

The offset process standard amendment is here!

In the second of three special features, Yves Roussange looks at the need for the industry to conform to international printing standards to achieve quality results consistently, and discusses the January 2007 update to the ICC colour management profile "ISOcoated v2.icc".



» Before we start to talk about the benefits of the recent amendment to the offset process standard ISOcoated-v2, I would like to highlight the importance of ink. The quality of the ink used in a printing operation is the key to the successful implementation of the offset process standard. In the June issue of *ProPrint* I will talk further about the importance of ink and will develop a more technical discussion to complete the "trilogy of the ISO printing process standard" series of articles. In this article, I would like to discuss the January 2007 update to the ICC colour management profile "ISOcoated v2.icc".

Creating a printing standard is a complex undertaking which involves a substantial commitment from all parties within the industry. The parties involved should include the ink manufacturers, press manufacturers, educational and training institutions, proofing supply companies and vendors.

FOGRA and BVDM (a German printing body) have been collecting data from their members about the daily use of the ISOcoated standard in practice. After three years spent conducting these extensive practical tests of the ISOcoated process, it became apparent that some minor changes had to be implemented to achieve a globally acceptable printing standard for offset sheetfed printing.

It is for this reason that the ISO TC 130 committee combined their colour data from sources in the USA, Japan, Brazil and Europe to determine optimum values for the overprint colours and to adjust the L* value for yellow. The resulting amendment to the offset process standard is called ISO:12647-2:2006 DAM 1.

For this new colour data, a new characterisation data set named FOGRA39L and later an ICC profile named ISOcoated-V2 was generated. The new ISOcoated-V2 refers to the following reference printing

condition: Offset printing, paper Type 1, ie. gloss-coated art paper with 110gsm, 15% tone value increase at the 50% midtone.

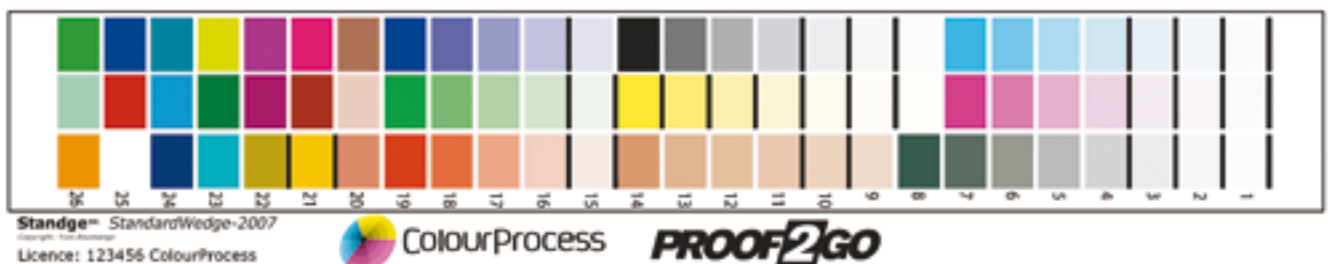
ISOcoated_27L Vs ISOcoated-V2_39L - what's new?

The three significant areas of improvement reflected in the new ISOcoated_v2_39L profiles are:

- the yellow has been slightly adjusted in terms of the L* value;
- the secondary colours green and blue were harmonised between the participant nations;
- the grey balance is closer to neutral in the new FOGRA39L characterisation data compared to the FOGRA27L data.

Improvements from ISOcoated_27L to ISOcoated-V2_39L

Having used the new reference data — FOGRA39L (ISOcoated-v2) — I can report a very significant improvement in the quality of the separation from RGB to CMYK and an improvement in proofing stability. Using this new dataset has also made it quicker for a printer to finalise makeready, as the ink/data results from the proofing are more closely aligned with on-press results.



The Standage™ wedge, a three-row technology measurement: skin and grey tone accuracy, extended complementary and spot colour.

Practical advantages — Proofing using the ICC profile ISOcoated-V2

The exchange of PDF files will become simpler when they are all created based on an international printing standard — it will improve the communication between the creator of the artwork and the printer. Everybody will speak the same colour language; colour will look the same on the monitor, proof and press sheet.

There are many advantages for the artwork creator using the ISOcoated profile:

- the use of a well known and recognised colour space means that the colour "C60, M40, Y10, K5" in the future will be the same in any application;
- soft-proofing on the monitor using the ISOcoated-v2 profile will give the closest idea of the end result on the press.

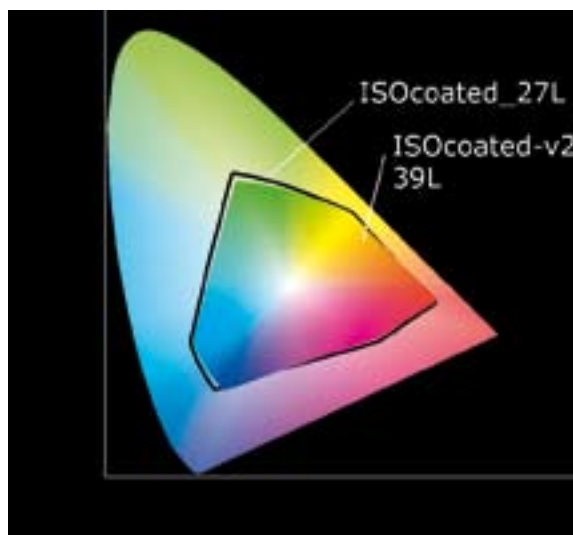
Proofs created using the ISOcoated-v2 profile are produced using the same reference characterisation data as the press. The proofed result can be best judged by comparing a control wedge on the proof to that on the press sheet, thereby guaranteeing the best reproduction. A proof certification report that is based on the compliance of its colours to the characterisation data will give the printer the assurance that it can be reproduced on the press. The communication between client and printer is therefore significantly enhanced.

Printing to the characterisation table underlying the ICC profile ISOcoated-V2

Printing to a recognised standard will also give the printer many advantages. Printers working within the tolerance bands of the offset process standard will be able to better defend themselves against charges that their printed results are too variable.

Printing to the ISOcoated-V2 profile for all work on coated art improves not only the efficiency of processes on the press, it also streamlines and improves the effectiveness of communication between sales teams, clients and production. Using ISOcoated-V2 as the basis of operations means everybody is using a single colour language.

In Germany printers are keen to be become certified printers, according to PSO (Process Standard Offset). The German manual that explains all standard details to the press and prepress operators, Print



Standard ISO 12647-2-2006, is more than just an internationally recognised standard. It is the missing link for the printer wanting to take control of his production by delivering ISOcoated-V2 certified proofs to his client, within the specifications defined by FOGRA. In combination with certified proofing, it enables the printer to keep the press in a closed loop to the print standard ISO 12647-2-2006, using PSO (Print Standard Offset) for the certification of the print run, monitoring his press and guaranteeing the client the best results, every time.

A new wedge

The FOGRA media wedge was created six years ago, when inkjet printers were using only four inks for proofing. Over time technology has changed, and the more recent generation of inkjet proof printers now have eight to 12 colours for the reproduction of a four-colour proof. Because of the complexities involved in mixing these colours together to achieve a four-colour reproduction, the process has become more challenging for the RIP.

To address this, I have developed a new colour wedge, capable of controlling light colours, the red, green and blue, as well as the more sensitive colours like skin tone and grey balance. Standge™ wedge is standard neutral and capable of reporting on all the criteria required by the new specifications from FOGRA, with the new lower tolerances, as follows:

- primary colours are recommended to be lower than Delta-E 2.5 or accepted at Delta-E 5.0;
- the overall average of all colour contained in the wedge will reduce from

Delta-E 4 to 3.0;

- the colour peak has been reduced from Delta-E 10 to 6.0;
- the hue of the primary colours will be controlled to be in the tolerance Delta-E 2.5. This new criterion has been introduced for a better control of the proofing ink to match the press inks;
- the hue of the grey will be controlled to a small tolerance of Delta-E 1.5. This new criterion has been introduced because the human eye is very sensitive to any neutral variation.

The Standge™ wedge improves the proof consistency in the following ways: measuring the primary colours from the light to the dark colours, measuring the complementary colour more efficiently, adding a new criterion for evaluation of the skin tones and extended neutral grey, and adding new critical spot colour. «

References:

*Documentation from FOGRA
Report from the ISO TC 130 committee
Contact from ECI*

Useful links:

To download the international standard ISOcoated-v2 profile created with basilC-Color CMYKick, (the most advanced profile creator software on the market) go to: www.proof2go.com

Author Yves Roussange has over 24 years' experience in colour management and has held the position of director, Technical Division of the French printing industry body SICOGIF. Having sold his prepress, high-end retouching and colour management companies in France in 2004, he is now based in Australia. Yves is working with local printing and graphic arts communities, using his skills, knowledge and experience to help them "raise the bar" and consistently and cost effectively deliver higher quality results.

Yves and ProPrint welcome comments and discussion on this subject. Email the editor at crowe@proprint.com.au.