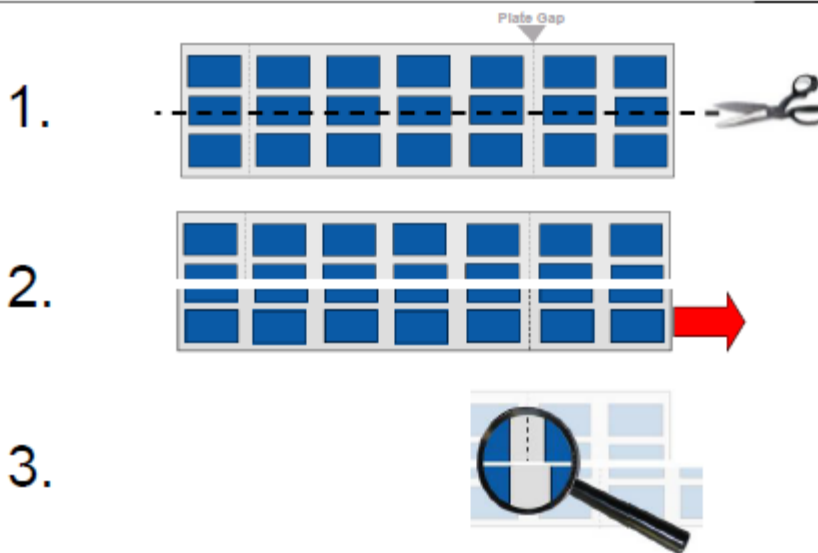
$$\text{Formatlength} - \text{Distortion Value} = \text{Length of Printing Plate}$$



Adjust the flexo distortion factor if there are any differences between the blanket distances in the format (X) compared to the blanket distance over the gap (X)! Rule:

- X < X → Printing plate is too long.
- X > X → Printing plate is too short.
- X = X → Printing plate length and distortion factor are correct!

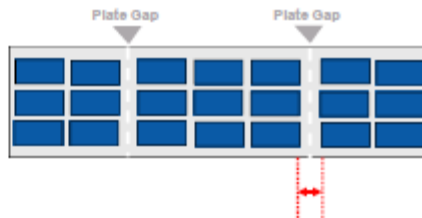




Distortion

Prepress shrinks the length of the printing plate to achieve a correct blanket distance over the printing plate gap.

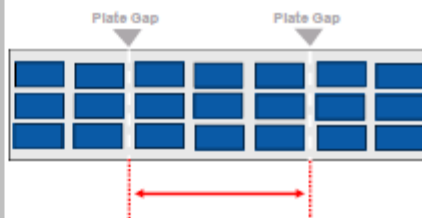
Correct distortions are necessary to achieve a perfect register when combining different printing processes (flexo, screeny, offset, die cutting, hotfoiling). An incorrect distortion value leads to different printing lengths and as a result a constant misregister within a printing format (visible on the plate gap).

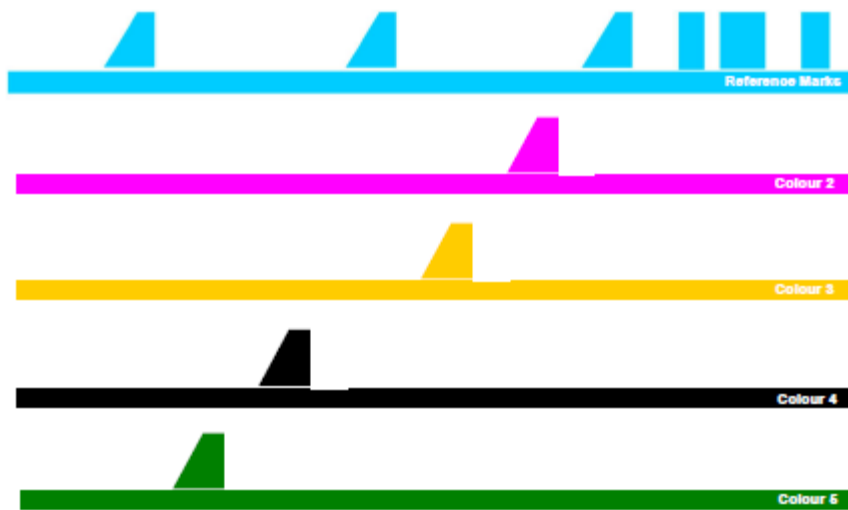


Format Length Correction

Compared to the speed of the printing units, the machine operator is able to adjust the running speed of the printing substrate slightly.

A speed difference leads to different format lengths: A faster running substrate leads to a shorter format length, a slower running substrate leads to a longer format length. Printing problems may occur by running with significant speed differences. The format length correction does not solve a misregister between different processes (to be solved by plate distortions)!



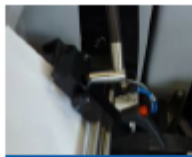


**Vertical**

Metallic and transparent substrates

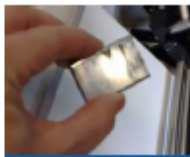
Metallic colours

Print darker than backing paper

**20°**

Opaque substrates and clear substrate with opaque backing paper

Print lighter than backing paper

**Chrome**

Metallic and transparent substrates

Metallic colours

Print darker than backing paper

**Black**

Opaque substrates

Print lighter than backing paper

The backing tables should always touch and support the substrate to avoid different distances between sensotec mark reader and printed mark

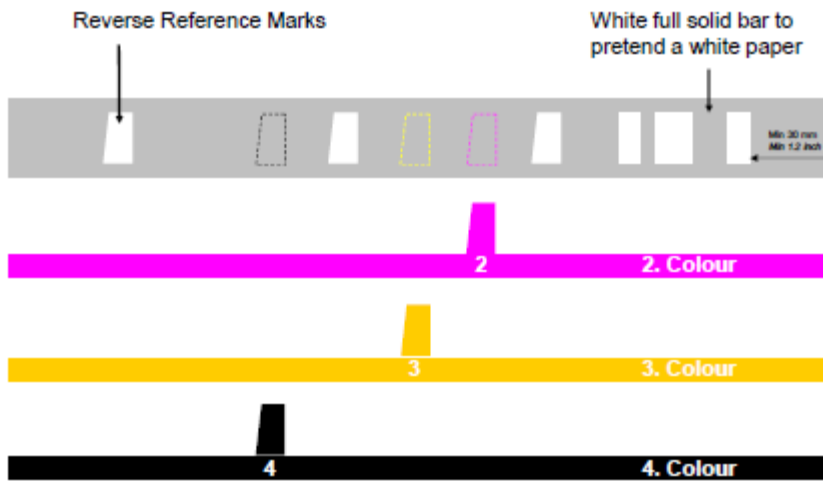
Always move sensotec reader to maximum focus (= maximum number of light indication), then move it 2-3 lights further away from substrate!



Usually between 1-4 o'clock

If screeny marks are not sharp on slow speeds: Use a harder squeegee (red instead of yellow), reduce ink level, run squeegee in higher position

Print the white master marks reverse to increase the contrast of the register marks and solve registration problems.



The result of a wrong plate distortion are different printing lengths between different processes as screen printing, die cutting, hotfoiling, etc and is well visible as a constant misregister within a printed format.