Proofing Systems

SWOP® Off-Press Proof Application Data Sheet

KODAK VERIS Digital Proofing System

The SWOP Review Committee has approved the use of off-press proofs as input material to publications. SWOP specifications recommend that: "The appearance of an off-press proof used in this application must closely simulate a SWOP Certified Press Proof." See other explanations and recommendations as outlined on pages 21 and 41 of the 2005 edition of the SWOP specifications.

I. Manufacturer

Creo Inc. (A Subsidiary of Kodak)
3700 Gilmore Way
Burnaby, B.C.
Canada V5G 4M1

SWOP CERTIFIED SYSTEM
Certified - September 2005

II. Product

KODAK VERIS Digital Proofing System

III. Introduction

The KODAK VERIS digital proofer, a breakthrough in proofing technology, provides high-resolution contone proofs that set a new standard for inkjet proofing quality. Based on KODAK-developed Multi-Drop Array™ inkjet imaging, the VERIS digital proofer produces a controlled stream of precisely-formed, precisely-placed drops at 1500 x 1500 dpi for high-quality, repeatable proofs that are accurate predictors of the final printed job. The VERIS digital proofer redefines the state of the art in image quality, repeatability, and predictability, especially when compared to other, less-sophisticated inkjet technologies that use larger, less precisely-placed drops of ink on paper.

IV. Control Guide

SWOP Specifies that a process control guide such as the SWOP Proofing Bar be supplied on every off-press proof in order to ascertain that the proof has been made consistent with the Application Data Sheet. As a minimum, this guide must contain solids of the primary process colors and two-color overprint, as well as a 25%, 50% and 75% tint in 133-line screen ruling of each of the process colors. 25%, 50% and 75% three-color gray patches must also be included. Additional areas such as 1%, 2%, 3%, 5% and 95%, 97%, 98%, 99% may be particularly useful in digital proofing.

Note: Use of this color bar on final SWOP proofs is the responsibility/opportunity of the user/creator of the proof.

V. System Components

- KODAK VERIS Digital Printer running 3.0.5 controller or later
- KODAK VERIS Client Software 3.0.5 or later
- Media: KODAK VERIS Pro Publication Semi-Matte 285
- Ink: KODAK VERIS ProPack-GA Plus ink cartridge
- Workflow Software: Prinergy 2.3.1.5 or later (with Nproof 3.1.3.64) or Prinergy 3.0.2.2 or later (with Nproof 3.0.3.64) or Brisque 4.1.76 (with Update 1, Proof Update 4.1.76.2 and Upd_Brisque 41_Proof_2) or Brisque 5.0.61.6 or later or Open Connectivity option.
- Optional software add-on: Color Confirmation
- Spectrophotometers supported: X-RITE DTP-41 with UV filter, GretagMacbeth SPECTROSCAN with UV filter, or GretagMacbeth EYE-ONE UV Cut
- Profile: Veris-PUB-Plus-SWOP-UVF-092305.dvl
- Control Strip: VERIS 26 step control strip (included with VERIS Controller software)

VI. Procedure for Making a SWOP Proof on a KODAK VERIS Digital Proofer

1. Use the VERIS proofer with the media, ink, and software listed above.
2. Create a calibration for the Pro Publication Semi-Matte 285 media using the Calibration Wizard from the VERIS client software. (See VERIS online help for calibration information.)
3. Use a layout that includes the VERIS control strip.
4. Create a sheet that includes the SWOP target.
5. Print with certified workflow using the Veris-PUB-Plus-SWOP-UVF-092305.dvl profile and Publication media (See online instructions for making a VERIS Certified Workflow proof.)
6. Measure the SWOP target off-line.
7. Use the Check Calibration Wizard to measure the VERIS control strip and confirm that the calibration is valid.

VII. Finished Proof Characteristics

When using the Certified Process for Proofing, the KODAK Veris proof displays the following items:

- KODAK Certified check mark (see the illustration to the right). This mark must be present on the proof to verify that the profile has not been altered.
- KODAK VERIS profile title: Veris-PUB-Plus-SWOP-UVF-092305.dvl profile. One of these titles must be present on the proof to verify that the correct profile was used.
- Calibration date
- Media type: VERIS Pro Publication Semi-Matte 285
- Ink type: VERIS ProPack-GA Plus
- VERIS control strip
- VERIS SWOP color bar (optional)
- SWOP target or equivalent that has been added to the image layout (optional)

When properly produced, the non-profiled VERIS control strip should pass the VERIS control strip check for VERIS Pro Publication Semi-Matte 285 media; or if the VERIS software is not available, the proof should have the following characteristics when measured with an X-Rite 938 Spectrophotometer.

Color	Density Absolute (+/-0.05)	TVI @ 50% (Dot Gain) (± 2)	Print Contrast @ 75% Tone (± 5)	Color (per CGATS.5)* L*	a*	b*	C*	h(ab)*	Maximum ΔE^*_{ab}
Yellow	1.02	14.9	27	84.37	-4.74	84.53	84.66	93.21	2
Magenta	1.57	20.7	37	46.77	70.97	1.59	70.98	1.28	2
Cyan	1.40	20.4	35	55.52	-38.53	-39.87	55.44	225.98	2
Black	1.52	20.3	36	20.04	1.43	3.08	3.40	-65.14	2

Background Density (+/-0.05): D_c = 0.14 D_m = 0.14 D_y = 0.16

*CIELabCh values represent measurements at target density.

The following data is for reference only in addition to the conformance information previously shown.

Area	CIELab Values L*	a*	b*	C*	h (ab)*
Background/ Substrate	88.64	0.27	6.43	n/a	n/a
Black 25%	72.64	-0.46	3.49	n/a	n/a
3-Color Gray 25%	71.00	-0.44	2.39	n/a	n/a
Black 50%	56.25	-0.32	1.99	n/a	n/a
3-Color Gray 50%	53.78	-1.03	2.43	n/a	n/a
Black 75%	38.99	0.11	1.68	n/a	n/a
3-Color Gray 75%	40.34	-1.38	1.86	n/a	n/a
Red (overprint)	46.64	66.16	44.18	79.55	33.73
Green (overprint)	50.79	-61.98	27.34	67.75	156.2
Blue (overprint)	24.39	18.85	-40.61	44.76	294.89

Three-color grays made up of Cyan, Magenta, Yellow: 75, 63, 63; 50, 39, 39; and 25, 16, 16 values.

Note: All values are absolute and obtained in accordance with CGATS.4 (Densitometry) and CGATS.5 (Colorimetry) – (All measurements were black-backed). Densities conform to Status T response. Tone Value Increase was computed using the Murray-Davies equation (or Yule-Nielsen equation when n=1) and Print Contrast is absolute at 75%, and in accordance with CGATS.4.

VIII. Sample Proofs

KODAK has submitted two ~~sample~~ ^ Veris proofs that conform to this application data sheet specification. These have been submitted to the SWOP ~~certification committee for their~~ ^ analysis and retention.

IX. Alternate Proof Verification Methods

There are two alternate methods for making and verifying a SWOP proof made with a KODAK Veris digital proofer. Each method is defined by how a user wants to verify the proof:

- Verification using Certified Process for Color Confirmation (a chargeable option for the Veris proofer)
- Verification using Veris control strip

Certified Process for Color Confirmation Method

This method can be used for VERIS proofers with the Color Confirmation option.

1. Use the VERIS proofer with the media, ink, and software listed above.
2. Create a calibration for the Pro Publication Semi-Matte 285 media using the Calibration Wizard from the VERIS client software. (See VERIS online help for calibration information.)
3. Use a layout that includes:
    a. Color Confirmation option
    b. VERIS SWOP color bar
    c. VERIS control strip
4. Print with certified workflow using the Veris-PUB-Plus-SWOP-UVF-092305.dvl profile and Publication media (See online instructions for making a VERIS Certified Workflow proof.). The following is what will appear on proofs using this method:
    - Kodak Certified check mark (see the illustration to the right). This mark must be present on the proof to verify that the profile has not been altered.
    - Kodak VERIS profile title: Veris-PUB-Plus-SWOP-UVF-092305.dvl profile. One of these titles must be present on the proof to verify that the correct profile was used.
    - Calibration date
    - Media type: VERIS Pro Publication Semi-Matte 285
    - Ink type: VERIS™ ProPack-GA Plus
    - VERIS control strip
    - VERIS SWOP color bar

5. Use the Measurement Wizard to measure the color bar and confirm that the color meets the specific SWOP color tolerances.

The profiled VERIS SWOP color bar should produce the following measurements to within 2.0 dE*(94), using a Gretag SpectroscanUV Spectrophotometer. Sample must be self-backed with at least one blank sheet of VERIS Pro Publication Semi-Matte 285.

Color	Value	L*	a*	a*
Paper	0	89.05	0.81	7.44
Cyan	25	79.33	-9.16	-6.88
	50	70.72	-18.53	-18.78
	75	62.93	-28.45	-29.97
	100	55.75	-37.92	-40.43
Magenta	25	76.46	18.99	3.49
	50	64.95	37.51	0.89
	75	55.48	55.02	0.86
	100	47.47	71.66	2.17
Yellow	25	87.76	-1.46	26.78
	50	86.37	-2.30	46.06
	75	85.45	-2.96	64.35
	100	84.57	-3.12	84.49
Red	25	74.80	18.23	20.02
	50	63.92	34.52	31.30
	75	54.48	50.28	38.84
	100	47.06	66.99	43.50
Green	25	78.17	-12.29	13.87
	50	68.46	-25.23	19.50
	75	58.95	-40.21	23.65
	100	50.82	-60.11	26.49
Blue	25	67.81	8.68	-8.35
	50	51.17	13.88	-19.76
	75	36.11	16.33	-31.58
	100	24.42	20.31	-41.18
Black	25	72.97	0.54	4.82
	50	54.10	-0.06	3.13
	75	39.44	1.03	1.76
	100	21.04	2.73	2.75
3-color Gray	25	71.18	0.67	3.55
	50	56.08	1.10	2.73
	75	40.89	-0.58	2.70

VERIS Control Strip Method

This method can be used if the SWOP control bar is not available on the proof or if the Kodak software is not available. This method makes use of the built-in VERIS control strip that will be present on the proof if the proofing process is Kodak Certified.

1. Use the VERIS proofer with the media, ink, and software listed above.
2. Create a calibration for the Pro Publication Semi-Matte 285 media using the Calibration Wizard from the VERIS client software. (See VERIS online help for calibration information.)
3. Use a layout that includes the VERIS control strip
4. Print with certified workflow using the Veris-PUB-Plus-SWOP-UVF-092305.dvl profile and Publication media (See online instructions for making a VERIS Certified Workflow proof.)The following is what will appear on proofs using this method:
    - Kodak Certified check mark (see the illustration to the right). This mark must be present on the proof to verify that the profile has not been altered.
    - Kodak VERIS profile title: Veris-PUB-Plus-SWOP-UVF-092305.dvl profile. One of these titles must be present on the proof to verify that the correct profile was used.
    - Calibration date
    - Media type: VERIS Pro Publication Semi-Matte 285
    - Ink type: VERIS™ ProPack-GA Plus
    - VERIS control strip
5. Use the Check Calibration Wizard to measure the VERIS control strip and confirm that the calibration is valid.

The non-profiled Kodak control strip should produce the following measurements to within 2.0 dE*(94), using a Gretag SpectroscanUV Spectrophotometer. Sample must be self-backed with at least one blank sheet of VERIS Pro Publication Semi-Matte 285.

Color	Value	L*	a*	b*
Paper	0	90.64	0.05	3.47
Cyan	50	72.10	-29.60	-22.93
	100	51.20	-40.90	-48.08
Magenta	50	67.43	43.97	-9.09
	100	46.81	78.33	-4.22
Yellow	50	88.34	-4.95	53.60
	100	86.19	-1.55	108.02
Black	50	52.13	0.63	2.61
	100	6.87	3.93	2.79
Red	20	80.99	13.71	13.19
	50	66.04	36.62	28.57
	80	52.65	60.10	49.96
	100	45.61	71.72	67.68
Green	20	82.60	-14.63	10.18
	50	69.02	-36.75	22.10
	80	54.36	-60.09	35.15
	100	43.31	-73.25	40.60
Blue	20	75.47	4.32	-12.07
	50	52.17	11.80	-33.01
	80	27.94	24.11	-52.57
	100	10.84	38.97	-61.09
CMY	20	73.83	0.69	3.18
	40	57.19	1.46	2.44
	50	48.76	1.90	2.18
	60	40.77	2.25	1.97
	80	23.96	2.19	1.74

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