

Alwan CMYK Optimizer Predefined Task Settings



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I. Aim and description

Credits

We would like to give our thanks to all organizations and individuals who contributed to the success of this project:

- Jan-Peter Homann for his contribution to the definition of the mentioned Task Settings and to this document
- ICC (www.color.corg) , ECI (www.eci.org), GRACoL (www.gracol.org) and NAA (www.naa.org)... by making the mentioned and used ICC profiles publicly available for the Graphic Industry

Purpose of these different sets of Task Settings

Fourty Six (46) predefined tasks settings have been defined in order to help CMYK Optimizer users to quickly and easily configure their software for different workflows, jobs and standards in the world.

The different workflows that have been envisaged are:

- prepress
- sheet-fed printers
- heatset web offset printers
- coldset web offset printers (newspaper)

The different standards, specifications and reference printing conditions that have been taken into account are:

- ISO 12647 standards (based on Fogra characterization data)
- US specifications (based on GRACoL, SWOP and NAA characterization data)

ISO 12647 compliant profiles and settings profiles

The german research institute FOGRA in cooperation with ECI (European Color Initiative) generated a set of characterization data representing commercial offset printing on different paper types according to ISO 12647-2.

The german research institut IFRA in cooperation with ECI (European Color Initiative) generated a set of characterization data representing newspaper printing according to ISO 12647-3.

ECI Gravure Working Group generated a set of characterization data representing gravure printing according to ISO 12647-4.

ICC color profiles based on these characterization data have been published free of charge by these organizations and are available as standard settings in many desktop and prepress solutions.

These are:

- ISOcoated (FOGRA27) (old version of ISOcoated_v2)
- ISOwebcoated (FOGRA28) yellowish LWC paper, offset printing
- ISOuncoated (FOGRA29) white uncoated paper, offset printing
- ISOcoated_v2 (FOGRA39) . white coated paper, offset printing
- SC_paper_eci (FOGRA40) yellowish super calandered paper, offset printing
- ISOnewspaper26 (IFRA26) newspaper, offset printing
- PSRgravureLWC yellowish LWC paper, gravure printing
- PSRgravureSC yellowish super calandered paper, gravure printing

(In brackets: the name of the related characterization data)

In Europe and all over the world, national guidelines and companies from desktop publishing to print are using successfully color management workflows and tools based on these characterization data and ICC profiles.

Several guidelines for implementing standardized production workflows are published by relevant organizations. Among them:

- PSO / Process Standard Offset printing
- MediaStandardPrint2007
- and others...

More information at:

www.eci.org
www.fogra.org
www.bvdm-online.de
www.ifra.org
www.ugra.ch

Since ISO 12647 is an international standard, companies from all countries are encouraged to standardize and optimize their prepress and printing workflow according to this standard.

For all companies working according to ISO 12647, Alwan CMYK Optimizer delivers four Task Settings for “out of the box” ISO compliant and standard color management. These are:

- ISO12647 sheet-fed
- ISO12647 Web
- ISO12647 Newspaper printing
- ISO12647 PrePress

US specifications compliant profiles and settings

US organization IDEAlliance publishes and maintains GRACoL and SWOP specifications.

Newspaper Association of America has published an ICC-profile for newspaper printing according to SNAP 2007 specifications.

ICC color profiles and associated characterization data have been published free of charge by these organizations and are available as standard settings in many desktop and prepress solutions. These are:

- GRACoL2006_coated1 (Grade1 coated paper, mainly sheet-fed)
- SWOP2006_coated3v2 (Grade3 coated paper, mainly weboffset)
- SWOP2006_coated5v2 (Grade5 coated paper, mainly weboffset)
- SNAP2007 (newspaper printing according SNAP)

More information at:

www.gracol.org

www.swop.org

www.naa.org

For all companies working to US specs, Alwan CMYK Optimizer delivers four Task Settings for “out of the box” compliant and standard color management. These are:

- US sheet-fed
- US Web
- US Newspaper
- US PrePress

Mixed environments

In some workflows, both ISO / FOGRA data and profiles, and US / IDEALLIANCE data and profiles are used. It is important in these mixed environments that provided data, proofs and prints always comply to the same standard and specification.

Prepress and Printers dealing with customers using ISO and US specifications can use Alwan CMYK Optimizer to convert and adapt data from one specification to the other without changing their “in-house” standard and working practices.

II. Names and usage

There are two types of Task Settings: Optimization of printed data without color space change (part II.1.) and Optimization of printed data with color space change.

II.1. Optimization of printed data without color space change

These Task Settings optimize data for a defined proofing and printing standard. If the source data and the optimized data are proofed with the appropriate standard, they should look identical.

However, optimized data will lead to faster make-readies and better printability and stability on press

There are two types of optimization Task Setting which can be identified by their names.

Task Settings beginning with:

LimitTAC....

These Task Settings preserve original files separations and only limit the TAC (Total Area Coverage) in dark areas.

They include also a number, which indicates the TAC limit and the proofing / printing standards, to which they refer.

„LimitTAC300_ISOUncoat“ e.g. will optimize data for printing according to ISO on uncoated paper.

„LimitTAC300_SWOP3“ will optimize data for weboffsetprinting on grade 3 paper.

All „LimitTAC—, Task Settings only optimize problematic dark areas leaving other colors virtually untouched.

OptimizeGCR....

Another Optimization option is a GCR based re-separation.

This leads to higher black and lower CMY in more or less all colors, especially neutrals and blacks. Stability of printing and gray balance are greatly improved. The amount of ink used on press is reduced leading to shorter ink drying time.

Since more or less all color areas are optimized, it is recommended that the printing process be well calibrated and monitored to match the appropriate ISO, GRACoL, SWOP or SNAP reference printing conditions.

Names for standard Task Settings for this task begin with

„OptimizeGCR...“

followed by the name of the reference printing conditions they apply to, for example:

„OptimizeGCR_ISOuncoat”

„OptimizeGCR_SWOP3”

SaveInk....

These Task Settings use maximum GCR (only for CMYK Optimizer Print and ECO editions).

This leads to a higher black and lower CMY colors in more or less all color areas of the printed data. Stability of printing and gray balance are greatly improved. The amount of ink used on press is reduced leading to shorter ink drying time.

Since more or less all color areas are optimized, it is recommended that the printing process be well calibrated and monitored to match the appropriate ISO, GRACoL, SWOP or SNAP reference printing conditions.

Names for standard Task Settings for this task begin with

„SaveInk...”

followed by the name of the reference printing conditions they apply to, for example:-

“SaveInk_ISOnews26”

Note that higher ink saving can be achieved if desired with “Dynamic Maximum Black” option.

II.2. Optimization of printed data with color space change

These Task Settings perform color space conversions on the processed data.

A typical example would be the conversion of data from coated paper printing to uncoated paper printing for instance.

For doing this, there are two types of Task Settings:

ConvertTAC....

If the Task Settings name begins with „ConvertTAC...” the original black generation of the data will be preserved, but a TAC limit will be applied and CMY values will be optimized for optimal contrast and saturation for the target printing conditions.

ConvertTAC Task Settings are ideal for color conversions between gamuts having small or medium differences.

Every Task Settings name mentions source and target color space / profile used for the color conversion.

„ConvertTAC300_ISOcoatv2_ISOuncoat” converts data from coated paper color space and separation to

uncoated paper optimized color space and separations

ConvertTAC300_GRACoL1_SWOP5“ converts data from GRACoL color space and separation to SWOP / grade 5 paper optimized color space and separations

ConvertNewSep...

„ConvertNewSep...“ Task Settings will apply a completely new color separation to the original colors using the output color space characteristics and ICC profile.

This setting is recommended if source and target gamuts are very different and serious gamut mapping is required for the color conversions.

A typical example would be the conversion of data from coated paper printing to newspaper printing, for example:

- ConvertNewSep_ISOcoatv2_ISOnews26
- ConvertNewSep_GRACoL1_SNAP2007

II.3. Task Settings List

Revision 1.0 of CMYK Optimizer Predefined Task Settings contains the following Task Settings:

ConvertTAC330_ISOcoat_ISOcoatv2
ConvertTAC300_ISOcoat_ISOcoatv2
ConvertTAC280_ISOcoatv2_ISOweb
ConvertTAC280_ISOcoatv2_ISOuncoat
ConvertTAC330_ISOcoatv2_GRACoL1
ConvertTAC300_ISOcoatv2_SWOP3
ConvertTAC280_ISOcoatv2_SWOP5
ConvertTAC300_ISOweb_SWOP3
ConvertTAC280_eciSC_SWOP5
ConvertTAC300_GRACoL1_SWOP3
ConvertTAC300_GRACoL1_SWOP5
ConvertTAC330_GRACoL1_ISOcoatv2
ConvertTAC280_GRACoL1_ISOweb
ConvertTAC280_GRACoL1_ISOuncoat
ConvertTAC280_SWOP3_ISOweb
ConvertTAC260_SWOP5_eciSC

ConvertNewSep_ISOcoatv2_eciSC
ConvertNewSep_ISOcoatv2_ISOnews26
ConvertNewSep_ISOcoatv2_PSRlwc
ConvertNewSep_PSRlwc_ISOweb
ConvertNewSep_PSRsc_eciSC
ConvertNewSep_ISOcoatv2_SNAP2007

ConvertNewSep_GRACoL1_SNAP2007
ConvertNewSep_SWOP3_PSRlwc

LimitTAC330_ISOcoatedv2
LimitTAC300_ISOcoatedv2
LimitTAC280_ISOweb
LimitTAC280_ISOuncoat
LimitTAC260_eciSC
LimitTAC240_ISOnews26
LimitTAC330_GRACoL1
LimitTAC300_SWOP3
LimitTAC280_SWOP5
LimitTAC240_SNAP2007

OptimizeGCR_ISOcoatedv2
OptimizeGCR_ISOweb
OptimizeGCR_ISOuncoat
OptimizeGCR_eciSC
OptimizeGCR_ISOnews26
OptimizeGCR_GRACoL1
OptimizeGCR_SWOP3
OptimizeGCR_SWOP5
OptimizeGCR_SNAP2007

SaveInk_SWOP5
SaveInk_ISOweb
SaveInk_ISOnews26

II.4. Applying predefined Task Settings in CMYK Optimizer

You can apply any of the described Task Settings to an existing or to a new queue using AlwanColorHub Settings Manager.

For detailed information on AlwanColorHub Settings Manager and on how to apply predefined Task Settings, please refer to AlwanColorHub Documentation (available from AlwanColorHub -> Help Menu)