SWOP® 2013 Introduction

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SWOP – The Preferred Reference for Publication Printing

Since 2006 the SWOP2006 datasets have been the defacto reference print condition for publication printing and proofing in North America and other world regions. To keep up with industry trends, IDEAlliance is introducing an updated version called *"SWOP 2013"* which is nearly identical to SWOP 2006. The few minor changes are barely visible in most subject matter and should not significantly affect printers, designers or print buyers.

Differences Between SWOP 2006 and SWOP 2013 Paper Type 3

There is very little difference between SWOP 2006 and SWOP 2013 for paper type 3. The paper white points are identical, and the solid and overprint values very close.

Because the two data sets for paper type 3 are nearly identical, most print buyers and designers should see little visible difference. In fact the differences are smaller than the typical variation between two good offset press runs. To see for yourself how small the difference is, open a CMYK image in Photoshop and assign a SWOP2006-based profile (e.g. SWOP2006_Coated3.v2), then toggle back and forth between a profile based on SWOP 2013.

Figure 1. Comparison of SWOP 2006 (left) and 2013 (right)

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	Paper			C			M			Y			K		
	L*	**a***	**b***	**L***	**a***	**b***	**L***	**a***	**b***	**L***	**a***	**b***	**L***	**a***	**b***
2006	93	0	0	57	-37	-45	48	72	-3	88	-5	88	18	0	0
2013	92	**0**	**0**	**57**	-36	-44	48	**71**	**-4**	87	**-4**	88	**19**	0	1

	Red			Green			Blue		
	L*	**a***	**b***	**L***	**a***	**b***	**L***	a*	**b***
2006	47	66	45	52	-65	25	26	18	-44
2013	48	65	45	51	**-62**	**26**	**27**	**20**	-44

Figure 2. SWOP 2006 vs. 2013 Colorimetric Values (**changes in red**)

Differences Between SWOP 2006 Paper Type 5 and SWOP 2013

One difference between SWOP 2006 and SWOP 2013 is that there is no longer a separate characterization data set for SWOP 2013 paper type 5. The only characterization data supplied is for SWOP 2013 paper type 3. SWOP 2013 paper type 3 is part of a series of 7 common appearance datasets, provided in CGATS.21(see below), that range from wide gamut printing, offset coated (GRACoL) all the way down to newsprint. CGATS.21 provides a method of calculating characterization data for additional paper types. For legacy users of SWOP 2006 paper type 5, IDEAlliance has provided a legacy profile (SWOP2013C5.icc) calculated using this method which is available on the IDEAlliance website.

Alignment with standards

In 2013 both international (ISO) and US (CGATS) printing standards were updated in response to industry trends. CGATS.21 is a new ANSI (American National Standards Institute) standard, approved in 2013, containing seven “Reference Print Conditions” (RPCs) representing seven different printing processes. Because all seven are based on G7 and common ink hues, maximum “shared appearance” is achieved when a common CMYK file is printed on all seven.

In CGATS 21, SWOP 2013 is known as “*CGATS 21-2, RPC-5”*, where the old 2006 SWOP 3 and SWOP 5 data sets have been combined into a single RPC called *“SWOP 2013”*, or “*CGATS.21-2 RPC-5*”, reflecting the trend for the two legacy SWOP papers to have merged into a single generic paper type

CGATS 21-CRPC5 and ISO-12647-2. CGATS.21-CRPC5, on which SWOP 2013 is based, aligns closely with the updated version of ISO12647-2, Print Condition 2, which specifies traditional aim values for solid colorimetry and TVI (tone value increase) for improved lightweight coated publication printing.

All measurements used in SWOP 2013 are specified in M1. This means SWOP

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2013 calibration and assessment is to be done with M1 instruments.

What this means for SWOP users

SWOP 2013 is very similar to SWOP 2006, so most users will not see much difference.

Calibration and verification of SWOP 2013 requires use of M1 capable instruments. This means that use of SWOP 2013 in production cannot be done unless you have M1 capable instruments.

IDEAlliance recommends the following transition:

- If you only have M0 measurement devices keep using SWOP 2006.
- If you have M1 instruments you may choose to move to SWOP 2013. In the SWOP 2013 workflow M1 instruments are to be used for calibration and verification. (M0 instruments can still be used for process control.)

IDEAlliance expects there will be a period of several years during which printers and premedia providers migrate to new GRACoL 2013-based profiles, while continuing to use the legacy 2006 profiles as needed.

Obtaining new profiles

Profiles for GRACoL 2013 (and the other CGATS21-2 reference print conditions) can be downloaded from either the IDEAlliance web site (http://www.idealliance.org) or the icc profile registry at www.color.org.

Updating your pre-press workflow

To up-date a pre-press workflow to use the new 2013 profiles:

(a.) Change the CMYK Working Space in the Color Settings window of Adobe Creative Suite to the CGATS 21-2 profile equivalent to your legacy CMYK Working Space, e.g. SWOP2013_CRPC5.icc.

(b.) Change the source profile in your proofing RIP to the CGATS 21-2 profile equivalent to your legacy CMYK source profile, as in (a) above.

(c.) Inform any workflow partners

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