

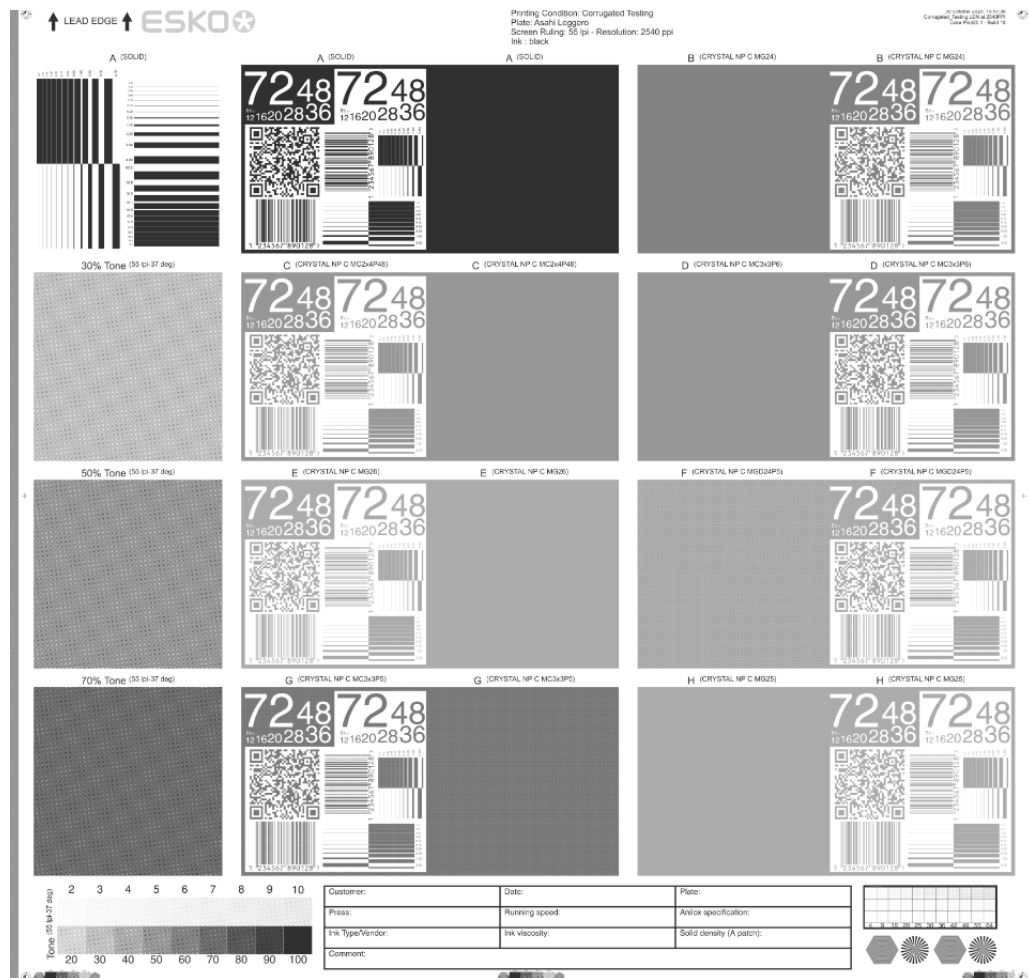
# Print Control Wizard

## How to Verify Standard Corrugated Patterns

11 - 2020

# 1. Layout

Within the corrugated section Color Pilot is providing a LEN file to be printed under normal printing conditions. The file looks like this:



There are seven different types of MicroCell, labeled from “B” to “H”. Additionally there is a patch without MicroCells , labeled as “A”.

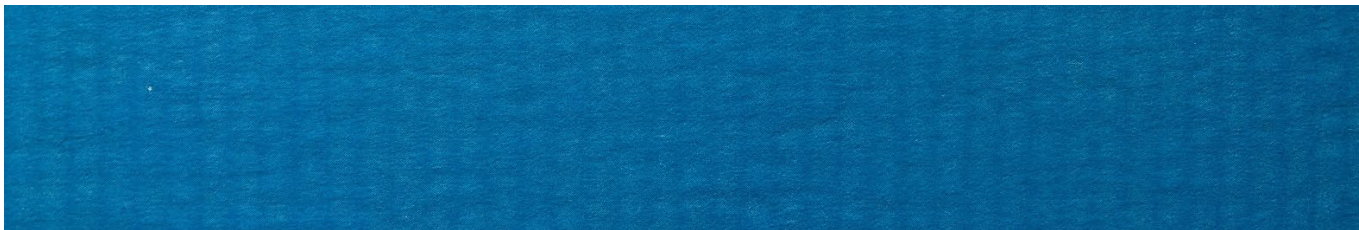
# 2. Evaluation

The patches need to be checked for five different aspects:

- Washboarding
- Trailing edge
- Ink lay down
- patterning
- SID

## 2.1 Washboarding

The board structure of the substrate might become visible when printing on corrugated substrate, visible as darker and lighter lines in the ink film. The pattern with the lowest washboarding (this is also called fluting) is the preferred one.





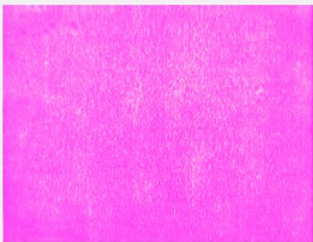
## 2.2 Trailing edge

Under some printing conditions, the ink film is not closed when getting close to the edge of a solid area. This might also be true for some corrugated applications. If this happens, the corresponding pattern should not be used since it might impair the readability of barcodes.

Trailing Edges	
Ok	Not ok
	

## 2.3 Ink lay down

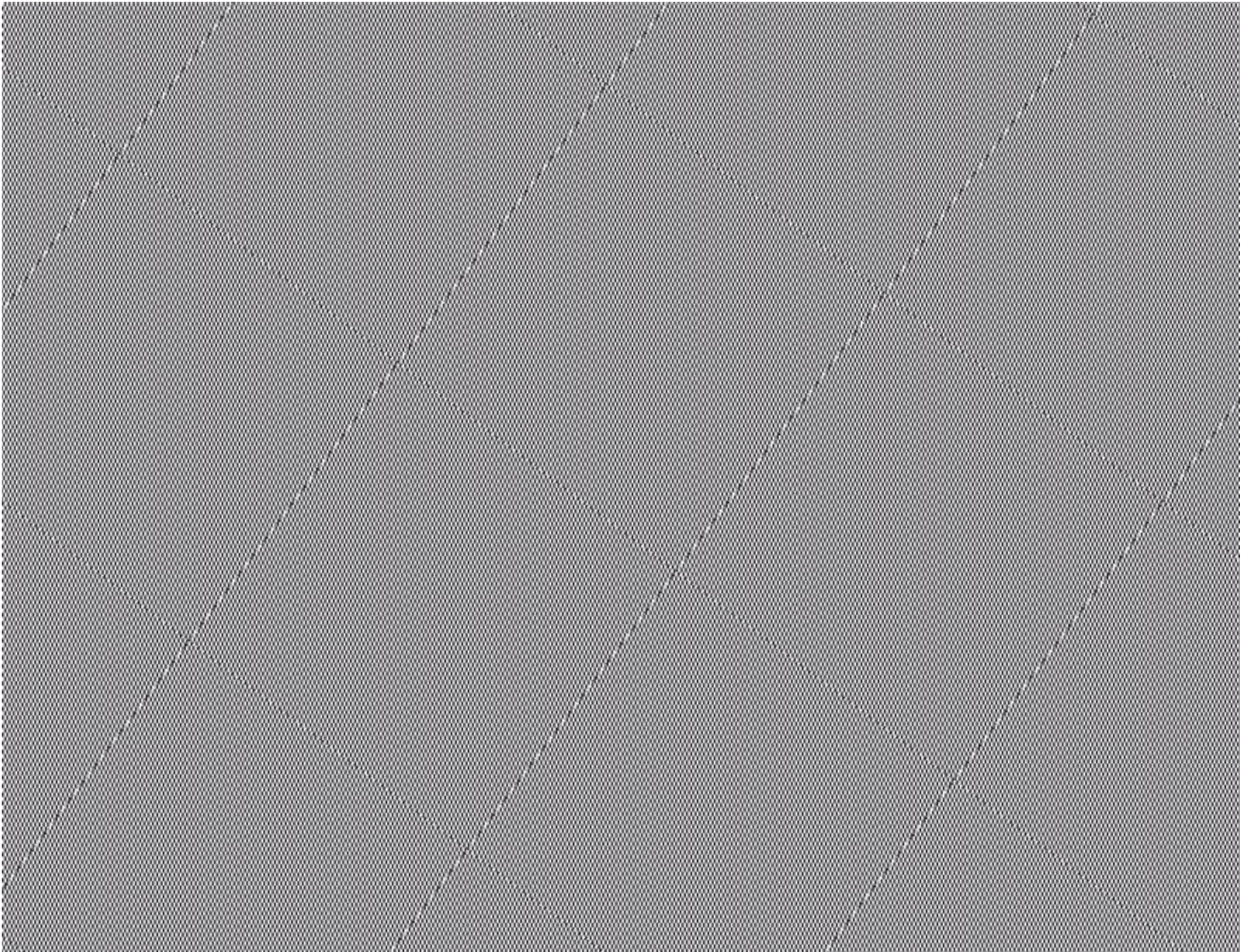
The ink lay down needs to be good, no mottling (cloudy structure), even and with no pinholes. In case the ink laydown is not good this pattern needs to be rejected.

Full tone surface homogeneity		
Ok	Not ok Pinholes	Not ok Mottling
		



## 2.4 Patterning

The solid patches C (Crystal NP C MC2x4P48) and D (Crystal NP C MC3x3P6) are showing a microscopic distortion line. The screening tile needs to match the raster and it does not fit seamlessly, so the tiles can be identified. These lines usually do not show on the printed result, however this can happen under some printing conditions. The printed result need to be checked for this artefact. In case it is showing, this pattern should be rejected.



## 2.5 SID

After considering the aspects mentioned above (washboarding, trailing edge and ink lay down) and excluding any screen not meeting these criteria, you should use the solid ink density (SID) to differentiate between the remaining screening patterns. Select the pattern with the highest SID. It needs to be measured with a densitometer (e.g. X-Rite eXact).

# 3 Printing issues

In case none of the patches B...H are better than the patch without microcells (A), please check the recommendations. Not all conditions are suitable for these types of microcells. Some platemaking and printing conditions have been successfully checked but it has also been found that some conditions are not working, especially round top plates. Other conditions may work as well but it is not for sure.

## 3.1 Expectations

Maybe more is expected than the screens are capable of? The following results can be expected:

- Low quality: Brown box
  - Increase color saturation on recycled board liners leading to EITHER (not both)
    - Improved print quality
    - Reduction on ink formulation costs
  - Only solids are handled (C-screen is implemented for tonal values up to 100%)
- High quality ("HQPP")
  - Is planned to be addressed with the next release

## 3.2 Suggested Prepress Requirements

Press component	Brown box
CDI	2540dpi (Pixel+ is not used/needed))
UV Exposure	XPS recommended* Bank exposure with Flat Top plates
Plate	Lowest Durometer (softest) Crystal XPS certified plates only Bank exposure with Flat Top plates
Anilox	150L/cm - 9cm <sup>3</sup> /m <sup>2</sup> (400LPI - 5.8BCM) and above
Ink	Start with standard viscosity and then reduce to 18 sec.

\* check the XPS certified plate list for the latest information