

Kodak Matchprint Digital Halftone Proofing System for GRACoL Coated #1 Proofs



Off-Press Proof Application Data Sheet

The IDEAlliance Print Properties Working Group has established a certification process for off-press proofs as input material to publications. In accordance with this process: "The appearance of a hard copy or monitor proof used in this application must have the ability to closely match specific CGATS or other documented characterization data sets within outlined tolerances." See further explanations and recommendations outlined on www.swop.org or www.gracol.org.

The following information is intended to assist producers and consumers in the use of vendor specified proofing materials in an off-press proof application:

I. Manufacturer

Eastman Kodak Company
343 State Street
Rochester, NY 14650 U.S.A.

II. Product

Kodak Matchprint Digital Halftone Proofing System



III. Introduction

Kodak Matchprint Digital Halftone Proofing System is a contract halftone proofing system optimized to image on a **Kodak Proofsetter Spectrum** Digital Halftone Proofing System. The high repeatability ensured by **Kodak SQUAREspot** Imaging Technology means solid density, tones, and color blends that are consistent from proof to proof and machine to machine. Using thermal imaging technology, the **Matchprint** System produces high-resolution digital halftone proofs that represent the image structure of the plates on press. Capable of outputting 4- and 8-page proofs on the same device, the **Matchprint** Digital Halftone Proofing System is well suited for quick turnaround jobs and large-format proofing. Imaging the industry's largest digital halftone proofs, **Matchprint** Digital Halftone Proofing Media can easily handle full flat contract proofing and oversize items for packaging and posters. A proof made with **Matchprint** Digital Halftone Media imaged on a **Spectrum** System, to this Application Data Sheet specification, is intended to simulate the characteristics of a production press operating within the **GRACoL** Guidelines for production printing.

Kodak



IV. Control Guide

IDEAlliance specifies a control guide such as an ADS Proofing Certification Strip be supplied on every off-press proof. As a minimum, this guide should contain solids for the primary process colors (YMCK), two-color overprints (RGB), and a three-color overprint (YMC), as well as a 25%, 50%, and 75% tint at 175 lines per inch for each of the primary process colors and 3-color gray patches. All control guides should be checked for accuracy of the original values. Use and interpretation of a control guide is the responsibility of the creator.

Example:



V. System Components

For a proof from a **Kodak Matchprint** System to be considered a **GRACoL** Coated #1 Proof, the system front-end must be color management enabled and the device link profile indicated below (under **Output Parameters**) must be installed and selected during the printing step. In addition, the following components must be used.

Media Catalog Numbers /Description		
Materials	4-Page Cat #'s	8-page Cat #'s
High Density GT Cyan	0727210	0727087
High Density GT Magenta	0790360	0790410
High Density GT Yellow	20002943	20002944
Standard GT Black	0727194	0727095
GT4 Semi-gloss Receptor	20002946	20005991
GT4 Prep Sheet	0724399	0724373
Paper Stock	80# Lustro Gloss or equivalent	
Laminator	447L or 800XL	



Target Input Values				
Dot In	Cyan	Magenta	Yellow	Black
100	100.0	100.0	100.0	100.0
95	98.4	97.4	97.8	98.1
90	96.6	94.8	95.4	96.2
85	94.6	92.1	93.0	94.1
80	92.3	89.3	90.3	91.6
75	89.4	86.4	87.3	88.8
70	86.1	83.6	84.0	85.6
65	82.3	80.8	80.6	82.1
60	78.2	77.9	76.9	78.3
55	73.6	74.6	72.8	74.2
50	68.8	70.5	68.2	69.6
45	63.6	65.6	63.0	64.5
40	57.9	60.0	57.3	59.0
35	52.0	53.9	51.3	53.2
30	45.8	47.6	45.0	47.1
25	39.4	41.2	38.6	40.9
20	32.7	34.5	31.8	34.6
15	25.4	27.3	24.5	27.7
10	17.7	19.5	16.9	20.0
8	14.4	16.0	13.7	16.5
6	11.0	12.3	10.4	12.7
4	7.4	8.3	7.0	8.6
2	3.7	4.2	3.5	4.4
0	0.0	0.0	0.0	0.0

Output Parameters:

- Line screen ruling: 175 lpi
- Dot Shape: Euclidean (Round-Square-Round)
- Proofing sequence: KCMY
- Screen Angles: Y=0, M=105, C=165, K=45
- Target Solid Densities (Before applying DVL): Cyan=1.42, Magenta=1.56, Yellow=0.95, Black=1.80
Note: Solid densities were measured with an **X-Rite** 500 Series Spectrophotometer with non-UV over white backing.
- Device Link: MDHP_LG_GRACoL_C1_06_v1_a.dvl is available on the Kodak website:
http://graphics.kodak.com/global/consumables/proofing_media/Application_Data_Sheets.



VI. Finishing Procedures

None Required

VII. Finished Proof Characteristics

A proof with the color characteristics referenced in Appendix 1 is to be expected when measured from the ADS Proofing Certification Strip having been properly made to all the listed system components and finishing procedures. Likewise the second chart depicts data referenced to the **FOGRA** Wedge for color comparison.

Note: Three-color grays are comprised of Cyan, Magenta, Yellow: 75, 66, 66; 50, 40, 40; and 25, 19, 19 values.

All measurements to certify **Matchprint** Digital Halftone System to the **GRACoL** 2006 C1 characterization data were made using a calibrated **X-Rite** DTP70 Spectrophotometer (D50, 2 degree observer, UV excluded, with white backup). All tolerances reflect normal systems variability and assume the use of a calibrated measurement device.

VIII. Sample Proofs

Kodak has supplied three (3) sets of hard copy proofs that conform to this Application Data Sheet and have been certified by the IDEAlliance certifying contractor.



Appendix 1

Characterization Data CIELab Values

ADS Proofing Certification Strip for **GRACoL 2006 Coated #1**

Patch ID	CIELab Data			Maximum Delta E(ab)
	L*	a*	b*	
Paper	95.00	-0.02	-1.96	3
Yellow Solid	88.94	-5.02	93.17	5
Yellow 75%	90.28	-4.69	69.03	-
Yellow 50%	91.66	-3.87	43.57	-
Yellow 25%	93.15	-2.14	20.33	-
Magenta Solid	47.93	74.11	-3.01	5
Magenta 75%	57.88	56.32	-5.35	-
Magenta 50%	70.24	35.30	-6.06	-
Magenta 25%	82.55	16.79	-4.98	-
Cyan Solid	54.96	-37.12	-50.00	5
Cyan 75%	64.50	-27.32	-39.44	-
Cyan 50%	74.69	-17.15	-27.45	-
Cyan 25%	84.68	-8.25	-15.29	-
Black Solid	14.95	0.19	-0.14	-
Black 75%	39.75	-0.57	-1.02	-
Black 50%	59.77	-0.53	-1.61	-
Black 25%	77.43	-0.40	-1.93	-
Red Solid	47.37	68.25	48.79	6
Green Solid	50.12	-68.43	25.00	6
Blue Solid	24.13	17.20	-46.14	6
3 Color 100%	23.00	0.17	-0.25	6
3 Color 75%	39.40	-0.54	-0.45	-
3 Color 50%	57.54	-0.12	-1.44	3
3 Color 25%	75.41	0.30	-1.36	-

Note: 3-color 25% and 75% CIELab values are calculations from the IT8/7.4 characterization data as these patches are not a subset of that data.



FOGRA Wedge Characterization Data CIE Lab Values for GRACoL 2006 Coated #1

Patch ID	CIE Lab Data		
	L*	a*	b*
Top 1-1	54.96	-37.12	-50.00
Top 1-2	66.60	-25.13	-37.01
Top 1-3	78.64	-13.52	-22.72
Top 1-4	47.93	74.11	-3.01
Top 1-5	60.35	51.93	-5.67
Top 1-6	75.10	27.61	-5.85
Top 1-7	88.94	-5.02	93.17
Top 1-8	90.56	-4.57	63.58
Top 1-9	92.21	-3.24	33.89
Top 1-10	53.4	36.61	28.63
Top 1-11	40.54	20.86	14.82
Top 1-12	31.57	36.90	22.52
Top 1-13	32.32	40.62	-2.26
Top 1-14	49.01	0.15	40.24
Top 1-15	33.50	-36.22	11.08
Top 1-16	35.04	-25.01	-20.60
Top 1-17	20.89	6.27	-23.50
Top 1-18	87.93	-0.20	-1.98
Top 1-19	80.88	-0.38	-1.99
Top 1-20	67.04	-0.47	-1.76
Top 1-21	52.32	-0.59	-1.47
Top 1-22	35.39	-0.56	-0.87
Top 1-23	14.95	0.19	-0.14

Patch ID	CIE Lab Data		
	L*	a*	b*
Bottom 2-1	24.13	17.20	-46.14
Bottom 2-2	40.84	17.09	-35.77
Bottom 2-3	61.97	10.77	-23.84
Bottom 2-4	47.37	68.25	48.79
Bottom 2-5	59.09	47.55	39.25
Bottom 2-6	73.54	24.66	23.99
Bottom 2-7	50.12	-68.43	25.00
Bottom 2-8	62.69	-41.44	20.96
Bottom 2-9	76.12	-20.37	11.54
Bottom 2-10	70.23	19.71	18.63
Bottom 2-11	70.88	22.91	72.40
Bottom 2-12	48.28	70.95	17.76
Bottom 2-13	37.89	52.56	-22.07
Bottom 2-14	72.70	-25.21	65.09
Bottom 2-15	52.53	-53.19	-19.34
Bottom 2-16	42.57	-16.27	-48.19
Bottom 2-17	95.00	-0.02	-1.96
Bottom 2-18	87.56	-0.34	-3.00
Bottom 2-19	80.65	-1.08	-3.55
Bottom 2-20	66.41	-2.16	-3.96
Bottom 2-21	52.30	-2.93	-3.25
Bottom 2-22	38.23	-4.77	-3.50
Bottom 2-23	26.57	-7.05	-4.13

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