



COLORSOURCE

27 rue Pierre Brossolette
91430 IGNY France
Tel.: +33 1 69 41 01 62
Mobile: +33 6 24 54 10 13
Fax: +33 9 55 27 98 48
Email: wme@color-source.net
<http://www.colorsourc.fr>

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N-COLORS REPRO AND PRINTING WITH COLORSOURCE SOFTWARE

Lien pour version française

Colorsource have developed for you a complete toolbox of simple and inexpensive complementary software applications making the production of polychrome print works as simple as for the traditional production of "CMYK" print works.

Let's remind that polychrome prints are "N primary colors" high quality prints produced in with or without a CMYK base, which many offset, flexo and gravure Printers are able to produce on their presses for Packaging and for top quality Publishing applications.

Colorsource software applications considerably facilitate your work and allow very important enhancements of your quality and your productivity, for very low investments.

They bring you:

- Design of documents by the Creative staff with a guarantee that all created, used or visualized colors are printable as such on the "N colors" press.
- Easy, productive and inexpensive Repro, page-setting and digital color proofing work of these documents,
- "High fidelity" reproduction of these color proofs on the "N colors" printing press.

And all this with using your standard desktop publishing software, standard digital color proofing systems and standard affordable measurement instruments.

1) Documents design:

Colorsource I.C.C. Profile Convertor software allows you to very easily convert any "N colors" I.C.C. profile with or without CMYK base into an equivalent RGB I.C.C. profile, and into an equivalent CMYK I.C.C. profile.

These equivalent profiles are the I.C.C. profiles characterizing a virtual press driven by RGB (or CMYK) data, which has exactly the same color gamut as the real "N colors" printing press.

Consequently you can use these two I.C.C. profiles as being the default RGB and CMYK workspaces for all your desktop publishing applications, and use these profiles for producing all your "N colors" jobs with taking profit of all the functionalities your DTP applications offer when using RGB and CMYK I.C.C. profiles:

- Any color specified by RGB or CMYK data is printable as such on the "N colors" press,
- All your images and documents are real time previewed in by Photoshop or any other DTP application, such as they will be printed on the "N colors" press.

2) Repro work and soft monitor proofing:

The "Virtual RGB (or CMYK) N Colors Press" I.C.C. profile allows you producing all your images and documents with time real monitor soft proofing, and with full use of all the original "N colors" profile rendering intents (Perceptual, saturation, relative with or without black compensation, absolute) and this with or without paper tint preview.

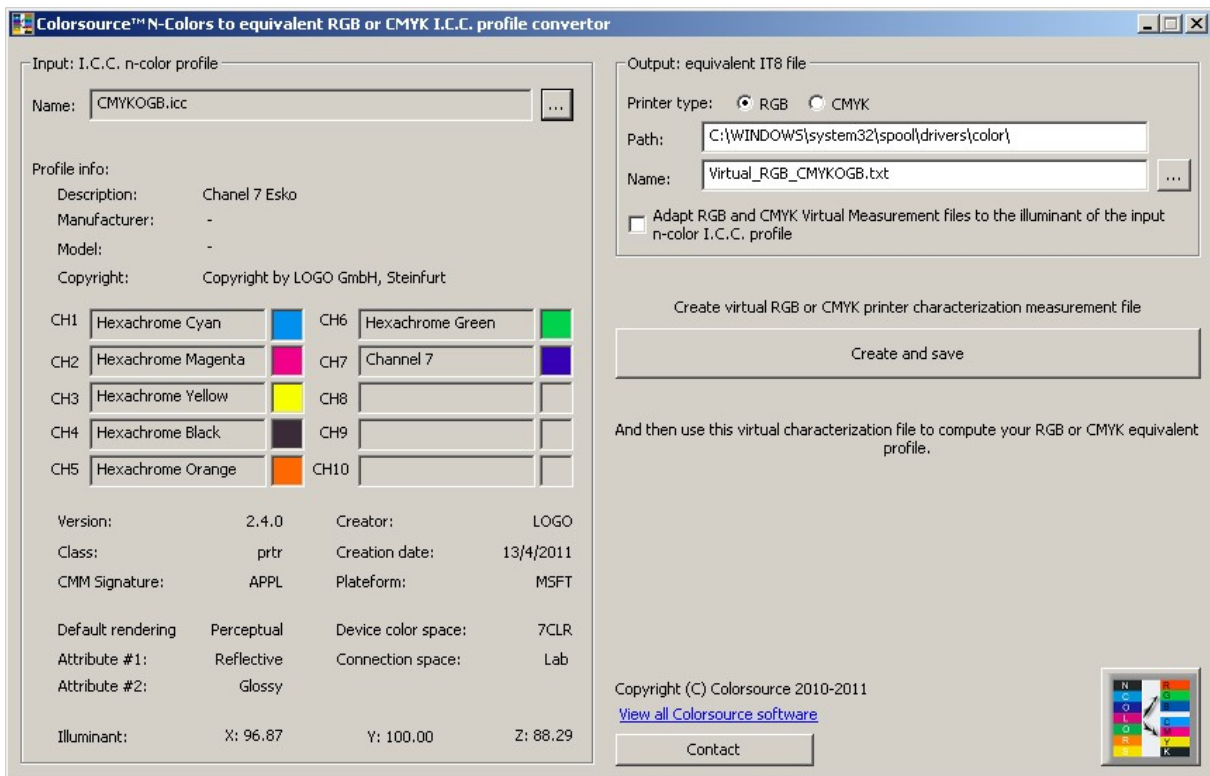
When you are happy with an image, you just need to convert it into the "Virtual RGB N Colors Press" color space (or into the "Virtual CMYK N Colors Press" color space).

The «Virtual RGB N Colors Press" mode is of course more attractive than the "Virtual CMYK N Colors Press" mode, because it only costs three layers for encoding any polychrome "N colors" images.

But because getting rid of the "CMYK bad habits" is difficult for some traditional Users who still believe that "color is CMYK", Colorsource software also allows you producing and using "Virtual N colors Presses" CMYK profiles.

The RGB or CMYK color separations encoding your N colors images can then be page mounted by using your usual software applications such as Xpress or InDesign. Here again you can enjoy an accurate real time display of your colors such as they will be printed on the N colors press.

Let's note that RGB encoding of your N colors images even allows you mounting them with Microsoft Word, Microsoft Publisher, OpenOffice or any other application which ONLY accepts RGB images. Of course in this case the color display of your pages is inaccurate; but it will be correct after producing an RGB PDF.



3) Color proofing on paper:

Your documents can be hard proofed with top professional quality on any digital printer whose PostScript RIP properly manages RGB or CMYK inputs by using standard I.C.C. profiles, which is the case of the vast majority of modern PostScript RIPs.

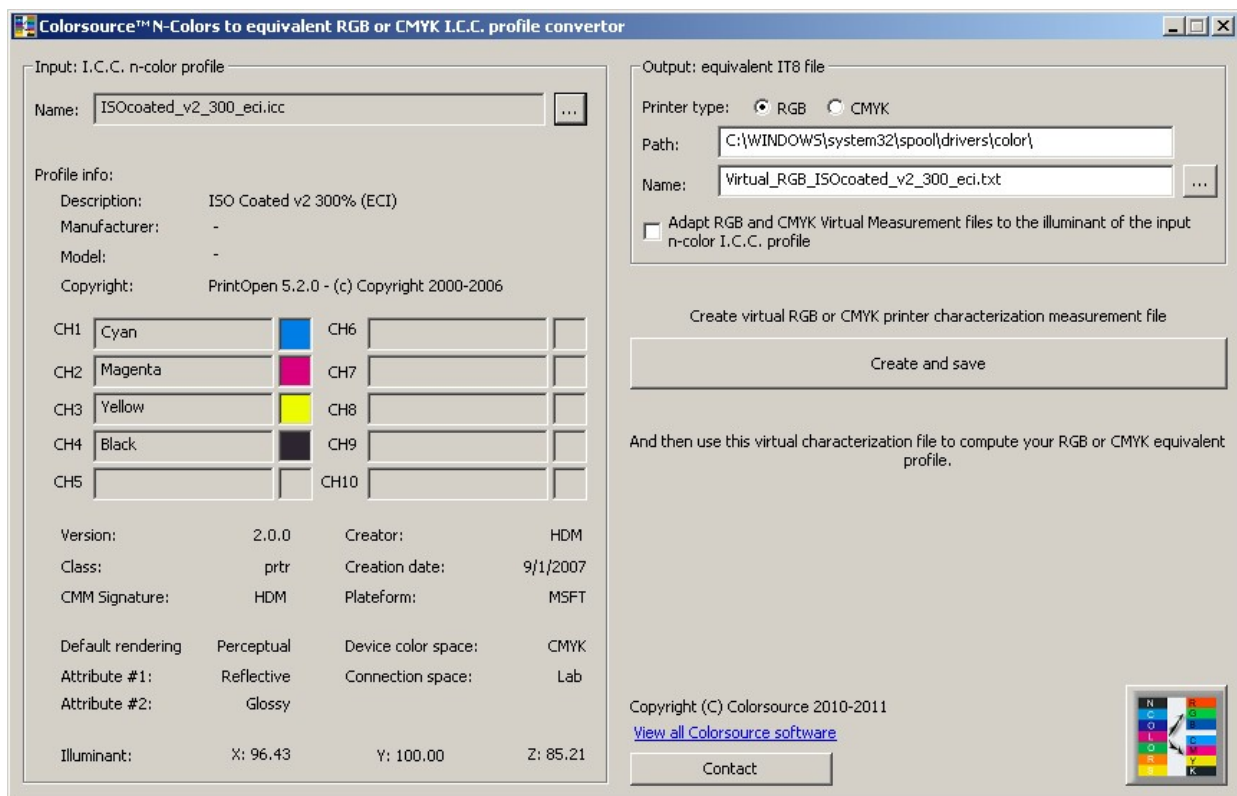
Of course, as for CMYK color proofing, you can also produce your color proofs by using a domestic ink-jet printer driven by RGB data without using a PostScript RIP: Quite simply use the printing color management functions of your favorites imaging or page-setting software applications (Photoshop, Xpress, InDesign...) or use Acrobat Professional.

4) Producing the N color separations:

Your "N primary colors" documents encoded for example in form of RGB or CMYK PDFs are duly and fully using your entire "N colors press" color gamut. Only at the very end of the production process they must be converted to the "N colors space" for producing - **without any color change** - the N color separations you still need for manufacturing your N printing forms (Offset plates, engraved cylinders, photopolymer plates...)

Indeed these N color separations are of no use upstream your production workflow: Neither for the design of your documents, neither for the final enhancements of your images, neither for your color retouching aesthetic choices, neither for soft proofing, nor for your hard proofing: At these early production stages, producing and using N color separations would unnecessarily inflate traffic on your discs, on your servers and on your network, while making the proper work of your documents tedious and unproductive!

Let's note that Colorsource **I.C.C. Profile Convertor** software allows you transforming all CMYK ISO 12647-x I.C.C. profiles into "Virtual RGB ISO 12647-x" I.C.C. profiles (e.g. Virtual_RGB_ISOcoated_v2), allowing you to carry out your CMYK publishing-repro work on a fully RGB productive workflow, upstream the final print on a press matching CMYK ISO 12647-x standards:



5) Setting-up the N colors presses

Of course color printing with N inks requires the same rigor as for traditional CMYK printing, regarding proper settings of the solid inks densities and printing forms correction curves.

Colorsource software suite v3 for printing press setting allows you setting perfectly any printing press by using a simple Eye-One Pro spectrophotometer (Which is much cheaper than most basic CMYK densitometer!).

This software suite has been widely validated in the field at many Print Houses, and has proved providing excellent results for setting printing presses to ISO 12647-x standards and for setting N colors presses with use of nonstandard inks.

According to some of our Customers who had the opportunity to test other press setting software, our results are much better than those provided by much more expensive applications.

Colorsource software suite v3 dedicated to printing press setting offers following applications:

5-1) PLATE Software:

For the offset plates calibration and control with help for the determination of plates N-factor.

5-2) SPOT_100% Software:

- Controls the colorimetric and spectral conformity of your inks with indication of metamerism,
- Controls the colorimetric and spectral conformity of Pantone or other special inks with indication of metamerism. Controlling the spectral conformity of the inks you are buying or formulating is essential, whether the reference is supplied to you in form of spectral data or as a tint sample or color swatch book. Swatch books should be controlled as well against the much more reliable spectral data.
- Computes each ink or spot color optimal print density in order to match the target color, with displaying the minimal and maximal allowed densities according to specified visual distance tolerance.

5-3) SPOT_Gravure Software:

This software is intended:

- For optimizing "N colors" press setting in order to determine and fix an optimal "N colors" print standard maximizing the printing press color gamut and ease of use,
- For setting any other "N colors" press matching above smart "N colors" print standard by a simple test print run.

5-3-a) Searching the optimal printing conditions and fixing the "N colors" print standard:

- Search of maximal print contrast for determination of each solid color print density and according Lab target color.
- Choice of the target TVI curve for each ink,
- Calculation of each printing form engraving curve allowing matching its target TVI curve by a simple test print run, with display of present and future print contrast when printing forms correction curves are applied on the workflow,
- Intelligent search and application of appropriate printing forms pre-correction curves for achieving good test print runs with stochastic screening, when using no pre-correction curve would cause the test form maculating because of very strong dot gains and ruin your test print run.



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5-3-b) Matching an already determined "N colors" print standard:

- Determination of each ink optimal print density for matching its target color, with display of the minimal and maximal allowed densities according to specified visual distance tolerance.
- Calculation of each printing form correction curve allowing matching its target TVI curve by a simple test print run,
- Intelligent search and application of appropriate printing forms pre-correction curves for achieving good test print runs with stochastic screening, when using no pre-correction curve would cause the test form maculating because of very strong dot gains and ruin your test print run.
- Possibility of updating the printing form correction curves by using the standard measurements of the subsequent production print runs.

6) Setting CMYK presses to match ISO 12647-X standards:

With using Colorsource software tools with a simple Eye-One Pro, setting printing presses to match ISO 12647-x standards is an extremely simple, fast and inexpensive operation: Thus there is no reason of making a big deal of this issue and spending unnecessarily your money for very expensive color "certifications", which actually do not bring any serious guarantee of quality to your Customers, when EACH PRINT RUN should be controlled by any serious Print Buyer:

And this is the point of view of professional Clients who call upon Colorsource: They do not want so called "Certifications", but serious and reliable tools allowing them controlling EACH PRODUCTION they buy at each production step.

CMYK_100% Software:

It allows the instantaneous determination of the optimal print density of each C, M, Y and K solid ink for matching any selected ISO 12647-x standard.

CMYK_100% contains all usual ISO 12647 standard targets for traditional offset and gravure CMYK publishing applications, and also allows you fixing your own CMYK print standards in terms of solid CMYK colors to be matched, for example by using any reference ISO or non ISO CMYK I.C.C. profile.

The software also warns you about any ink trapping problem.

And for your spot colors such as Pantone or other, **SPOT_100%** software provides you all the other tools you may need.

CMYK_Gravure software:

It allows you very fast and accurate calculation of the four correction curves enabling you matching ISO 12647-x target colors not only on the solid CMYK and trappings, but also on all CMYK screened tones.

The software contains all usual ISO 12647-x standard targets for traditional offset and gravure CMYK publishing applications, and also allows you fixing your own CMYK print standards in terms of solid CMYK colors to be matched and in terms of relevant target TVI curves, for example by using any reference ISO or non ISO CMYK I.C.C. profile.

The software also warns you about any ink trapping problem.

CMYK_Gravure software also allows intelligent search and application of appropriate printing forms pre-correction curves for achieving good test print runs with stochastic screening, when

using no pre-correction curve would cause the test form maculating because of very strong dot gains and ruin your test print run.

And for your spot colors such as Pantone or other, **SPOT_Gravure** software provides you all the tools you may need.

7) A few industrial benefit of the Colorsource software:

1. Design, Repro and digital color proofing as easy for "N colors" printing as for CMYK printing, and with using all your standard hardware and software production tools,
2. Advanced optimization of your prepress workflow and data volume optimization by RGB encoding of all your color separation upstream the printing forms production,
3. Optimization of "N colors" press settings for easy establishment of all your "N colors" printing standards,
4. Easy, fast and reliable setting of any other "N colors" press for matching above print standards,
5. Setting CMYK presses for matching ISO 12647-x standards becomes a child play,
6. Rationalization of inks supplies and no more ink pot recycling for packaging prints:

For example you may choose to print many jobs with 10 fixed inks having always the same reference:

Using these 10 inks allows a broad color gamut including most of classic solid spot colors: Formulating special colors becomes less necessary and thus there is less hassle of preparing, storing and recycling thousands different inks references.

And upstream the printing press, all the design, repro and proofing work is done with your standard hardware and software tools thanks to Colorsource software.

