

Technical Guidelines

FOR THE CREATION AND EXCHANGE OF ARTWORK FILES
IN THE PRODUCTION OF FOLDING BOXES - English translation

Original Guideline and brochure developed in German by



Technical Guidelines

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IN THE PRODUCTION OF FOLDING BOXES

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1 | Objective of these guidelines

The purpose of these guidelines is to enable the communication between agencies, marketing departments, repro centres and print shops and thus to speak the same language. The objective of these guidelines is to set out the mandatory rules for creating and exchanging artwork files and proof documents with all participants in the process chain.

These requirements are minimum requirements; supplemental and special requirements are to be agreed upon between the artwork files creator and the packaging manufacturer in a timely manner – before the files are created.

For the purpose of these guidelines, artwork files are defined as production-ready files that can be processed directly by the folding box manufacturer.

If the delivered print documents do not comply with these guidelines, one must expect delays and additional costs which must be borne by the person responsible for the non-compliance.

These guidelines are built around the production flow during the manufacture of folding boxes in offset printing. In case of special printing methods, e.g. flexo or gravure print, the folding box manufacturer has to be approached directly.

2 | Die-Line

When creating the print template, only the mandatory digital die-line provided by the folding box manufacturer at a scale of 1:1 has to be used. This must be requested before creating the artwork files.

The die-line must be created on its own processing layer with its own full tone colour “die-line” and the layer name “die-cut”. The object attribute must be set to “overprint”. The die-line should be created as a vector graphic (cf. Figure 1).

The die-line name stipulated by the folding box manufacturer must be kept unchanged so as to prevent any mix ups or confusion. This name must also be entered in the legend case (cf. Figure 3, Page 8). No changes whatsoever may be made to the die-line during the entire process for creating the artwork files.

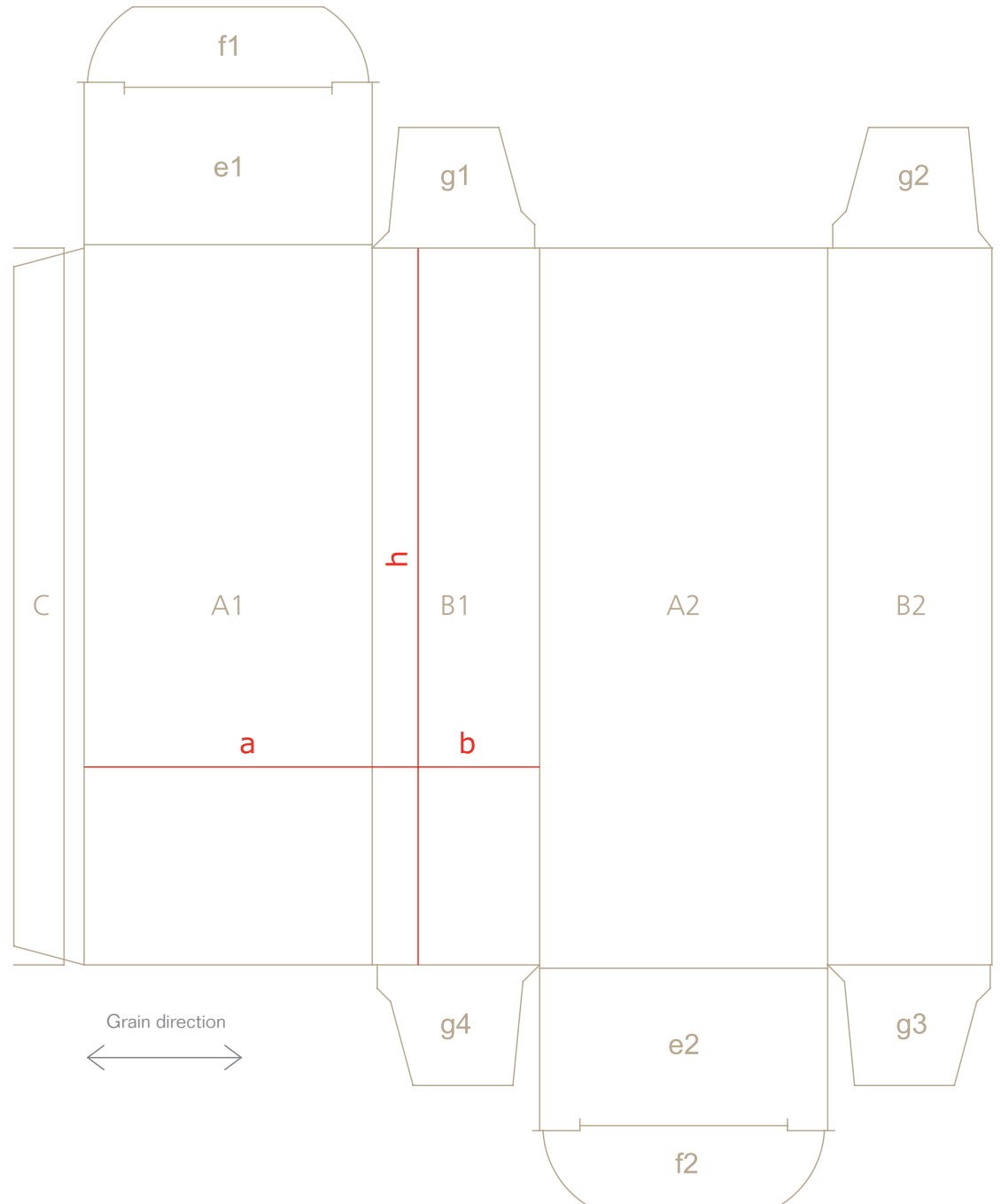
The position of the die-line must be fixed in the file to prevent it from being moved accidentally from the die-line to the graphic.

The A-B-H dimensions of the folding box define all dimensions of the folding box. The die-line and artwork files must not contain auxiliary lines and dimensionings inside the contour – otherwise these will be printed as well.

If the packaging is to have perforations, half-cuts, embossings or Braille, these will also need to be included in the die-line. Perforations and half-cuts must not be created in the artwork files as printable graphics or lines.

Figure 1
Dimensions and names of the die-line, flaps, and panels

A1+A2= usually the main panel of the folding box
 B1+B2= usually the side panel of the folding box
 C = glue flap of the folding box
 e = top- /bottom flap of folding box
 f = tuck-in flaps of folding box
 g = dust flaps of folding box
 a/b/h = dimensions of folding box
 It is important for the h dimension to be taken from the B1 side as the A1 side and the A2 side are usually 0.5 mm longer (compensation of the material thickness for top and bottom).



3 | Text and graphics

The following section defines the requirements on the text and graphic elements and the varnish.

SPACING BETWEEN TEXT AND GRAPHIC

The spacing of the text and graphic to the cut and creasing lines is 2 mm.

FONT SIZE AND LINE THICKNESSES

Minimum dot size, positive:	6 pt
Minimum dot size, negative:	6 pt
Minimum line thickness, positive:	0.10 mm
Minimum line thickness, negative:	0.15 mm

HOT FOIL STAMPING

Minimum line thickness, positive:	0.20 mm
Minimum line thickness, negative:	0.30 mm

FONTS

Generally, PDF files with embedded fonts or vectorised graphic files (texts converted into paths) must be delivered.

If so-called open print files are delivered, either all fonts used must be delivered with the full character sets, or all fonts must be vectorised. When using embedded or separately delivered fonts, the usage and license rights for these fonts must be taken into consideration.

Often, programme-specific text effects (e.g. underlining, shadowing, bordering, etc) cannot be vectorised – and are therefore not to be used.

INK SETUP

The ink setup in the file must only contain the necessary colours. Colours that are not in use or colours which are added automatically are to be deleted (cf. Figure 2). Allowed colour gamuts / colour systems are: Pantone, HKS and CMYK based on ISO 12647. Other colour gammut / systems are only allowed after prior consultation.

Print colours must contain a correct, standardised colour name, for instance: Pantone or CMYK. Text colours must only be created in one colour (special or scale colours).

Colour swatches are selected based on the surface of the print substrate. As a result, do not use the names for coated (Pantone C) and uncoated paper (Pantone U) in the same document.

Process colours and full-tone colours must be created as such. RGB colours are not permitted.

When creating the colours, make sure that the colour type – full-tone colour or process colour – is correct.

Correct: A job is only created in special colours. Here is an example of the colour name, Pantone C (top) and definition in the artwork file as full-tone colour (below).

Correct: An order is created in CMYK. Printing is done in **C**yan, **M**agenta, **Y**ellow and **B**lack (key), see above. Only the die-line, the colour and, where necessary, special colours are created as full-tone colours in the artwork files (below).

When integrating elements from different programs, make sure no colour appears more than once in the colour scale.

The number of print colours in the file must be checked by the data creator using colour separation to prevent hidden and unnecessary colour printouts.

FINISHING / VARNISHES / EMBOSSINGS / BRAILLE

Colours for finishing, varnishes, embossings, Braille must be created as separate full-tone colours – in a non-printing colour – and must be given a unique denomination.

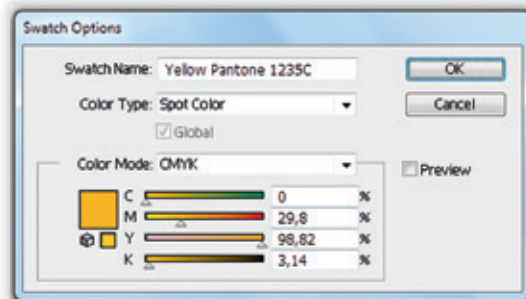
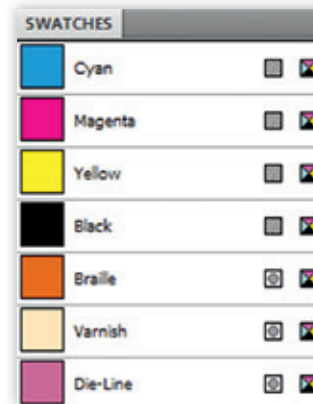
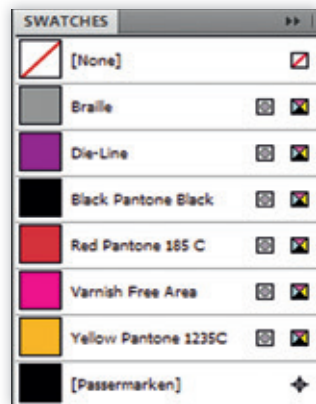


Figure 2
Creating colours and layers for special colours and CMYK in Adobe Illustrator

LEGEND CASE

A legend case must be created outside of the graphic/die-line of the folding box which at least contains the following elements: Article/Article number, Packaging dimensions/name of cutting die used; colours, date, creator and contact address.

Article / Article number:

Packaging dimensions:

Colours / varnishes:

Blue Pantone 2768 C

Red Pantone 032 C

Gloss Varnish

Creator:

Date:

Contact address:

Figure 3

Example and template for a legend case

Download from www.ffi.de

TRIM / MARKS

The trim (colour overfill for the die-line) is at least 2 mm.

The glue flap must always be kept free of colour and varnish. The colour and graphics of the neighbouring main panel of the folding box is overfilled into the glue flap by 2 mm. If the exact values for the respective production cannot be derived from the mandatory die-line, get them from the folding box manufacturer.

Unvarnished and colour-free areas as well as matt and gloss varnish must be marked uniquely. Special features, such as variable data areas, blankings etc. must be clarified with the folding box manufacturer in advance.

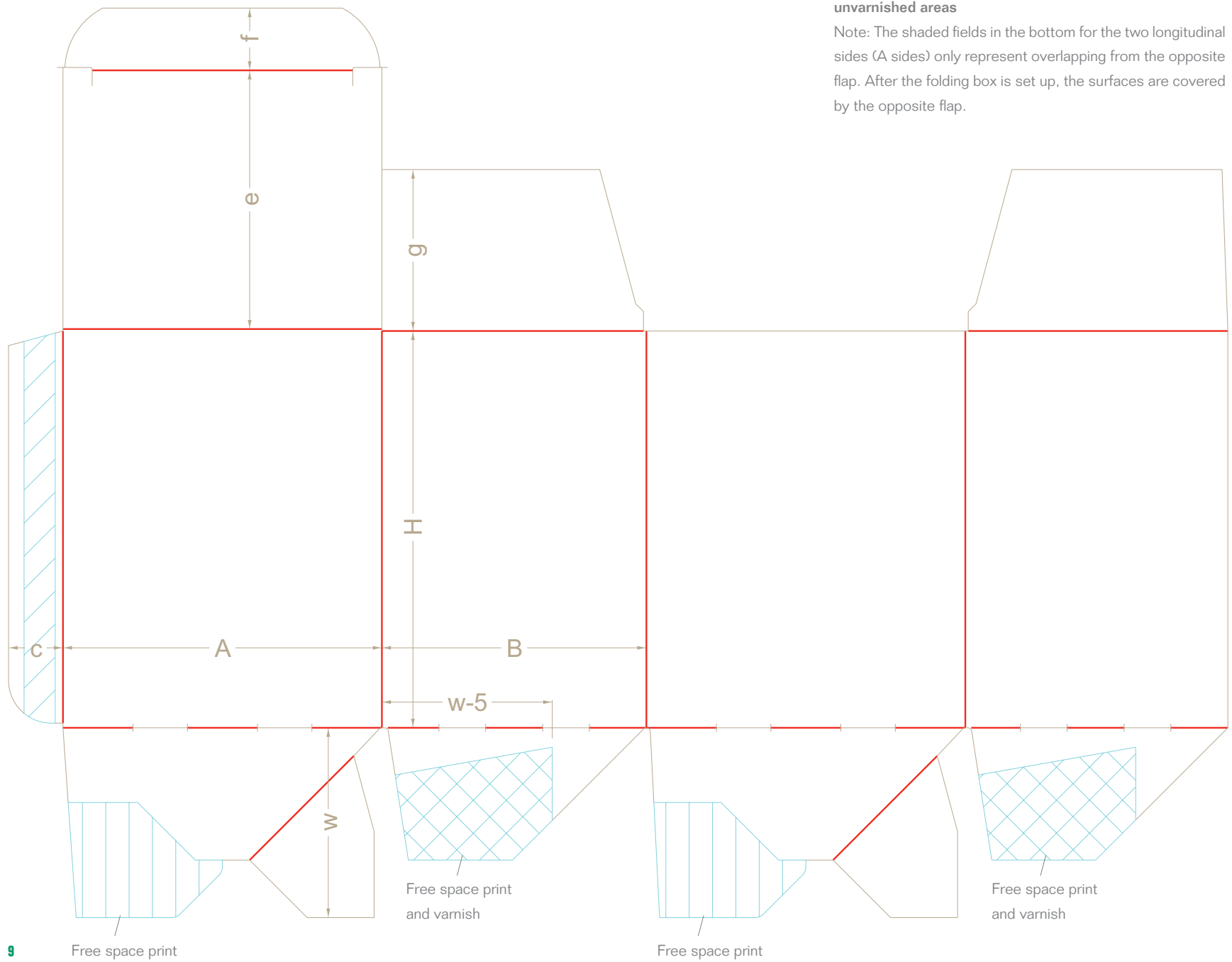


Figure 4
Folding boxes with glued crash-lock bottom and marked unvarnished areas

Note: The shaded fields in the bottom for the two longitudinal sides (A sides) only represent overlapping from the opposite flap. After the folding box is set up, the surfaces are covered by the opposite flap.

COLOUR AND VARNISH TRAPPING

The varnish must be trapped 0.5 mm beyond the colour.

If two colours clash, the lighter (non-drawing) colour must be trapped into the darker (drawing) colour by at least 0.05 mm. In general, the exact values must be obtained from the folding box manufacturer for the particular production.

IMAGE RESOLUTION AND IMAGE FORMATS

Half-tone images must have an effective resolution of 300 dpi in the pictured size (100%). Images must be created as high-resolution TIFF- or PSD files.

Compressed JPEG files and pre-separated files (e.g. DCS formats) are not print-ready artwork files and need reworking. DCS formats are not compatible with a PDF work flow and are therefore not permitted.

If line art must be scanned, a resolution of at least 1200 dpi at a scale of 1:1 is needed to ensure an appropriate edge smoothing.

TRANSPARENCIES

All current layout programs can represent transparencies in artwork files. When forwarding artwork files to the folding box manufacturer, transparencies must remain native. For example this is possible by applying the PDF X4 standard.

BAR CODES

Bar codes must be created to a scale of 1:1. Requirements on bar codes concerning readability (contrast, quiet zone) must be met. The bar code must be checked for readability. In print-ready artwork files, the data manufacturer is liable for any reworking which may be necessary to the bar code e.g. due to non-readable codes.

BRILLE

Braille must be created on its own layer in the file. It contains a full-tone colour with the "Braille" name. Data exchange and specification of Braille are described in "Technical guidelines Braille in the folding carton production" which can be downloaded from the following link: www.ffi.de. These guidelines form a significant basis for DIN EN ISO 17351.

4 | File formats

To ensure a smooth, standardised data exchange, the PDF X4 (ISO 15930-7) standard is a prerequisite for PDF files. Since the X4 standard allows for RGB data, you must ensure that no RGB data are contained.

In programs used to process and output PDF files (Adobe Reader, Adobe Acrobat) the overprint preview must be activated.

With open files, the programs and program versions in use must be agreed with the manufacturer of the folding box. The most common programs in use are Illustrator, InDesign, ArtPro and Quark XPress.

5 | Data structure and file names

The artwork files must always be created in logical folder structures.

The file-, image and folder names must be uniquely identifiable. To uniquely identify the files, use the item/material numbers in the file name.

File names must comprise alphanumeric characters and must not contain any special characters and umlauts.

6 | Means of data transfer

Data transfer shall take place with the agreement of the folding box manufacturer via data transfer or data carrier.

7 | Proof documents

Proofs, digital proofs, colour templates, process-standard offset print

A screen proof (proof PDF) or a colour printout (1:1) must be delivered as the release document.

All of the control media needed for the order must be included with the artwork files during the hand-over. When using remote data transfer, the analogue control media are transmitted separately. The order is not processed until all of the documents are available.

For creating artwork files according to the Process-Standard offset print (PSO)/ISO 12647, the rules of process standard offset print from the BVDM shall apply. Information about this can be found online from www.bvdm.org. Alternatively, the folding box manufacturer must be contacted from whom order-specific guidelines are to be obtained and adhered to.

In particular, this applies for:

- Over/underfilling (trapping)
- Under colour removal
- Screen gradations
- Assignment of colour profiles

8 | Digital proofs

A proof is essential for colour approval. Digital proofs are generally not rasterised and therefore do not provide any information about any visual changes to fine shading caused by the print raster. A print proof based on PSO is essential here.

For special colours, a digital proof is only the result of a simulation of the print and raster event into CMYK without colour bindingness for the special colours. A media wedge plus test certificate must be included on the digital proof. In addition, coloured strips from colour spaces (PANTONE, HKS, etc) can be delivered, too. In the CMYK area, the proof must be manufactured according to the print process standard offset. In precisely this area, we recommend to communicate intensively with the folding box manufacturer.

9 | Division of responsibilities

Checking the artwork files

The delivered artwork files are checked for completeness and material accuracy by the data supplier before handover.

If the folding box manufacturer finds that the delivered artwork files cannot be processed, have errors, are incomplete or are at deviance from the print release the relevant contact person at the Customer is to be contacted.

10 | Data handling

after the end of production, archiving and publication of the artwork files

The archiving of the artwork files, their type and duration is to be set out with the folding box manufacturer.

Publication of the artwork files is not a matter of course and must be discussed ahead of time with the folding box manufacturer.

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