HÖHN®

PACKAGING
DISPLAYS
PAPER PRINT

TECHNICAL DIRECTIVES

FOR PREPRESS

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PREFACE

The purpose of this brochure is to create a basis to speak the same language with you. The standardization directives of "FOGRA" (research association for the graphical industry) and of the "bvdm." (federal association of printing and media) give the foundations and will be completed with the most important requirements of the digital data processing.

Your benefits of these directives are:
- certainty of the respective process steps
- true color aided by any digital media
- optimal use of the means of production

The directives base on:
- "Technische Richtlinie für die Erstellung und den Austausch von Druckdaten in der Faltschachtel-Herstellung" (technical directive for the creation and exchange of printing files in the production of folding boxes), compiled of "FFI" (trade association of the folding box industry)
- "Technische Richtlinien Offset-Reproduktion"(technical directives for the offset reproduction) of "bvdm."
- "Technische Richtlinien für Daten und Prüfdrucke" (technical directives for data and contract proofs) of "bvdm."
- "Standardisierung im Offsetdruck" (standardization for offset printing) of "bvdm."/ "ISO 12647-2:2013 FOGRA"
- "ProzessStandard Offsetdruck 2014" (process standard for offset printing 2014) of "bvdm."
- in-house standards of HÖHN®

In case of data files which don`t concur with the directives you have to make an arrangement with us to avoid delay and additional costs.
By request HÖHN® performs the complete prepress from correction and retouching of the supplied data to creating of reproduceable manuscripts for offset printing. HÖHN® disposes of one of the most modern European CTP imagesetters, the large-sized imagesetter "AGFA Avalon N16-50", and guarantees highest precision and quality already at the printing plate process.

To secure you a trouble-free process, you are welcome to contact

Herr Wieland, Leitung Engineering Center / Prepress
Telefon +49 (0)731 494-120
jwieland@hoehn-gruppe.com

and request your „job options".

DATA FILES AND DATA CARRIERS

Application Software
Data processing is done by all Macintosh and Windows programs in line with the industry standard.

Data Carriers
We are able to handle with all usual data carriers, such as CD, DVD, USB sticks and removable hard discs. Please contact us in case of other carriers.

Data Supply
Our FTP server (www.ftp.hoehn-gruppe.com) is ready to receive around the clock. Please request your access data under: jwieland@hoehn-gruppe.com and send additionally an e-mail to your contact partner at HÖHN® with a copy of the motive.

Open Files
You can use documents (open files, EPS files) which were created in one of the following programs: InDesign, Illustrator, ArtPro or Photoshop. If your documents were created in Microsoft Office programs (Word, PowerPoint, Excel), please confer with us because the software of these programs doesn`t comply all the requirements of the prepress.

PDF
Condition for a smooth and standardized exchanging of data files via PDF files is the standard PDF/X-4 (ISO 15930-7). In programs for processing and output of PDF files (Adobe Reader, Adobe Acrobat), the overprint preview has to be activated. The application of the PDF writer or any other PDF-creating program is not allowed. Fonts have to be embedded. In the document the obligatory crop marks have to be visible and a trimming of 3 mm has to be put in.

File Structure and File Name
The printing data files have to be created in logical file folder structures.

The denomination of files, images and file folders has to be clearly identifiable. To identify the files clearly, the file name has to contain the customer number, the article number and the material number.

File names must consist of alphanumeric characters and must not contain any umlauts or special characters.

Particularly helpful for our following process is the creation of a "readme" file with contact address for technical inquiries or with further informations of the supplied job.

DISCRIPTION OF OBJECTS

Punching Line
The punching line must be created in the file in an own layer with an own full-tone color "contour" and the denomination of the layer: "punching line". The object attribute has to be set on "overprint". The punching line has to be created as a vector graphic. If the packaging has to include perforations, scoring rules, embossing or Braille embossing, this must be taken into account in the punching line as well. In printing files, perforations and scoring rules must not be created as graphics or lines to be printed. A/B/H dimension and inside and reverse printing have to be shown in the punching line.

Trimming
Printing products and cardboard folding boxes need trimmings of 3 mm. Display products ought to have trimmings of 10 mm.

Colors
In according to the standard ISO 12647, the document must be created in the CMYK color space, special colors have to be denominated in HKS or PANTONE. Be certain to make an explicit assignment whether the colors are composed of CMYK or have to be printed as real special colors. We can`t guarantee color accuracy for differently created files, e.g. with RGB colors.

Finishing
For additional finishings, e.g. blind embossing, hot foil stamping or varnishing, you have to create extra colors which have to be denominated e.g. as "finishing" or "embossing" or "varnish" etc.

Braille Embossing
In the file, the Braille embossing has to be created in an own layer. It includes a fulltone color with the denomination "Braille embossing". The data exchange and the specification of the Braille embossing were described in "Technische Richtlinie Blindenschrift in der Faltschachtel-Herstellung" (technical directive for Braille embossing in the folding box production) of "FFI" (trade association of the folding box industry), which provides an essential basis for the industrial standard EN 15823.

LAYOUT

Fonts
Processing the supplied data requires that all fonts are embedded into PDF. In case of open files the same fonts as you have used by creating the document must exist in our system. Please send us all fonts you have used. Avoid to variate the type design in the type style menu. Use the adequate type style (e.g. "Frutiger Roman") and, if possible, Adobe postscript type 1 fonts. Truetype fonts should be avoided. Please convert the texts into paths respectively sign paths. Fonts used in graphics should be converted into sign paths too or supplied. In case of integrated or separately supplied fonts, please respect the rights of use and license of these fonts.

Graphical Elements
In printing products and cardboard folding boxes the distance between graphical elements or texts and cut respective groove should be not less than 3 mm. In laminated products this distance must not fall below 5 mm. The line width should be not less than 0,15 mm, hairlines have to be avoided.

Stamping Foil Printing
Minimal line width, positive: 0,20 mm
Minimal line width, negative: 0,30 mm

Coding
Barcodes in documents have to be tested. In other respects we need informations about type, dimension and color of the coding. The contrast between background color and coding must be sufficient.

Images
The effective resolution in full-size (100 %) halftone images has to be 300 dpi. Images have to be created as high-resolution files in EPS, TIFF or PSD format. Compressed JPEG files and preseparated files (e.g. DCS formats) are not ready for print files and need reoperation. DCS formats are not compatible with a PDF workflow and therefore not permitted. To ensure an adequate antialiasing, scanning of line originals requires a resolution of at least 1200 dpi at the scale of 1:1.

LAYOUT

Black Solid Tone Areas
For multicolor printing fulltone black should have at most 50 % cyan as an underlay.

Under Color reduction (UCR)
The total color coverage may not be more than 300 %.

Dot Gain
The dot gain of our printing machines is in the range of the recommended tolerance of "ProzessStandard Offsetdruck" ("PSO 2014") (process standard for offset printing). In principle these values are average values at standard productions. Spectrum of nominal values of cyan, magenta, yellow, key – according to "PSO" for paper grade 1 (gloss/matt coated illustration printing paper) – in the medium tone (measuring fields with tonal value of 40 % (15,3) and 80 % (11,0)), screen ruling of 70 lines/cm, maximum deviation of: ⟶

6,9 % bei 40 % dot gain
0,9 % bei 80 % dot gain

DOCUMENTATION

Color-accurate Contract Proofs
The color matching in printing requires a color-accurate contract digital proof according to industrial standard "ISO 12647-2:2013" (process control for the production of half-tone color separations, proof and production prints) which have to include a "FOGRA" media wedge for controlling. This proof essentially indicates the color accuracy of your images for the following printing production. Please contact us in advance for the adequate print simulation of the proof. Without providing a color-accurate contract proof, you have no warranty claim for the color accuracy. If you require, we create these proofs (with media wedge) for you. We would be pleased to submit you our offer.

In digital proofs, special colors are converted into CMYK and therefore, the results of printing and printing screens are just simulated, without color accuracy of the special colors. On a digital proof, a media wedge plus test report has to be present. Additionally, color strips out of color guides (e.g. PANTONE, HKS) can be supplied.

It has often been our experience that the supplied proof has nothing to do with the actual print result. If the proof differs too much from the printing it can`t be used as an instrument for color control.

At HÖHN® the whole workflow is coordinated according to "PSO" (process standard for offset printing) of the "bvdm" (federal association of printing and media). Therefore, especially for high quality printing products, it is recommended to let us create the required digital proofs in our company to guarantee the color conformity of proof and printing. To evaluate the color the "FOGRA" media wedge has to be integrated or, at least, a color control strip has to be imprinted on the proof with the following measuring fields:
- K-field
- screened field with 40 % (25 %)
- screened field with 80 % (75 %)
- fulltone field
- fine screen field (2–5 %)

The color matching will be done under Matching (lights) conditions (3664 2009, D50 + UV).

Printing Colors
Please apply the kinds of printing colors according to industrial standard "ISO 2846" (defines the process colors for the four-color offset process).

Control Media
A colored print-out serves as control medium for the supplied data files. File and color denomination have to be marked on the print-out. This print-out is binding for text, layout and color distribution (see page 6-7).

HINTS

Color Management
For warranting the data files to be combined freely for different printing methods and electronic media it is of advantage to standardize certain workflow framework conditions.
Based on the data formats, color management is able to represent the product optimally despite of various output devices (monitor, printer etc.). For this purpose ICC profi les will be created for the various output devices. We recommend the usage of profile "PSO_coated (FOGRA 51 L)" or "PSO_uncoated (FOGRA 52 L)" for the creation of color-accurate data files.

General Structure of Data Files
The document page size should be equivalent to the desired net paper size of a single page.

Scaling
The paper size should be exclusively created in the original format, images and graphics should be embedded on a scale of 1:1.

Trapping
Choking/spreading must be put in correctly – please consult us if necessary.

Transparencies
All up-to-date layout programs may represent transparencies in printing files. For data transfer to the folding box manufacturer, transparencies have to remain natively. This is enabled, for example, by the application of the standard PDF/X-4.

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