ECI Offset Profiles 2004

Which offset profile is the right one?
Not only novice users ask this question when looking for the ”one” offset profile they should use. The many available ICC output profiles and possible printing conditions can be as challenging for the experienced professional. ECI published a first set of offset profiles in early 2003 helping users to work with professional profiles.

The new versions replace the profiles of the previous “basic” and “expert” packages. The ECI recommends consistent use of the new profiles a) because they reflect current international standards and b) because they also give a true indication of colors that can be realized using standardized printing procedures. Consequently, we advise you only to continue using the “basic” and “expert” package profiles until current contracts have been concluded. The old profiles will, however, remain available for downloading.

How to recognize whether it’s a “new” or an “old” profile?
The new ICC profiles have been created in September and November 2003, whereas the previous IC profiles had been created in December 2002 and January 2003. In addition, the file names of the previous ICC profiles ended with “...sb.icc” whereas the file names of the new profiles do not contain the two characters “sb” anymore. Example: previous file name “ISOcoatedsb.icc”, new file name “ISOcoated.icc”. This change also applies to the internal name of the ICC profiles, as displayed in the user interface of applications: previous internal name “ISO Coated sb”, new internal name “ISO Coated”.

Selecting a profile
The current level of standardzation in the printing industry and our experience with the profiles of the “basic” and “expert” software packages, have meant that we have been able to significantly simplify the profile selection process. Instead of the 16 profiles contained in the old “expert” package, the new “offset” and “continuous” packages contain just four profiles for sheet-fed and heat-set web printing and two profiles for continuous forms process printing.

All the profiles are based exclusively on color measurement against white backing. This eliminates the need to signal the type of backing (sb/bb) in the profile name, resulting in shorter new offset profile names. In line with the current status of the German “ProzessStandard Offsetdruck“ which is based on the international standard ISO/DIS 12647-2:2003, black backing is only to be used for process control in double-side printing. There are industry standards for the qualities of white backing substrates. You can find out which types of paper are suitable as backing for standardized measurement on equipment with black measuring tables at www.fogra.org.

It was decided not to include profiles for printing with a 175 lpi screen (70/cm) as there was only a slight variation in tone value from printing with a 150 lpi screen (60/cm). The difference in color of the 175 lpi screen caused by the slightly higher increase in tone value is less than the process-related color variance acceptable for a print run so in order to simplify the selection of profiles, it was decided to leave out profiles for a 175 lpi screen. As a result, the profiles for the 150 lpi screen are also valid for use with a 175 lpi screeen.

The distinction between the “expert” and “basic” packages ceases to be of importance. Instead, so that you can make your selection based on your operating needs, we have regrouped the ECI profiles according to the type of printing process for which they are required: an “offset” package for sheet-fed and heat-set web printing and a “continuous” one for continuous forms process printing.

Package “offset“
The “offset” package contains four ICC output profiles for offset printing. The European Color Initiative recommends to use ISOcoated.icc as the default setting for the CMYK working space in Adobe Photoshop and elsewhere. This profile is valid for offset printing on gloss- or matte-coated paper. The other three ICC output profiles in this package are valid for uncoated paper (one for white and one for yellowish paper tone) and for light weight coated paper (LWC) used in web offset printing. Thus the “offset” package covers all shet-fed and heat-set web printing conditions in the ISO offset printing standard.

Package “continuous”
The continuous package consists of two ICC output profiles for continuous forms process printing. The profile “ISOcofcoated.icc” characterizes continuous forms process printing on matte-coated paper with a 150 lpi screen while “ISOcofuncoated.icc” represents printing on uncoated white paper at a 135 lpi screen.

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Creation of profiles

We have made no changes to the program version and program settings for the creation of profiles. As before, details on how we created the profiles can be found in the relevant Info files.

The new offset profiles have been developed using characterization data FOGRA27L to FOGRA32L. In comparison to the old characterization data the new data feature a series of improvements.

The new Fogra characterization data is based on measurements that have been averaged, smoothed and adjusted in line with the desired tone value for the production prints supplied with the Altona Test Suite application kit. So as to be able to proof the colors in the profiles and reproduce them under production conditions, the most commonly used and standard-compliant types of paper and process ink standards were selected for these reference prints.

As the curves for tone value increase can have a considerable influence on color reproduction, special attention was paid during the process check to keep narrow tolerance limits for both tone value increase and solid tone values during the print run of the reference prints – i.e. not just the usual patches measured in printing with 40% or 80% tone value. The reference prints have been produced under authentic working conditions, i.e. using inks from a commonly available ink set. In the interests of obtaining of homogeneous color separation, any slight, unavoidable deviation from the values for tone value increase in the reference prints of the Fogra characterization data has been corrected in line with the aim values.

On the other hand, although technically possible, we have deliberately opted not to include a feature that would allow the solid tone values of the printing inks and paper shades to be adjusted to the idealised color coordinates. The characterization data and profiles would otherwise no longer have been compatible with the “Altona Test Suite” application kit and a visual check would not be possible against the kit‘s important production prints.

Print results to date also indicate that when overprinting two inks – red, green, blue – the new charaterization data resemble the real print results far more closely than the old characterization data. In addition, the new characterization data and the new profile for paper type 3 (LWC) now give a much truer representation of the print results that can be achieved with web offset presses than previous versions did.

As is clear from the above, the new Fogra characterization data together with the new ECI offset profiles based upon the Fogra data constitute the best possible compromise between practical use and the precise attainment of ideal standardized aim values.

“offset” package • Profiles for sheet-fed and heat-set web printing:

ISOcoated.icc
Paper type 1 and 2, gloss- and matte-coated, 150 lpi (60/cm), FOGRA**27**L

ISOwebcoated.icc
Paper type 3, gloss coated web (LWC), 150 lpi (60/cm), FOGRA**28**L

ISOuncoated.icc
Paper type 4, uncoated white, 150 lpi (60/cm), FOGRA**29**L

ISOuncoatedyellowish.icc
Paper type 5, uncoated slightly yellowish, 150 lpi (60/cm), FOGRA**30**L

“continuous” package • Profiles for continuous forms process printing:

ISOcofcoated.icc
Paper type 2, matte-coated, 150 lpi (60/cm), FOGRA**31**L

ISOcofuncoated.icc
Paper type 4, uncoated white, 135 lpi (54/cm), FOGRA**32**L