

Guidelines for reproduction and supply of final digital pages for engraving rotogravure cylinders

You can always find the most up to date version of these guidelines on our website under:

<http://www.prinovis.com/en/downloads/technical-guidelines>

General instructions for the supply of digital data and print references

For the supply of digital data and print references for rotogravure printing, please take the following guidelines into account. If not observed this can lead to unpredictable issues when producing your job.

Please check and approve the data before you supply it to us. In terms of content, we process the data exactly as supplied to us. If you need to make any corrections, please ask your repro studio to apply them. This ensures that you hold a copy of the final amendment.

Please understand that resupplied pages, caused by any late amendments, incur an additional effort (cost, time and potential errors) as they have to pass through the whole processing workflow again including all checking procedures.

We print according to ISO 12647-4 in the Process Standard Rotogravure. The supplied data as well as the proofs should be produced accordingly. You will achieve the best results if you supply data and proofs in the European Rotogravure Standard Version 2 "PSR V2" (refer to paragraph 1.3 and 1.4).

Responsibility

Our printing site can only guarantee a flawless production process on the basis of the supplied digital data, provided it has been produced according to our specifications. The client is responsible for the correct presentation of the digital data.

We recommend that you contact us prior to the data entry date of the actual job in order to agree your technical processes and carry out a data and proof test to verify the suitability of the supplied pages and print references.

Other topics

Your contact in Sales or Account Management will be happy to give you further information or will pass you on to a competent contact in the relevant technical department for more specific enquiries.

Table of Contents

1	Comments for reproduction.....	3
1.1	Technical framework	3
1.2	Page setup	5
1.3	Process standards and hard copy proof handling.....	6
1.4	Process standards and softproof handling.....	8
2	Supply of data and print references	9
2.1	Data formats and data delivery	10
2.2	File naming convention	11
2.3	Proof references.....	12
3	Appendix – Repro recommendations for matt papers (e.g. “UPM Ultra MG”).....	13

1 Comments for reproduction

For the design and the technical reproduction process of the final pages, please refer to the following specification. If not observed we cannot guarantee a flawless print reproduction of your data.

1.1 Technical framework

General

The data needs to be created in the correct CMYK colour space. We can supply appropriate profiles for colour reproduction (refer to paragraph 1.3).

Spot colours as well as in RGB or Lab created data will not be processed. If you have supplied RGB content and we are forced to process it due to the time schedule, we will not take responsibility for the colour reproduction of your product.

Image creation

- › The colour composition is determined by the colour profile used. The maximum dot area is 360%. The correct colour profile should be agreed with the printing site prior to page creation (refer to paragraph 1.3).
- › Please avoid a strong UCR or GCR composition as this can lead to a different result on press than the colour simulation on your proof.
- › Exceptions to the above are images with fine patterns with the risk of Moiré and/or colour drift on the printed copy (e.g. herringbone and glencheck patterns or black type used in images e.g. on packaging items). Please reduced the colour content on the separations and increase black.
- › Danger of Moiré (Moiré = unwanted visible patterns caused by Screenclash) exists for:
 - › Image details with delicate structures
 - › Too high sharpness in details
 - › Images that are not scaled to 100% final size
 - › Images with a resolution different to the output resolution
 - › Multiple scaling of sharpened data in the reproduction process

It is not always possible to simulate Moiré. Even a proof might show different results, as the proof printing process deviates from the final printing process (RIP-Software, output resolution, ink transfer mechanisms e.g. inkjet)

Due to the complex and unpredictable interactions that can lead to Moiré, we will not take responsibility for its appearance on the printed copy!

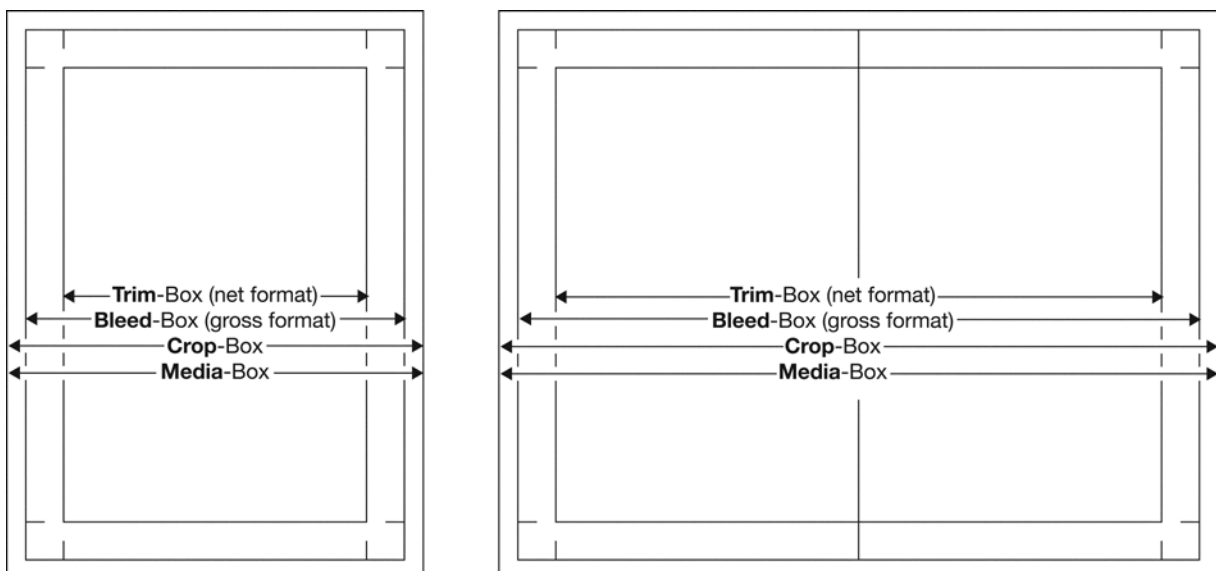
- › The first printing tone values are around 1% to 3%. Important details should have a minimum of 5% in the relevant colour channel. Technical elements i.e. fonts and colour panels should have at least 7% per channel as lower tone values are more sensitive to process variations (for instance colour deviations, smoothness of the print result)
- › If you want to print on matt finished papers, please refer to our separate “Repro Recommendations for Matt Papers”, see last page
- › For cover production with spot colours please liaise with the printing site regarding any relevant specification.
- › Trapping of abutting colours:
To avoid the appearance of gaps due to register variance, we recommend applying trapping to abutting coloured objects (usually by increasing the relative size of the lighter coloured object, thereby creating a slight overlap or trap).
 - › Bright foreground objects should spread into darker background objects by 0.06 mm (object overlaps background, positive trap).
 - › Dark foreground objects should be choked back on brighter background objects by 0.06 mm (background underlays object, negative trap).
 - › Reversed out text on dark coloured backgrounds should be choked back in the sub colours (trapping non-contouring colours).

Fonts

- › Black text must be defined as black only and 100% overprint.
- › On change versions (e.g. black only text changes) elements can only be changed in the relevant separation.
- › The gravure printing process should be considered when selecting the style and size of fonts.
 - › line width of positive text min 0,2 mm
 - › line width of negative (reversed out) text min 0,25 mm
- › Extremely thin, fine fonts or serifs can result in a poor print reproduction due to min line weight. If you want to use very thin fonts we are happy to check them for you during the data test.

1.2 Page setup

- › Single and double pages can be processed within one job, as long as they are clearly identified (refer to paragraph 2.2).
- › All pages should have the same bleed on all 4 edges.
- › All pages of one job must have the same page geometry and box definitions.
- › As a positioning definition the pages should be centred in the file.
 - › Trim-Box = net format
 - › Bleed-Box = gross format, we recommend a min of 5 mm bleed all around
 - › Crop-Box and Media-Box should be identical and if possible equal to the gross format.



- › Trim marks (length 5 mm and thickness 0.2 mm) must be created in CMYK (100% each) 2.5 mm away from the trimmed format (net format).
- › When creating the layout please take into account that important elements (e.g. text, folios, etc.) should be placed no closer than 5mm from the trim.
- › Text that runs over the spine of double pages should be spaced depending on the relevant finishing process.
- › For perfect binding jobs we recommend to repeat 5mm of the corresponding page on each side of the spine.

1.3 Process standards and hard copy proof handling

We print according to ISO 12647-4 in the Process Standard Rotogravure. The supplied data, as well as the proofs, should be produced accordingly. You will achieve the best results if you supply data and proofs in the European Rotogravure Standard Version 2 “PSR V2”.

To ensure a colour correct print result from the supplied data, it is essential to agree the necessary reproduction parameter for the relevant job component with the printing site prior to page creation.

We therefore need the following information:

- › Correct job title and section identification
- › Proof system (software, proofer type, proof paper)

Based on this information you will receive profile specifications from us e.g. ICC-Profile i.e. special proof profiles for your proof system as well as a link to download test charts and test pages. Please produce a proof of each based on the agreed specifications and send these to your account manager together with some draft pages from the actual job.

- › Proofs of test charts and test pages
- › Draft pages from the job including proofs.

We will measure the references and check them visually. You will receive an approval from us or recommendations for changes.

You can get further information about the European Rotogravure Standard and recommendations for applications on the website of the European Color Initiative <http://www.eci.org> section “Downloads” “Gravure profiles PSR V2”.

Here the direct link to the PSR-Profiles:

http://www.eci.org/lib/exe/fetch.php?id=de%3Adownloads&cache=cache&media=downloads:icc_profiles_from_eci:eci_gravure_psr_v2_2009.zip

General parameters for your proof production

Your proofs need to be produced according to ISO 12647-7 "Process control for the production of proofs". Please use the colour standard we have recommended, special colour profiles for this from your proof system supplier should be chosen over ICC profiles.

When producing proofs please include the following control measures on the proof:

- › File name
- › Proofer type
- › Proof parameter name and checksumme
- › Date and time of proofing
- › Date and time of the last calibration
- › Control strip "Ugra/FOGRA-Mediawedge CMYK-TIFF V3.0a" (in original size)
- › Verification labels or imprints with the measured tolerance values of the media wedge.

The viewing conditions according to ISO 3664: 2009 are valid for colour matching.

Proof tolerances

Your proofs should be approved by the proof supplier and documented with a label or imprint of the Mediawedge verification. The tolerances should be according to ISO 12647-7.

For quality reasons we recommend reducing the tolerances for the verification i.e. to use the colour distance formula Delta E2000.

Our recommendations according to CIE Delta E2000:

ΔE Paper	$\leq 1,5$
ΔE Average	$\leq 1,5$
ΔE Max	$\leq 2,5$

If your software does not support Delta E2000 but you still want to use narrower tolerances we recommend the following values:

CIELAB 1976:

ΔE Paper	$\leq 1,5$
ΔE Max	$\leq 5,0$
ΔE Primary Colours	$\leq 3,0$
ΔE Average	$\leq 1,5$
ΔH 3 Colour Grey	$\leq 1,5$
ΔH Primary Colours	$\leq 1,5$

Your final proofs should be produced from the final supplied data. This avoids colour deviations on the print result caused by incorrect proofs.

1.4 Process standards and softproof handling

If you want to use softproofing as a colour reference, the colour on press will only be matched against the Prinovis softproof system. To make this possible we agree on the following parameters.

- › The data supplied from the customer has been produced in the relevant valid rotogravure standard “PSR V2” or any colour standard previously agreed with the printing site.
- › The correct viewing conditions according to ISO 3664: 2009 and a calibrated wide gamut softproof monitor (ISO 12646) should be used for a colour correct assessment of the pages at the printing site and at the customer.
- › The validity of the colour match will always be assessed with the data and ICC profiles of the softproof system operated by Prinovis. The customer and if applicable the repro studio will receive a separate user login for this system.
- › Prinovis will archive the data on the softproof system for 4 weeks after the publication date i.e. data entry date. The customer will have access to these pages within this timeframe via the user login.
- › Benchmark for the correct content reproduction of PDF data at Prinovis is the output reference of the Adobe RIP. Data delivery and RIP reproduction must conform to the Adobe Standard definition.
- › The mixed usage of hard copy and softproof is not permitted. The colour match has to be done against either the softproof or the hard copy proof reference.

Proof tolerances

We recommend the following tolerances in CIE Delta E2000 for a softproof reference:

ΔE Average	≤ 1.00
ΔE Max	≤ 2.00
ΔE White Point	≤ 1.00

If you need further information about softproof, please contact your Account Manager.

2 Supply of data and print references

The client will supply print ready pages to the printing site. Due to data security reasons, we cannot accept open data formats (e.g. QuarkXPress, Illustrator, InDesign files etc.)

Please understand that resupplied pages caused by any late amendments incur an additional effort (cost, time, potential errors) as they have to pass through the whole processing workflow again including all checking procedures.

Please use a current, high-performance virus scanner in the production process to avoid worms, viruses, etc.

The naming convention of the supplied data should be unique (refer to paragraph 2.2). Please also take this into account when sending data via ftp. Please inform the relevant recipient (Account Manager or Data Handling Team) via phone or email prior to any data transfers.

Digital delivery note

With every data transfer we expect a digital delivery note ("Readme" file) with the following Information:

- › Sender
- › Contact person
- › Job title and section identification
- › Colour space/process standard of the supplied data

2.1 Data formats and data delivery

Type	PDF/X-4 2007-2010 in Version 1.4-1.6 According ISO 15930-7	PDF/X-1a 2003 in Version 1.4 According ISO 15930-4	TIFF/IT P1 CT and LW or Allin-CT
Images (resolution)	Colour and Greyscale: 300 dpi Monochrome: 1200 dpi	Colour and Greyscale: 300 dpi Monochrome: 1200 dpi	CT: 120 l/cm LW: 360 l/cm
Images (Colour)	Loss-free compression CMYK (not RGB!) Embedded ICC profiles will be ignored.	Loss-free compression CMYK (not RGB!) Embedded ICC profiles will be ignored.	Loss-free compression CMYK mode Embedded ICC profiles will be ignored.
Data carrier	CD-Rom ISO 9660, DVD or FTP		
Referenz	Adobe InDesign	Acrobat Distiller	
Further notes	<ul style="list-style-type: none"> › One pdf per page (no multiple pdf / slugs) › Composite CMYK › All fonts embedded › No Multiple Master, pseudo italics and pseudo bold fonts, no EPS DCS or Copydot elements › No use of spot colours › Files must not include transfer functions <p>Please use the Adobe Original Settings according to the standard specifications and correct output intent settings – Under Output -> Colour Conversion please select “Convert to Destination (Preserve Numbers)” and select the correct output profile to make sure all data will be transferred into CMYK.</p>		CT- and LW-data must have identical geometrical formats.

As well as sending CD-Rom or DVD you can also deliver your data via FTP. We will send you your unique username and password upon request.

Due to handling and data security reasons it is not provided to supply data via email or as a download from internet servers. If you cannot upload to our FTP server and there is no time to send a disc either, it is possible to occasionally download files from you. In this case additional effort occurs (cost, time) dependant on the download speed and extra handling caused by that. In addition we expect the data to be valid for processing at the time we have downloaded it (potential errors).

The delivery of Zip-Archives not accepted.

Data schedule agreement

All data schedule agreements are based on the date and time the data is supplied and approved for engraving at Prinovis!

2.2 File naming convention

A fixed naming convention for the supplied data is not specified but recommended. The naming must be consistent throughout the job and must contain the following coded information:

- 1) Job title
- 2) Issue number
- 3) Identification of folios with leading noughts and a fixed position in the file name
- 4) Identification of double or single page (e.g. usage of letters "D" or "E")
- 5) Identification of language version or region (e.g. XX=Base Version, FR=France, ...)
- 6) Correction version (e.g. K01, V01, ...)

Your data should be supplied all with the same naming convention, to allow an error-free automated processing.

Please supply all pages for any version changes.

We recommend agreeing the naming convention with us prior to data transmission, especially for version changes. This reduces the risk of errors in your data creation and the data processing workflow.

The usage of special types, blanks and symbols should be avoided in the file name.

The change into the internal naming convention will be done by the printing site internally.

Example

Double page: XYZ_D002XX003.pdf

Single page: XYZ_E0003XX.pdf

XYZ_HHH_D0002XX0003_K01.pdf

Explanation:

XYZ = *Code job*

HHH = *Issue number*

D/E = *Double or Single page (single = German: einzel)*

0002 = *Folio "2", left hand page 4 digits*

XX = *Language version / Region*

0003 = *Folio "3", right hand page 4 digits*

K01 = *Correction version*

2.3 Proof references

Hard copy proof handling

For each delivered page and version we require one colour valid hard copy proof without corrections i.e. for content only changes a valid laser copy for reference.

The supplied references must be produced from the data supplied to the printing site!

If the references have not been supplied prior to approval for engraving the data will be taken as reference themselves according to our softproof guidelines (refer to paragraph 1.4).

When there are differences in the content between the proof reference and your supplied data the supplied data will be taken as the reference.

Softproof handling

The softproof handling allows a fully digital handling without any paper based references. The supplied data will be taken as reference themselves. Please refer to paragraph 1.4 Process standard and softproof handling as well as paragraph 2.0 about a digital delivery note.

3 Appendix – Repro recommendations for matt papers (e.g. “UPM Ultra MG”)

The printability on matt papers has very distinct characteristics.

Due to the very rough surface these paper can cause ink transfer problems. Therefore please take the following recommendations into account:

- › Tone values < 5% in all colours are not allowed.
- › Pure black backgrounds < 50% are especially problematic and should be avoided. Grey values were necessary should be composed with higher colour content and lower black content. Ideally the colour content should be twice as high as the black content (e. g. C 28%, M 25%, Y 26%, K 10%).