ColorBurst®

Certified 10/13/06

IDEAlliance®

Off-Press Proof Application Data Sheet

ColorBurst® RIP Proofing System for GRACoL 2006 Coated #1

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

ColorBurst Systems (CSE, Inc.)

44710 Cape Court
Suite 142
Ashburn, VA 20147

II. Product

ColorBurst® RIP Proofing System

- ColorBurst® RIP (Mac & Windows)
- Epson Stylus® Pro 3800
- UltraChrome K3™ inks
- Epson Proofing Paper White Semimatte paper

III. Introduction

The ColorBurst® RIP combined with the Epson Stylus® Pro 3800, UltraChrome K3™ Ink, and Epson Proofing Paper White Semimatte paper is a non-halftone, ICC color managed, digital ink jet color proofing system. The ColorBurst RIP Proofing System provides a high quality, continuous tone, color accurate proof. This document is intended to assist users in calibrating and verifying their ColorBurst RIP Proofing System for use in proofing workflows (e.g. SWOP®, GRACoL®, etc.). Proofs made according to this document were certified in accordance with the process established by the IDEAlliance Print Properties Working Group.

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 in stated line screen resolution of 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.

ADS Proofing Certification Strip

V. System Components

For a ColorBurst RIP Proof to be considered a "SWOP" proof, the following components must be used:

- ColorBurst® RIP software (Mac 5.0 or later, Windows 7.7 or later)
- ColorBurst Environment file: SP3800 SWOP Epson Proofing White Semimatte PK
- Epson Stylus® Pro 3800 printer with UltraChrome K3™ Inks
- Epson Proofing Paper White Semimatte paper
- SpectralVision Pro software (included with ColorBurst RIP software)
- Supported spectrophotometer (must have a UV filter)
  - ✓ X-Rite: DTP20 (PULSE), DTP41, DTP45, or DTP70
  - ✓ GretagMacbeth: Eye-One, iCColor, or SpectroScan
- Calibrated workflow (to ensure color quality and consistency, ColorBurst Systems specifies that all proofs must be created in a workflow where calibration procedures are followed)

VI. Finishing Procedures

The following finishing instructions are necessary in order for the ColorBurst RIP Proofing System to conform to this Application Data Sheet.

1. Select the SP3800 SWOP Epson Proofing White Semimatte PK environment in the ColorBurst RIP (see the ColorBurst RIP Manual for information on setting up the ColorBurst RIP and selecting printer environments).
2. Perform a relinearization using a supported spectrophotometer (see the SpectralVision Pro Manual for instructions on performing a relinearization and steps for troubleshooting).

   Note that the Baseline values contained in the environment are crucial to the accuracy of the ICC profile for the SP3800 printer and should *not* be changed.
3. Save the environment file with a new name. If the goal is to match the provided measurements in Appendix 1, then any ICC profile settings in ColorBurst should *not* be changed.
   - ✓ CMYK Input Profile = ColorBurst GRACoL G7.icc
   - ✓ Rendering Intent = Absolute Colorimetric
   - ✓ CMYK Output Profile = SP3800 SWOP Epson Proofing White Semimatte PK.icc
   - ✓ Simulation Profile = None
4. Print out a control guide such as the ADS Proofing Certification Strip or the ColorBurst RIP Proofing Color Bars (the latter is provided with the ColorBurst RIP and is available for download at www.colorburstrip.com).

   Color bars should be given a *minimum* of 15 minutes to dry before any measurements are done.

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.

All measurements in Appendix 1 were made using a calibrated GretagMacbeth Eye-One spectrophotometer (with UVcut filter), ColorShop X software from X-Rite, and a white opaque backing per CGATS.5-2004.

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

VIII. Sample Proofs

ColorBurst Systems (CSE, Inc.) has supplied three (3) sets of hard copy proofs for retention or has had their monitor system verified that it conforms to this Application Data Sheet by an IDEAlliance certifying contractor.

IX. Additional Proof Data

No additional proof data is needed for making or verifying a ColorBurst RIP Proofing System proof.

Appendix 1
Characterization Data CIELab Values

ADS Proofing Certification Strip for GRACoL 2006 Coated #1

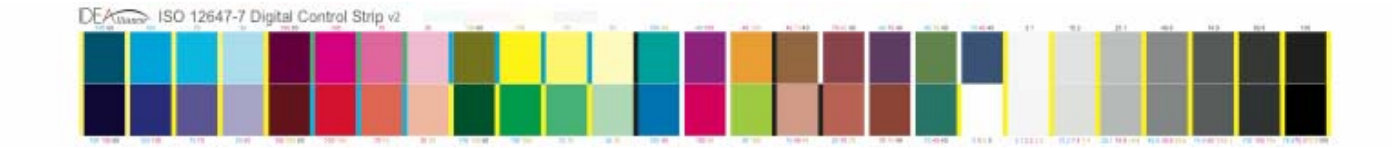
	CIELab Data			Maximum
Patch ID	L*	a*	b*	Delta E(ab)
Paper	96.05	-0.66	-1.66	3
Yellow Solid	88.97	-4.32	95.74	5
Yellow 75%	90.27	-4.34	70.23	-
Yellow 50%	91.86	-4.31	44.68	-
Yellow 25%	93.51	-2.29	20.89	-
Magenta Solid	48.33	74.15	-0.85	5
Magenta 75%	58.19	56.09	-6.14	-
Magenta 50%	70.72	35.54	-6.31	-
Magenta 25%	83.38	16.14	-5.83	-
Cyan Solid	55.42	-37.79	-50.08	5
Cyan 75%	64.47	-29.17	-39.48	-
Cyan 50%	74.89	-17.84	-27.81	-
Cyan 25%	84.84	-8.80	-14.61	-
Black Solid	12.93	-0.40	-0.05	5
Black 75%	39.47	-1.16	-0.90	-
Black 50%	60.12	-1.32	-1.27	-
Black 25%	77.98	-0.60	-1.69	-
Red Solid	48.08	67.63	50.02	6
Green Solid	49.24	-72.00	25.60	6
Blue Solid	23.19	16.39	-47.14	6
3 Color 100%	22.59	-0.59	0.48	6
3 Color 75%	39.03	-0.87	-0.47	-
3 Color 50%	57.79	-0.61	-0.83	3
3 Color 25%	76.43	-0.11	-1.11	-

FOGRA Wedge Characterization Data CIELab Values for GRACoL 2006 Coated #1

	CIELab Data		
Patch ID	L*	a*	b*
Top 1-1	55.6	-37.4	-49.8
Top 1-2	66.8	-26.3	-36.1
Top 1-3	78.8	-14.2	-22.2
Top 1-4	48.3	73.9	-1.4
Top 1-5	60.0	52.9	-6.5
Top 1-6	75.4	27.2	-6.4
Top 1-7	88.8	-4.3	95.6
Top 1-8	90.4	-4.3	65.4
Top 1-9	92.0	-2.8	33.6
Top 1-10	52.7	37.2	29.2
Top 1-11	39.3	21.5	15.4
Top 1-12	30.3	36.8	22.1
Top 1-13	31.2	40.8	-4.2
Top 1-14	48.6	-0.2	42.2
Top 1-15	32.8	-37.7	13.1
Top 1-16	35.3	-27.2	-20.0
Top 1-17	20.6	5.6	-23.9
Top 1-18	87.9	-0.6	-2.1
Top 1-19	81.4	-0.7	-1.8
Top 1-20	67.5	-0.8	-1.6
Top 1-21	52.4	-1.0	-0.9
Top 1-22	34.8	-1.0	-0.7
Top 1-23	12.8	-0.3	-0.1
Bottom 2-1	23.6	16.6	-46.6
Bottom 2-2	40.0	16.9	-36.7
Bottom 2-3	62.5	10.3	-23.9
Bottom 2-4	47.9	67.5	49.5
Bottom 2-5	58.4	48.4	39.9
Bottom 2-6	73.3	24.3	25.5
Bottom 2-7	50.1	-70.8	26.7
Bottom 2-8	62.6	-42.7	21.9
Bottom 2-9	76.1	-21.5	12.3
Bottom 2-10	69.7	19.5	19.8
Bottom 2-11	70.7	23.5	74.2
Bottom 2-12	48.1	71.0	17.9
Bottom 2-13	37.9	53.3	-24.2
Bottom 2-14	72.4	-25.4	66.5
Bottom 2-15	52.1	-55.2	-18.5
Bottom 2-16	42.9	-17.9	-48.5
Bottom 2-17	95.8	-0.5	-1.5
Bottom 2-18	87.8	-0.8	-2.9
Bottom 2-19	81.2	-1.3	-3.5
Bottom 2-20	67.0	-2.2	-3.1
Bottom 2-21	52.4	-3.3	-2.7
Bottom 2-22	37.4	-5.8	-3.1
Bottom 2-23	25.8	-7.2	-3.9

ISO12647-7 Digital Control Strip 2007

The IDEAlliance Print Properties Working Group has developed a new digital control strip for off-press proofs. As of November 2007, this control strip replaces the current FOGRA Wedge and proofing bar on the proofing certification test forms. This ADS Attachment provides the CIELab data for all fifty-four (54) patches contained in the new strip. These data sheets will replace Appendix 1 in the Application Data Sheets for all previous certified proofing systems to the specific data set for GRACoL C1, SWOP C3, or SWOP C5.



Control Strip Patch Values

Patch ID Top	Patch Tint % Values			
	CMYK_C	CMYK_M	CMYK_Y	CMYK_K
A1	100	0	0	60
A2	100	0	0	0
A3	70	0	0	0
A4	30	0	0	0
A5	0	100	0	60
A6	0	100	0	0
A7	0	70	0	0
A8	0	30	0	0
A9	0	0	100	60
A10	0	0	100	0
A11	0	0	70	0
A12	0	0	30	0
A13	100	0	40	0
A14	40	100	0	0
A15	0	40	100	0
A16	0	40	70	40
A17	0	70	40	40
A18	40	70	0	40
A19	40	0	70	40
A20	70	40	0	40
A21	0	0	0	3
A22	0	0	0	10
A23	0	0	0	25
A24	0	0	0	50
A25	0	0	0	75
A26	0	0	0	90
A27	0	0	0	100

Patch ID Bottom	Patch Tint % Values			
	CMYK_C	CMYK_M	CMYK_Y	CMYK_K
B1	100	100	0	60
B2	100	100	0	0
B3	70	70	0	0
B4	30	30	0	0
B5	0	100	100	60
B6	0	100	100	0
B7	0	70	70	0
B8	0	30	30	0
B9	100	0	100	60
B10	100	0	100	0
B11	70	0	70	0
B12	30	0	30	0
B13	100	40	0	0
B14	0	100	40	0
B15	40	0	100	0
B16	10	40	40	0
B17	20	70	70	0
B18	0	70	70	40
B19	70	0	40	40
B20	0	0	0	0
B21	3.1	2.2	2.2	0
B22	10.2	7.4	7.4	0
B23	25	19	19	0
B24	50	40	40	0
B25	75	66	66	0
B26	100	100	100	0
B27	80	70	70	100

Appendix 1
Characterization Data CIELab Values

ISO12647-7 Digital Control Strip 2007 for GRACoL 2006 Coated #1 Data Set

Patch ID Top	CIELab Data			Maximum
	L*	a*	b*	ΔE (ab)
A1	30.05	-22.65	-28.82	-
A2	54.96	-37.12	-50.00	5
A3	66.60	-25.13	-37.01	-
A4	82.64	-9.99	-17.85	-
A5	26.45	41.59	-1.73	-
A6	47.93	74.11	-3.01	5
A7	60.35	51.93	-5.67	-
A8	80.03	20.38	-5.35	-
A9	48.53	-5.30	49.19	-
A10	88.94	-5.02	93.17	5
A11	90.56	-4.57	63.58	-
A12	92.84	-2.51	24.77	-
A13	52.53	-53.19	-19.34	-
A14	37.89	52.56	-22.07	-
A15	70.88	22.91	72.40	-
A16	50.86	15.13	33.06	-
A17	42.17	33.42	13.25	-
A18	34.60	23.09	-17.15	-
A19	52.45	-18.04	26.12	-
A20	36.56	-1.43	-26.62	-
A21	92.88	-0.08	-1.96	-
A22	87.93	-0.20	-1.98	-
A23	77.43	-0.40	-1.93	-
A24	59.77	-0.53	-1.61	-
A25	39.75	-0.57	-1.02	-
A26	25.57	-0.21	-0.53	-

Patch ID Bottom	CIELab Data			Maximum
	L*	a*	b*	ΔE (ab)
B1	15.18	8.84	-24.61	-
B2	24.13	17.20	-46.14	6
B3	40.84	17.09	-35.77	-
B4	69.57	8.37	-19.26	-
B5	26.22	35.38	24.54	-
B6	47.37	68.25	48.79	6
B7	59.09	47.55	39.25	-
B8	78.62	17.92	18.20	-
B9	28.47	-39.38	12.04	-
B10	50.12	-68.43	25.00	6
B11	62.69	-41.44	20.96	-
B12	80.64	-14.75	8.25	-
B13	42.57	-16.27	-48.19	-
B14	48.28	70.95	17.76	-
B15	72.70	-25.21	65.09	-
B16	70.23	19.71	18.63	-
B17	53.40	36.61	28.63	-
B18	41.61	32.01	26.83	-
B19	45.40	-26.20	-3.82	-
B20	95.00	-0.02	-1.96	3
B21	92.43	0.19	-2.06	-
B22	86.74	0.31	-2.04	-
B23	75.52	0.07	-1.50	-
B24	57.54	-0.12	-1.44	3
B25	39.39	-0.30	-0.55	-
B26	23.00	0.17	-0.25	-

Note: Color measurements comparing measured proof data to this reference data requires the use of a calibrated spectrophotometer.

Appendix 2
Characterization Data CIELab Values

ISO12647-7 Digital Control Strip 2007 for SWOP 2006 Coated #3 Data Set

Patch ID Top	CIELab Data			Maximum
	L*	a*	b*	ΔE (ab)
A1	31.96	-21.01	-26.32	-
A2	56.99	-37.23	-44.95	5
A3	66.07	-27.13	-33.53	-
A4	80.52	-11.80	-15.33	-
A5	25.80	40.75	-2.90	-
A6	47.84	72.08	-3.11	5
A7	58.95	51.61	-4.46	-
A8	78.03	20.64	-3.18	-
A9	47.67	-4.29	45.76	-
A10	87.97	-5.03	88.10	5
A11	89.28	-5.09	62.78	-
A12	91.24	-2.93	25.28	-
A13	54.86	-51.51	-16.56	-
A14	38.04	51.19	-21.63	-
A15	69.74	23.44	67.23	-
A16	49.55	15.84	31.56	-
A17	40.89	33.29	12.00	-
A18	34.01	22.69	-16.52	-
A19	52.24	-17.96	25.88	-
A20	36.91	-2.13	-25.08	-
A21	90.46	-0.06	-0.21	-
A22	85.69	-0.18	-0.70	-
A23	75.49	-0.39	-1.61	-
A24	58.21	-0.51	-2.27	-
A25	39.28	-0.34	-1.80	-
A26	26.88	-0.14	-0.89	-

Patch ID Bottom	CIELab Data			Maximum
	L*	a*	b*	ΔE (ab)
B1	15.57	11.13	-25.12	-
B2	26.85	18.10	-44.32	6
B3	40.85	16.19	-34.08	-
B4	67.49	7.60	-17.17	-
B5	25.19	35.01	22.46	-
B6	46.86	66.21	45.03	6
B7	57.68	47.17	37.42	-
B8	77.94	18.06	18.43	-
B9	29.42	-36.88	12.46	-
B10	52.12	-64.75	24.83	6
B11	63.15	-41.26	21.06	-
B12	79.23	-15.72	8.94	-
B13	44.63	-16.62	-44.13	-
B14	47.87	69.02	16.49	-
B15	72.78	-24.61	60.84	-
B16	68.56	20.02	18.67	-
B17	52.11	36.50	27.30	-
B18	40.29	32.11	25.13	-
B19	45.95	-26.09	-3.01	-
B20	92.50	0.00	0.00	3
B21	90.08	-0.02	-0.08	-
B22	84.59	-0.04	-0.22	-
B23	73.54	-0.15	-0.48	-
B24	56.29	-0.48	-0.41	3
B25	39.80	-0.33	0.14	-
B26	24.79	0.22	-0.52	-

Note: Color measurements comparing measured proof data to this reference data requires the use of a calibrated spectrophotometer.

Appendix 3
Characterization Data CIELab Values

ISO12647-7 Digital Control Strip 2007 for SWOP 2006 Coated #5 Data Set

Patch ID Top	CIELab Data			Maximum
	L*	a*	b*	ΔE (ab)
A1	32.65	-22.26	-23.31	-
A2	56.56	-37.98	-40.93	5
A3	64.70	-26.67	-29.70	-
A4	78.29	-11.19	-11.42	-
A5	26.42	40.29	-3.23	-
A6	47.64	69.97	-3.54	5
A7	58.14	49.08	-2.95	-
A8	75.88	19.59	0.11	-
A9	47.09	-4.83	44.51	-
A10	85.43	-5.82	84.62	5
A11	86.28	-5.18	60.33	-
A12	88.09	-2.76	26.91	-
A13	54.38	-50.05	-13.62	-
A14	37.79	50.15	-21.11	-
A15	68.36	21.69	65.39	-
A16	48.86	15.14	31.31	-
A17	40.69	32.61	12.52	-
A18	33.04	22.15	-14.98	-
A19	51.08	-17.54	25.50	-
A20	36.75	-2.64	-22.16	-
A21	87.97	-0.06	3.85	-
A22	83.35	-0.16	3.31	-
A23	73.53	-0.34	2.37	-
A24	56.84	-0.35	1.34	-
A25	38.89	0.04	0.98	-
A26	27.07	0.55	1.06	-

Patch ID Bottom	CIELab Data			Maximum
	L*	a*	b*	ΔE (ab)
B1	15.76	11.76	-23.91	-
B2	26.54	18.56	-42.01	6
B3	40.30	15.39	-31.31	-
B4	65.80	7.14	-13.75	-
B5	26.49	34.78	21.45	-
B6	47.43	64.38	42.74	6
B7	57.01	44.95	36.24	-
B8	74.61	17.32	19.99	-
B9	30.65	-35.02	14.67	-
B10	52.26	-61.49	26.76	6
B11	61.52	-39.10	20.93	-
B12	76.68	-14.80	10.89	-
B13	44.23	-17.41	-40.21	-
B14	47.52	67.23	15.19	-
B15	70.77	-24.24	58.75	-
B16	66.70	19.12	19.70	-
B17	51.52	34.92	26.64	-
B18	40.31	31.25	24.75	-
B19	45.31	-25.37	-1.12	-
B20	90.06	-0.01	4.14	3
B21	87.67	0.00	3.75	-
B22	82.19	-0.02	3.09	-
B23	71.47	-0.07	2.12	-
B24	54.70	-0.44	1.24	3
B25	39.10	-0.23	1.19	-
B26	24.73	0.21	-0.12	-

Note: Color measurements comparing measured proof data to this reference data requires the use of a calibrated spectrophotometer.