

SGS Press Characterization Overview 2009



SGS Press Characterization Objective

To capture the optimum printing conditions on a gravure press in a normal environment using a know set of inks, cylinders, and substrate.



How is it done?

An engraver's perspective

Using Press Characterizations to drive continuous improvement in your operations to meet customer expectations.

- Collaboration
- Review current condition, develop target condition
- Develop A3
- Implement
- Review cost savings



SGS Collaboration- A3

- Business Case- to reduce make ready time, improve color match, reduce ink usage.
- Current Condition- What is it?
- Target Condition- What do you want to achieve?
- Activities, Metric- How are WE going to get there?



Review Cost Savings!

Labor, materials, press time, ink, cylinders and substrate all make up the cost for characterizing your press.

All of which, are an investment!

These cost are required to reach the full potential of your investment!

Press Characterization is an investment not a cost!

Press Characterization should be done when the conditions change, ie. Change ink vendor, new blade mfr, different substrates



Press Characterization Layout

General Purpose...

- To standardize what is used on a fingerprint layout. –
- Mandatory SGS Elements...
- SGS Current ICC Profile target for 4 color, or 4 color + spot.
- 28 step vertical tone scale (1-10, 10-100 x 5's), for each angle, screen, gamma, and stylus engraved.
- Reverse and positive line/type, at within a range of .002 - .012. (modify range if necessary)
- Vignette for each color, 0-100, rotated 0 and 180 degrees.
- Printer's marks (including tone blocks and cross hairs), and register marks.

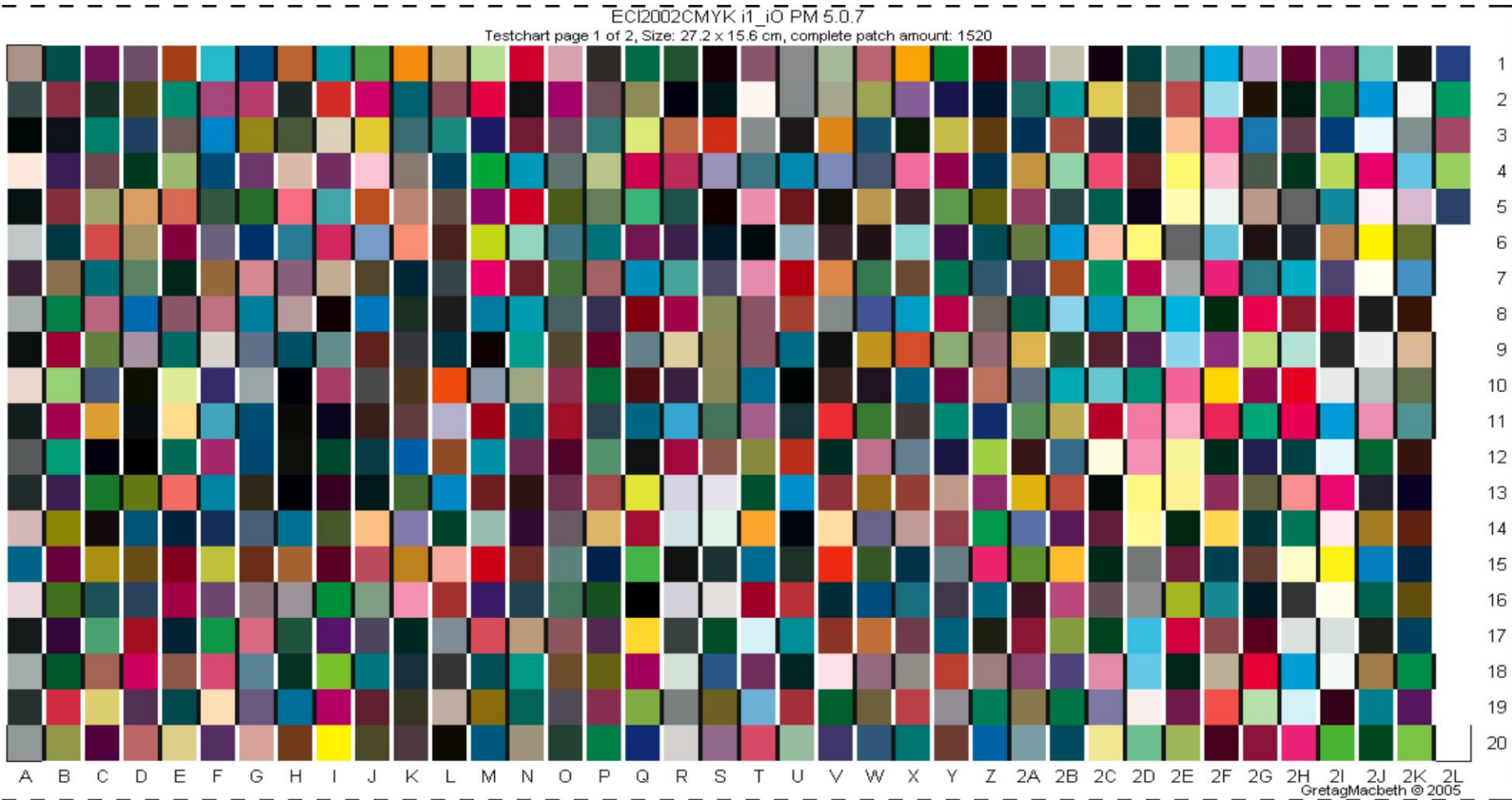


-Recommended Elements...

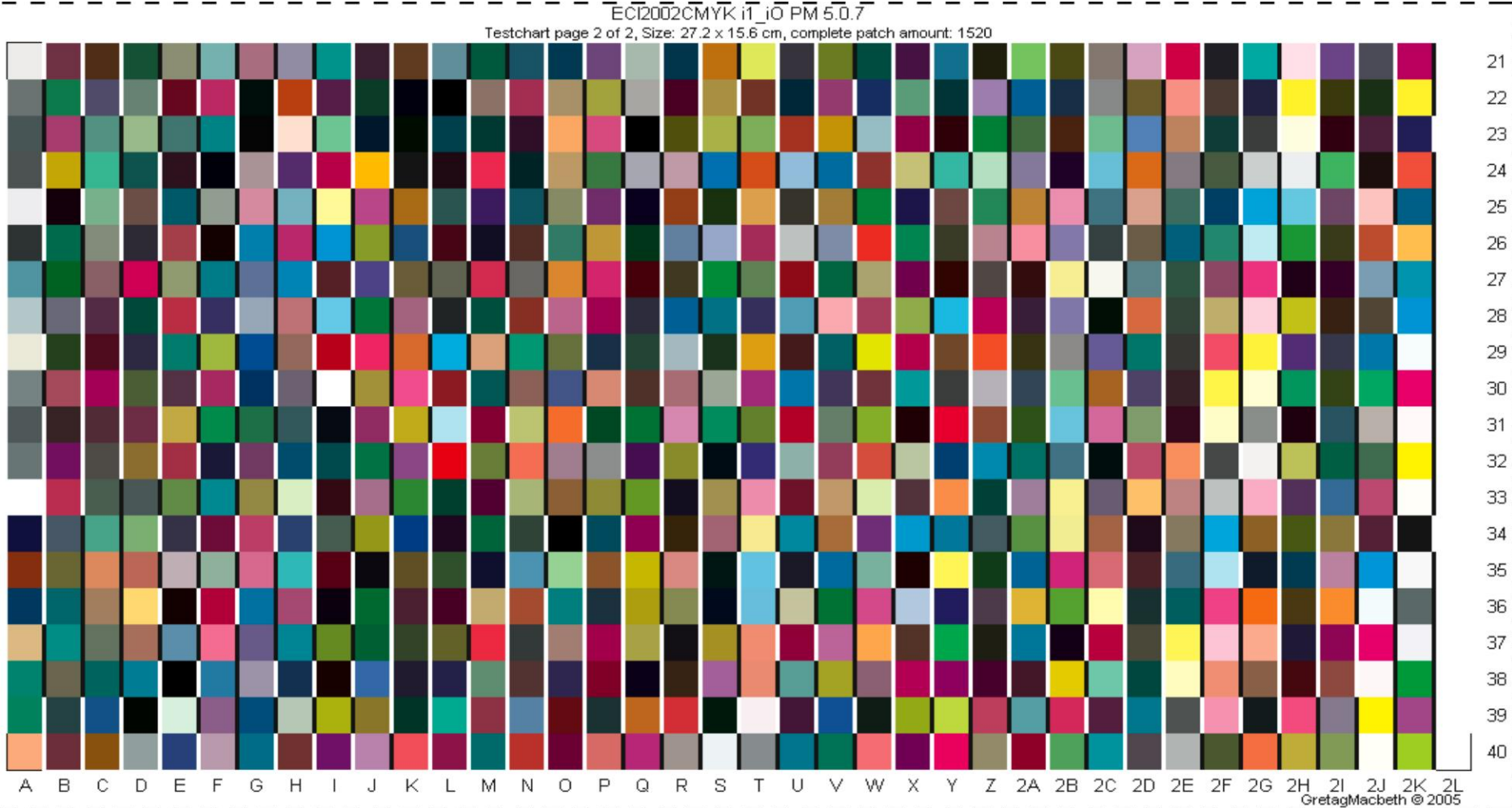
- 100, 50, 5% tone blocks repeated across the width of the layout , to verify even wipe across the cylinder.
- UPC Bars, vertical and ladder direction, at various BWRs and scales, especially based on the print's specification. Standard SGS process images for comparison to other SGS fingerprint results.
- Grey Balance Scale for each group of process color gammas engraved.
- Any additional elements requested by commercial account, printer, or designer, without restriction of SGS mandatory elements.



Test Chart 1

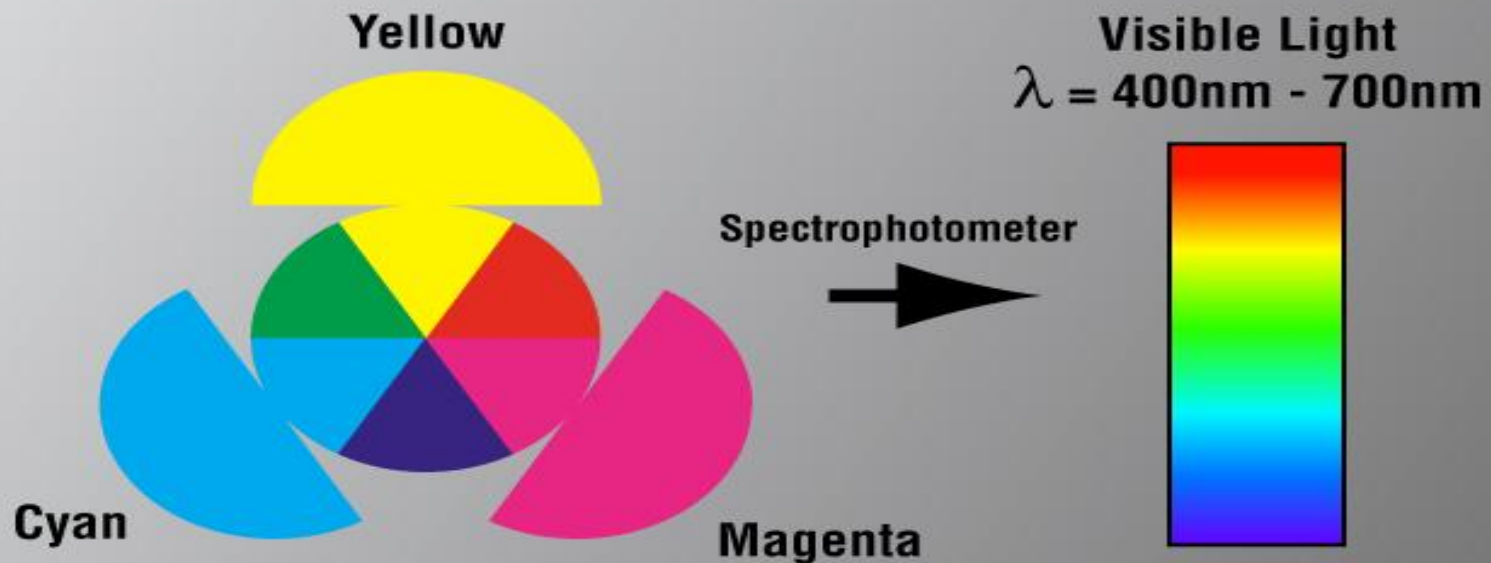


Test Chart 2

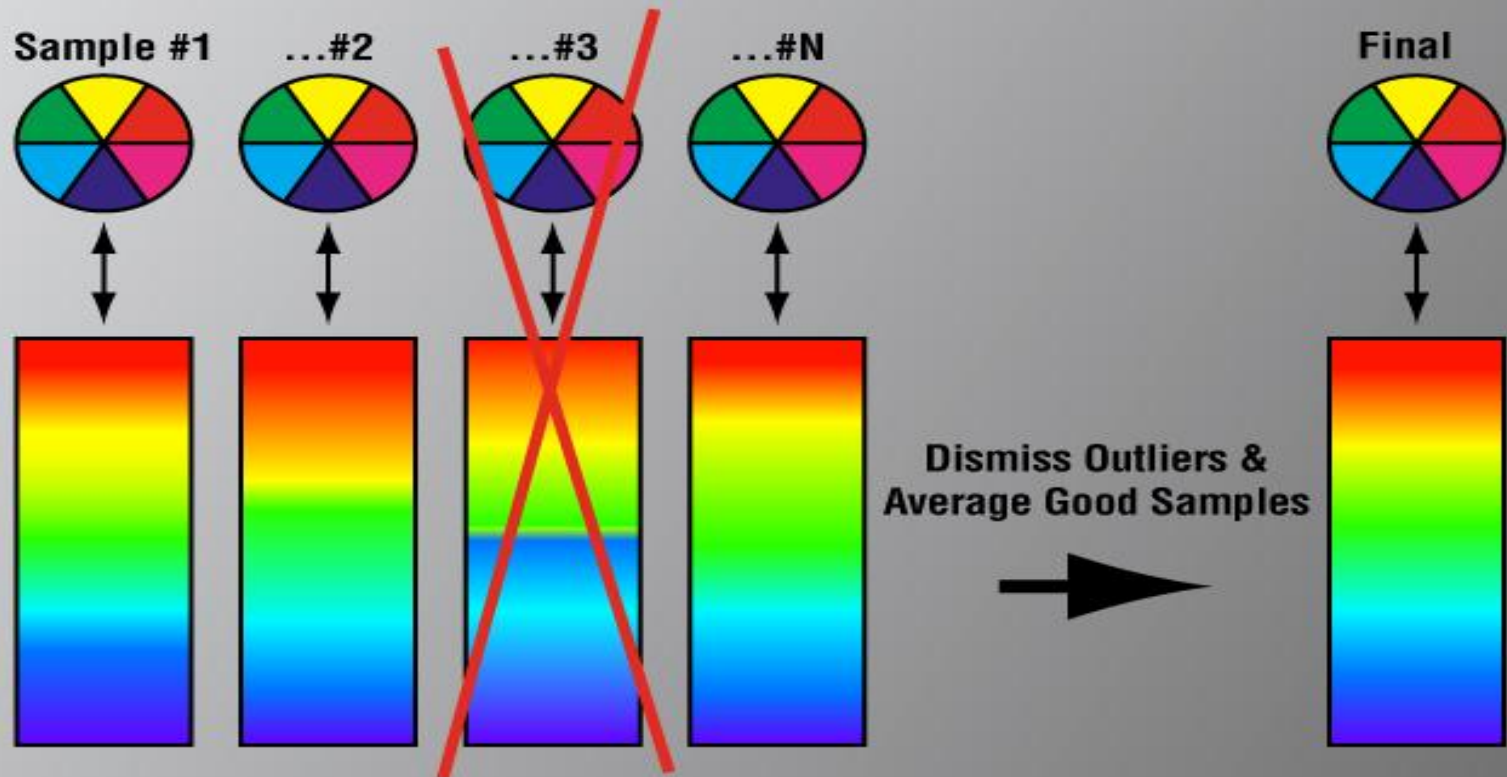


FINGERPRINT, PART 1 : CAPTURE DATA

SUBTRACTIVE COLOR (CMY[K]) to SPECTRAL COLOR

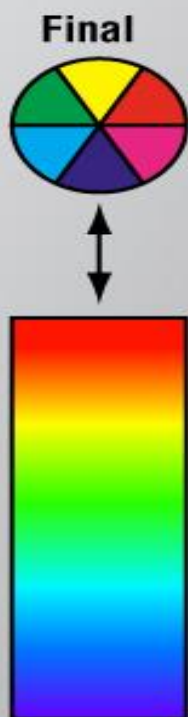


FINGERPRINT, PART 2: SAMPLING & AVERAGING



FINGERPRINT, PART 3: ANALYSIS

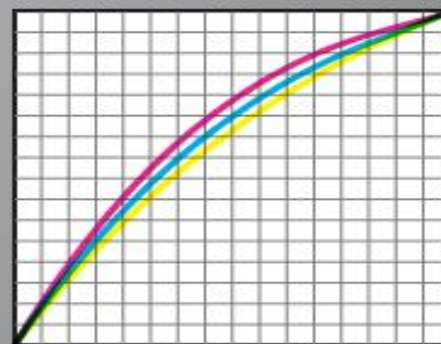
NORMALIZE DATA / DOT GAIN CORRECTION



Dot Gains Extrapolated from Averaged Data



Correct γ Curves and Adjust Data to Compensate



FINGERPRINT, PART 4: ICC PROFILING TARGET PROFILE GENERATION


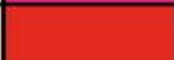




Normalized



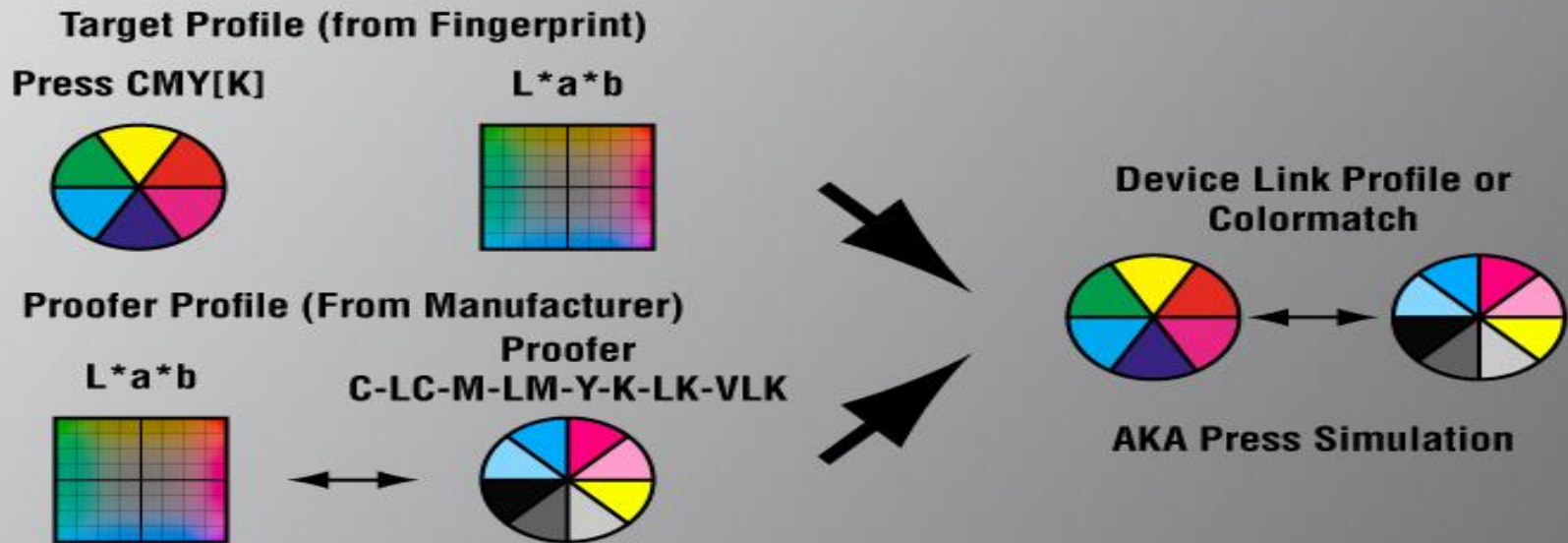
Gretag Profilemaker
Monaco Color
Esko Kalideoscope

...



C	M	Y		L	*a	*b
0	100	0		52	74	-2
0	100	100		51	68	52
0	0	100		95	-11	91
100	0	100		56	-51	32
100	0	0		65	-19	-45
100	100	0		21	29	-51

FINGERPRINT, PART 5: DEVICE LINKING PRINTING PRESS SIMULATION



FINGERPRINT, PART 6: VALIDATION COMPARE PRINTED TO SIMULATED

Validation Run CMY[K]



Press Simulation





Trial Data Sheet:

Purpose:

Trial ID:

Test:

General Job Information

Date of Trial:	Printer & Location:	Printer Job #:	Substrate Type & Printer ID:	% Moisture:	Room Conditions
Art Description:	Art ID:	Printer Spec ID:	Substrate Width (Sheet size):	Roughness:	Temp.: Humidity:

Press Station Setup

	1	2	3	4	5	6	7	8	9	10	ESA
Cylinder ID:											Settings...
Color (PMS/SM#):											
Target Density:											
Xrite DE Tolerance:											
Engraving Specs:											Treatment
Ink ID:											Pretreated?
(INC, Exp, Vln, WB, etc.) Ink Type:											Target Dyne:
Formula ID:											Inline Treater?
Cup: Viscosity:											Target Dyne:
pH (if WB Ink):											Oper. Side
Fluid Temperature:											Middle:
Cutting Blend:											Far Side:
Blade ID:											Solvent Blend
Blade Type:											A:
Blade Position - Horizontal:											
Vertical:											
Pressure:											B:
Sta Oven Temperature:											
Air Velocity:											C:
Impression (Lbs):											
Imp Roller Durometer:											
Other:											Additives/Modifiers...

Trial Preparation (Please notify Supervision of any Discrepancies)

- 1) Start with FRESH INKS and NEW DOCTOR BLADES.
- 2) Set up press to standard EVERYDAY conditions, unless other wise noted on job sheet.
- 3) Run press according to Standard Densities listed above.
- 4) Adjust doctor blades wipe for consistent wipe, set light register, and eliminate any print defects.
- 5) Run each combination required, using a new data sheet for each combination.
- 6) Note any ink additions to process ink, or process color substitutions.
- 7) Record all known press conditions.
- 8) Record any specific observations or concerns below for samples collected.
(Meters to Feet = Meters x 3.28084) or (Feet to Meters = Feet x 0.3048)

Prepress Specifications

Art Source:	Image Area:	Number Across:
Sample Label:	Profile Art Type:	Number Around:
Workflow ID:	Target Proof:	Marks ID:
Profile ID:	Dig Proof Type:	Print Orientation:
Curve ID:	Min Tint% in File:	Face Length:
Eng Plant:	Cylinder Base:	Circumference:
SGS VT ID:		

Reference Charts

FINAL	K	C	M	Y	S	Ford 4	Zahn 2	Rigosha 3
Abs. Density:						25	28	n/a
Dot Area Den.:						22	24	22
Dot Area 5%:						18	22	20
25%:						14	20	18
50%:						10	18	16
75%:						n/a	16	12

Sample Speed Comments...

Sample	Speed	Comments...
1		
2		
3		
4		

Questions?