



G7 for Flexo Printing

G7 for Flexo Printing - The intention of this document is to supplement the G7 HowTo Found at www.gracol.org

G7 is a calibration process, it is described by ISO as a near neutral calibration process. It brings a neutral scale of CMYK to an agreed upon set of color and density values. The core difference with this technology is utilizing grey scale, with CMY overprints for calibration and process control, instead of individual tint ramps.

This is not an optimization process to determine the ideal anilox roller and volumes, ph and viscosities, or sticky backs. The process described below is a step by step procedure for flexographic printing to implement G7 calibration.

Tools Needed:

Spectrophotometer / Densitometer
Video Cam for Plate QC
Clean Anilox Rollers
Press in Stable operating condition

Inks

We are recommending using inks with the hue values below, which provide the closest color appearance match to all other print segments. Using the hues below will provide a profile close visual match, understanding the Chroma may not be achieved, depending on the substrate. FTA is recommending matching the hue < DE5 where possible

It is also understood in specific printing conditions and ink set these hues cannot be obtained in a single pigment ink (UV, light fast magenta...) in order to meet performance specifications . In some conditions ICC profiles require adjusting colors back to the reference printing condition. Grey Calibration can also help with differences in ink rotation.

ISO 12647-2 Inks for Offset Lithography

	L	a	b	c	h
Cyan	55	-37	-50	62	233
Magenta	48	74	-3	74	357
Yellow	89	-5	93	93	93
Black	16	0	0	0	

1. Create Plates with the P2P 25xa or latest version (use target for your measuring device- see read me in the P2P zip files and it87.4 with process control tools used in daily printing)



2. Measure Plates before and after washout to understand where the press is to verify proper plate imaging). The aim point for plates can be 50% before washout or after.
 - a) Note: fine tune linearization is not needed before the original press run understanding where you started is important
 - b) This is where the video cam is utilized after washout
3. Print until plates are warmed up and press is stable (using process control in daily will establish where press is stable)
 - a) how many to run - run as many as would be used in normal set up
4. Measure and document Impression, Viscosity, Ph, solid ink values, and TVI, this will be necessary for the second run for repeatability
5. If a slight adjustment can be made to impression, ph, or viscosity to make the middle tone grey patch (50C 40M 40Y) that should be made and recorded.
6. Measure P2P target with a Spectrophotometer, or Densitometer
 - a) Grey Balance can be calculated using a grey finder target
7. Derive new G7 Curve
 - a) Use IDEALink software
 - b) Use graph paper and grey finder
8. Add new curve set to RIP create new plates (12hours)
9. Repeat printing and measurement process for fine tuning the curve
 - a) Control point for press can now be Lab or density of solids and grey balance patch
10. Press Form
 - a) Must contain P2P target
 - b) Must have Control targets used in Process control in your facility
 - c) Should contain IT8.7/4 of similar target for characterization data

The process above is a description of calibration process, to make multiple printing machines have a similar appearance. In some Flexo conditions highlight gain will be higher than that of other printing types; however the making the ¼ tone and ½ tones match in density and neutrality the appearance will match.

Process Control is the key ingredient for any printing system hoping to get repeatable results. Utilizing all the Process Controls advocated by **FIRST** are still required to maintain a stable predictable print result.