Data requirements English

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PACKAGING WITH FUTURE

Innovative - flexible - Europe-wide

As a family business in its third generation with more than 4.100 employees, tradition and values mean a lot to us. Our philosophy is „Packaging made by people, for people“. Despite our international growth, we have remained a family company, with flat organizational structures, plenty of team spirit and top-class expertise.

Conscientious, innovative, Europe-wide.
We draw on the expertise, performance and economic potential of a total of 29 European sites. For us, the functionality and reliability of our products and services are a top priority. Which is why we guarantee adherence to the highest quality standards.
We offer our customers up-to-date solutions that meet their individual needs. Our manufacture and delivery service is fast and flexible – right across Europe just in time.

TOPICS

1.0 I General Information

1.1 Software

Mac OSX / Windows:

Illustrator CC I Photoshop CC I InDesign CC I Acrobat DC I Art Pro+ I Dynamic VDP

1.2 Data transfer

FTP Server:

For the delievery of your printing data Schumacher Packaging provides a FTP-Server.
You can find the login details below:

URL: ftp.schumacher-packaging.com
User name: kartonax
Password: ctpq57a1

Information:
- Please provide in the comment box the name of the final customer.
- Your data should be zipped for transfer.

E-Mail, Cloud, Online transfer (digital):

Printing data can also be provided via Mail (up to 20MB).
Please send it to your responsible inhouse sale-staff member.

1.3 Preferred File Format

Digital and Offset:

- Printable PDF/X1a:2003 (ISO 15930-4) or PDFX-3:2003 (ISO 15930-6)
- PDF-file version 1.6 or higher
- One PDF-file with two pages:

First page: Print design without punch outline

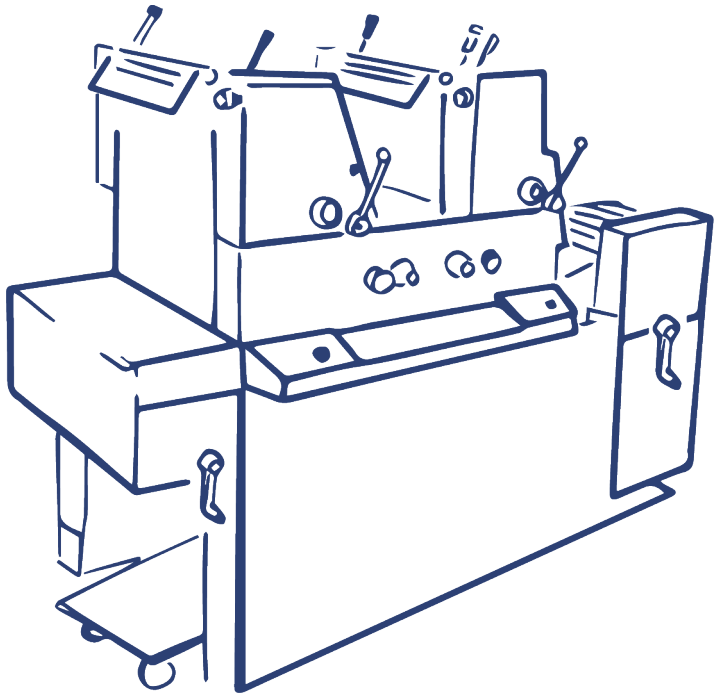
Second page: Print design with punch outline - same format and position

1.4 Naming Convention

When naming your files please avoid umlauts and special characters

No special characters, umlauts or space between words.

Examples for false file naming:
- größer.pdf
- Punch!!.pdf
- Printdesign/ coloured!.pdf



1.5 Specials about open-format data

Open Files with linked images
with all used fonts files

Two Versions: 1x vectorized, 1x with editable text

1.6 Wording of colour separations and the colour profile

Coated Fogra 39 (ISO 12647)

All colours separations need to be placed with the correct naming

- Process colours: Cyan I Magenta I Yellow I Black
- Special colours must be named according to the HKS-/ Pantone-colour range.
- Individual colours for example varnish, heat-foil, embossing etc.
- Please avoid umlauts or special characters
- Please delete unused colours

Digital:

Coated Fogra 39 (ISO 12647)

All colours separations need to be placed with the correct naming

- Process colours: Cyan I Magenta I Yellow I Black
- Special colours must be named according to the HKS-/ Pantone-colour range.
- Individual colours for example varnish, heat-foil, embossing etc.
- Please avoid umlauts or special characters
- Please delete unused colours

- Tonal range 0 up to 100%
- Black Font = 100% K
- Black areas = 30/20/20/100
- Positive Font = coloured in one basic colour
- no trappings or underfillings need to be assigned;
- Optionally, lab values can be specified

1.7 Resolution

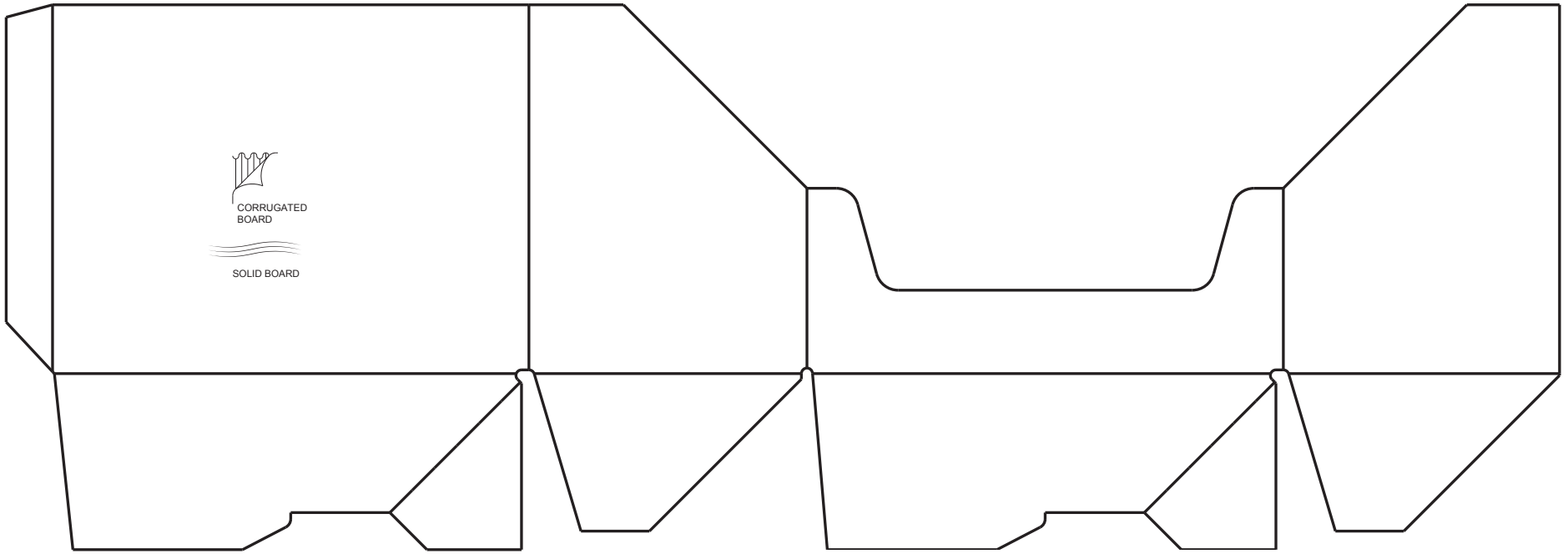
Image Resolution need to be at least 300 dpi for final format

1.8 Design structure (Schumacher punch)

Please create the print design regarding to our final punch contour. This outline needs to be on his own layer, coloured in a special colour in the scale of 1:1.

You can request the current punch contour from your responsible Schumacher sales-staff member.

For example:



1.9 Trapping & Bleed of the punch contour

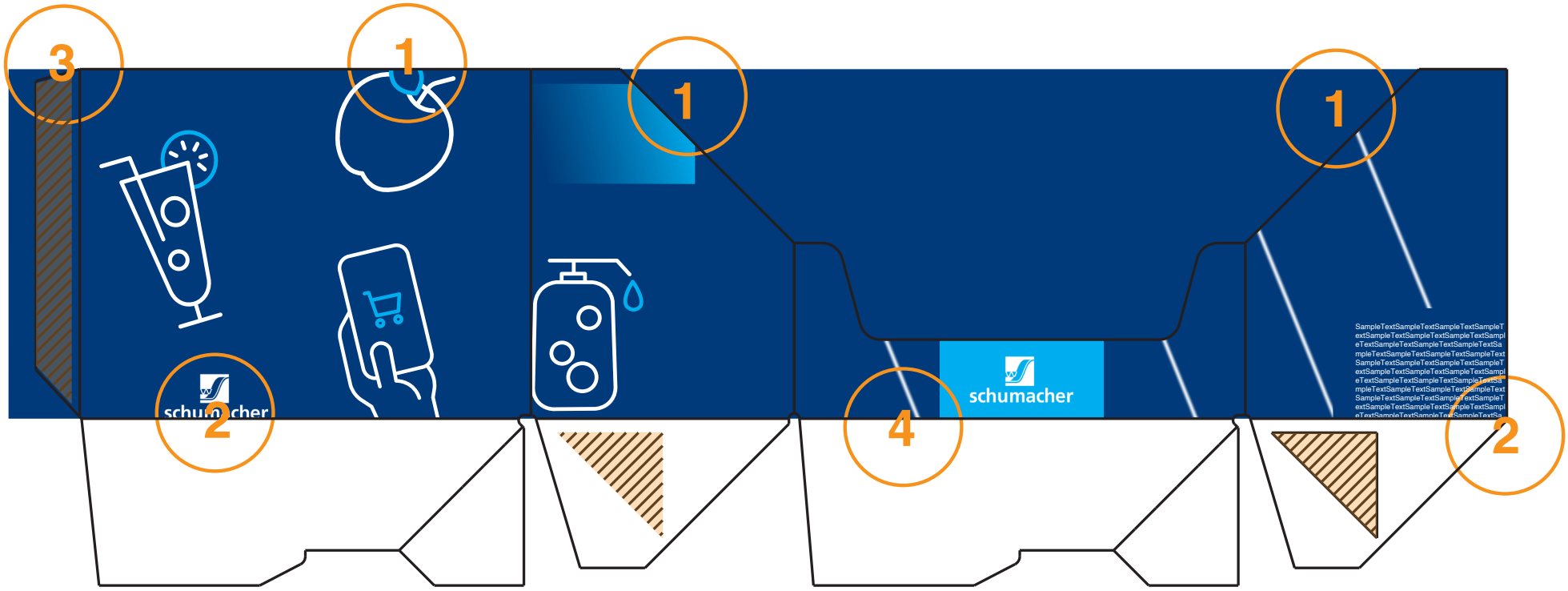
Trapping or **Bleed** in printing is the compensation for misregistration between printing units on a multicolour press. This misregistration causes gaps or white-space on the final printed packaging. To avoid these gaps its necessary that the printing is **extended over the trimming edge** of the final file format.

So its necessary to extend all visible areas and objects above the trimming edge.

As an example of how your print design should not be structured, here is an overview of the most common errors while creating your design.

DON´T:

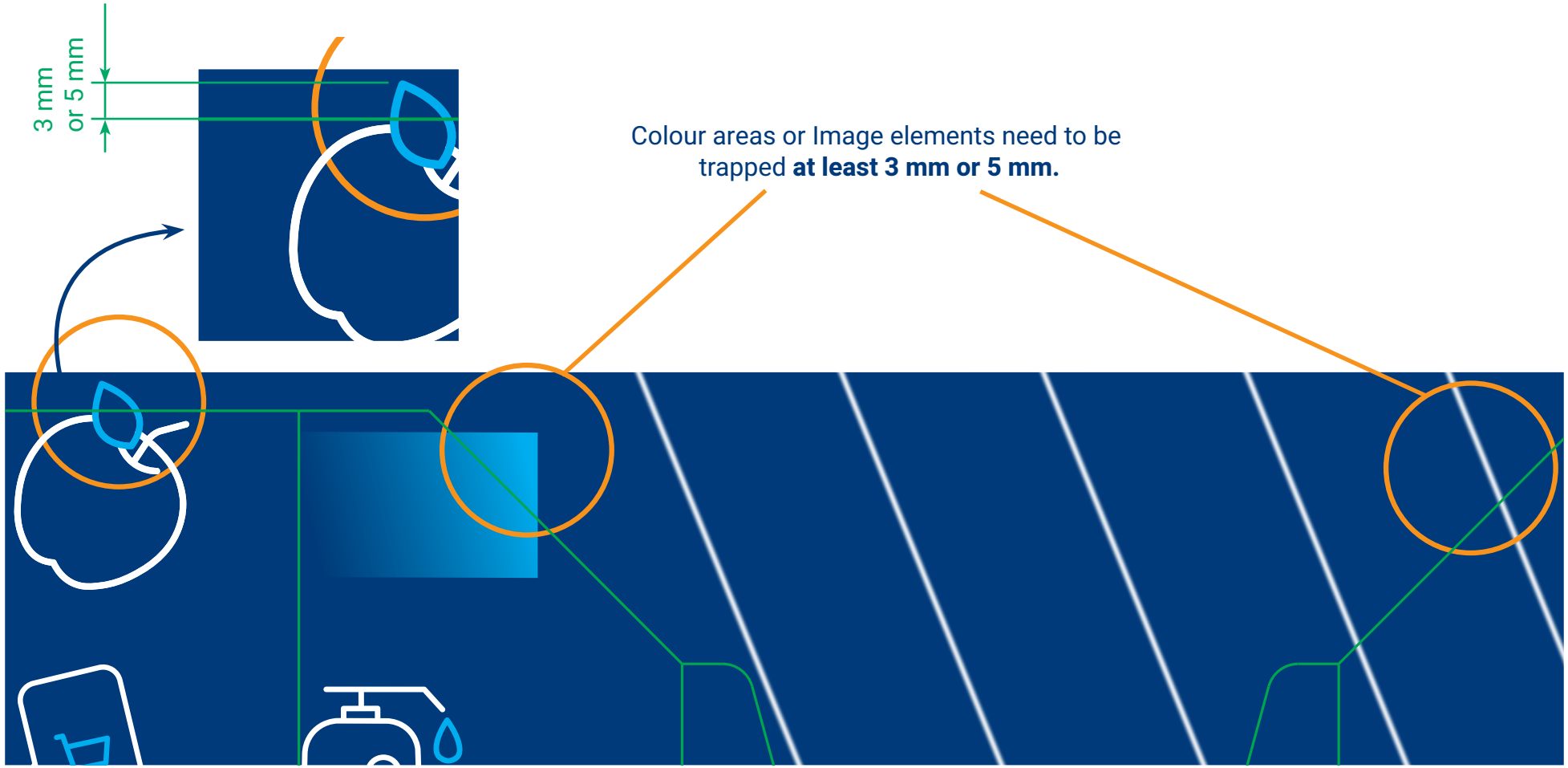
These four errors are discussed in detail on the following pages.
The mistakes were divided into the different printing processes.



1 Do´s Offset:

Offset:

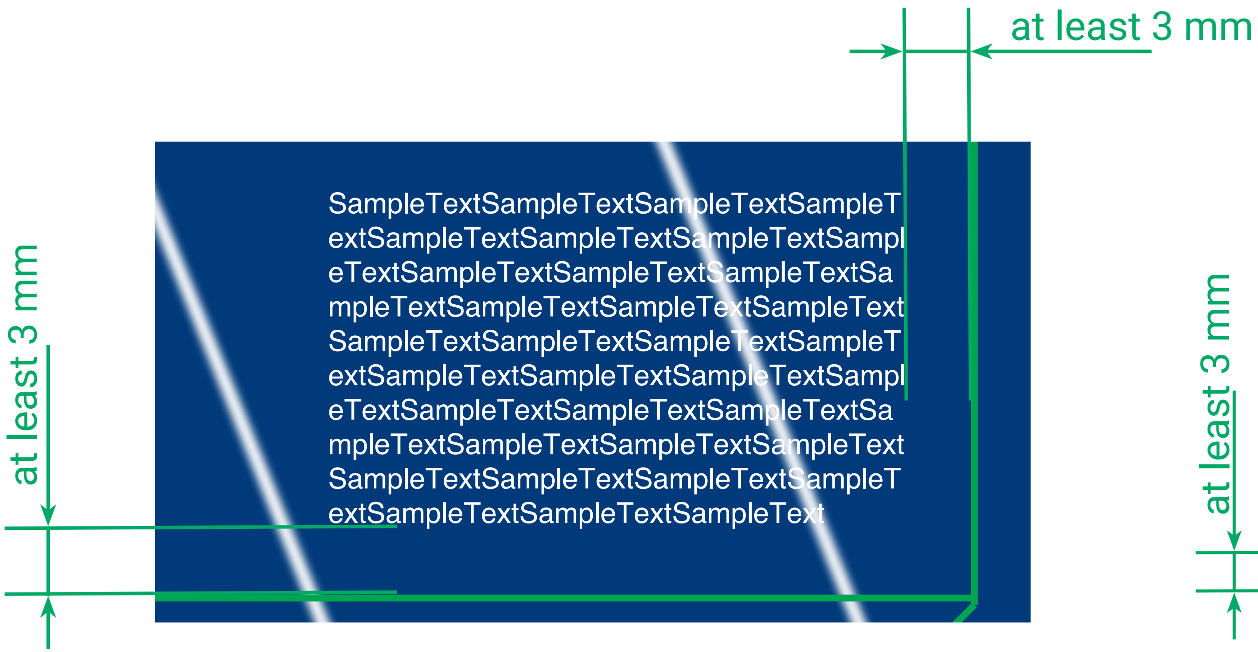
Trapping from the punch outline: **Solid Board at least 3 mm, Corrugated board at least 5 mm**

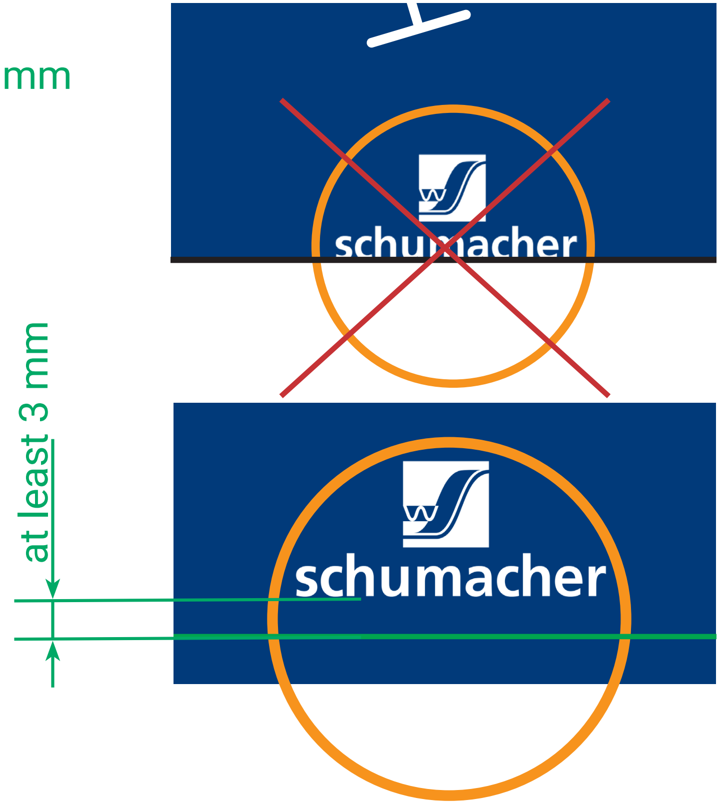


2 Do´s Offset:

Offset:

The distance between writing/logo to crease- or die cutline should be at least 3mm.



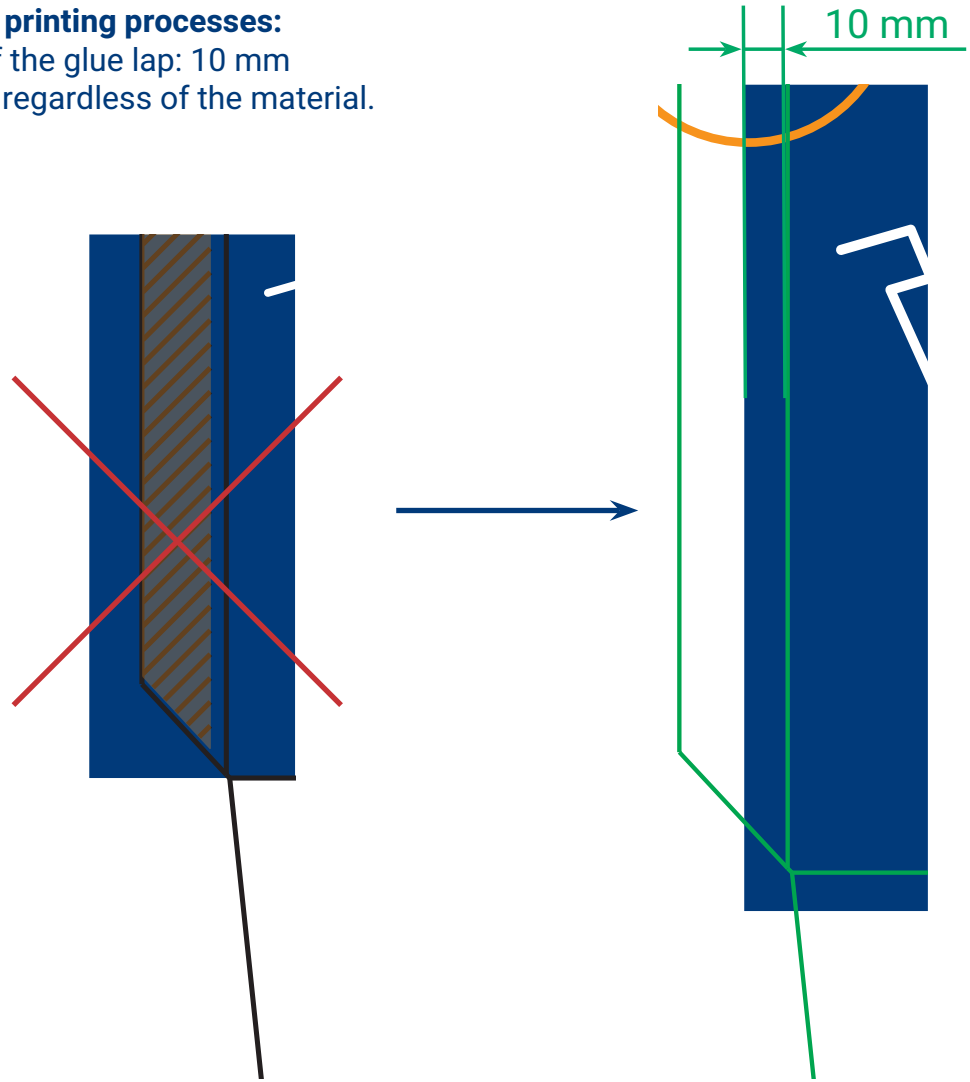


3 Do´s Offset and Digital:

Valid for both printing processes:

Trapping of the glue lap: 10 mm

This rule is regardless of the material.

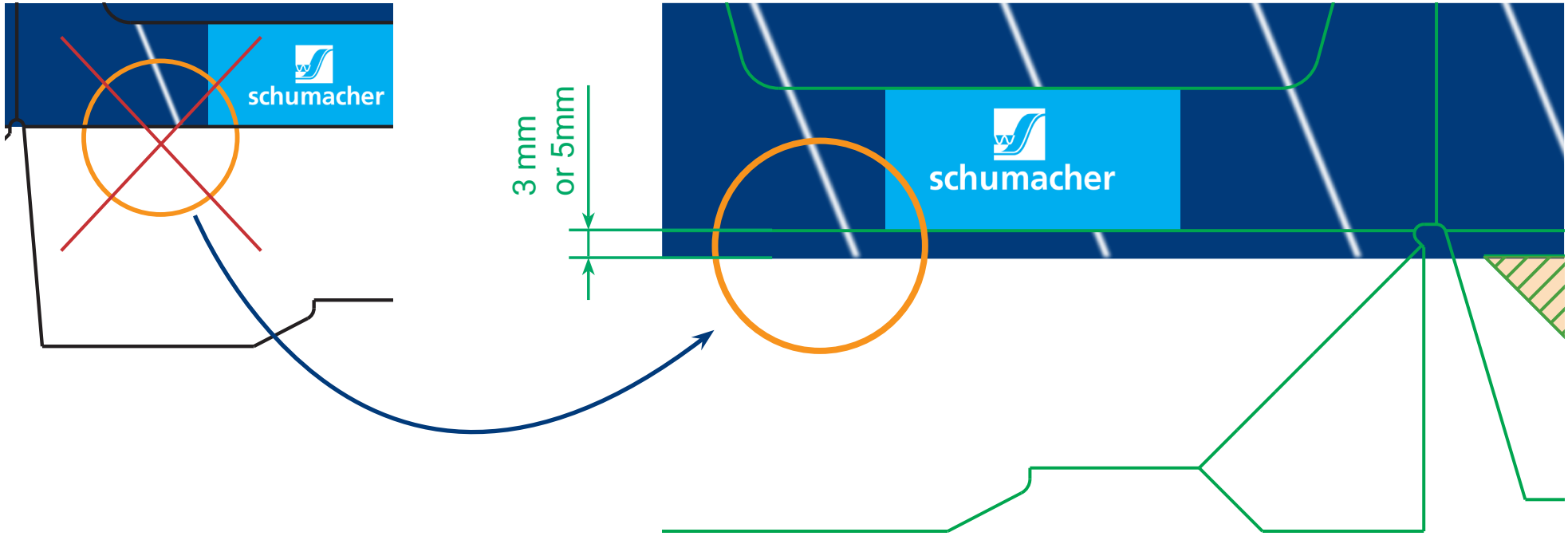


4 Do´s Offset and Digital:

Valid for both printing processes:

Trapping of the base lap is **at least 3 mm for solid board** and **at least 5 mm corrugated board**.

The bleed at this position is important to avoid gaps or white-space on the final printed packaging.



2.0 I Offset Printing requirements

2.1 Font size and line thickness

- Font size: positiv at least 4 pt
- Line thickness: positiv 0,15 mm

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- Font size: negativ at least 5 pt
- Line thickness: negativ 0,25 mm

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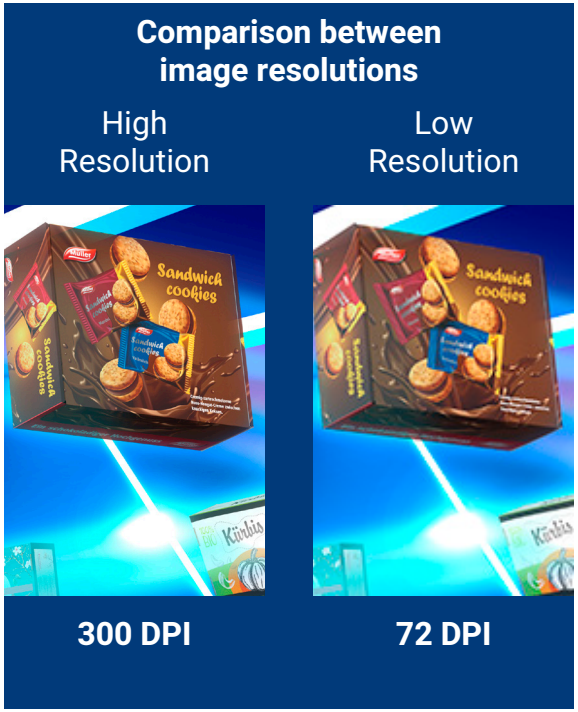
2.2 Halftone and images

General information:

- Image Resolution need to be at least 300 dpi for final format.
- CMYK-mode (no RGB files)
- Distance between font and crease line should be at least 3mm for solid board and 5 mm for corrugated board.
- Black text needs to be coloured in 100 % black separation and overprinted.

Layer Structure:

- Please name all layers depending on their content, for example Data, Punch or Varnish.
- Create for the punch outline a special colour and put in on an extra layer
- Show all valid layers and delete unused layers
- **Specials:**
- Screening of grey areas into black (optimum stable grey balance)
- “White” must never be set on overprint



2.3 Max. Colour application 300%

A higher colour application than 300% could lead to printing process problems.

- for example glueing problems, drying property issues etc.

3.0 I Digital Printing requirements

3.1 Font size and line thickness

- Font size: positive single-coloured 4 pt
  positive multicoloured 7 pt
- Line thickness: positive multicoloured at least 0,3 mm
  positive coloured in one process colour at least 0,2 mm

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- Font size: negative 7 pt
- Line thickness: negative multicoloured at least 0,5 mm
  negative coloured in one process colour at least 0,4 mm

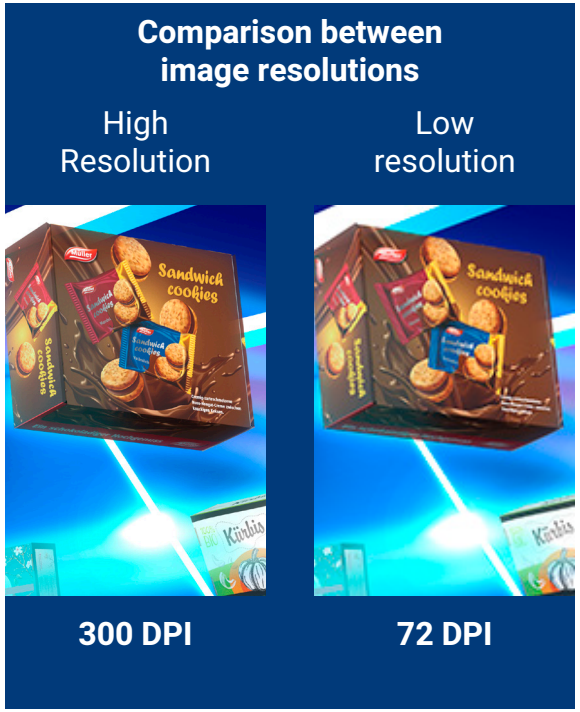
3.2 Halftone and images

General information:

- Image Resolution need to be at least 300 dpi for final format.
- CMYK-mode (no RGB files)
- Fonts embedded
- Black text needs to be coloured in 100 % black separation and overprinted.

Resolutions:

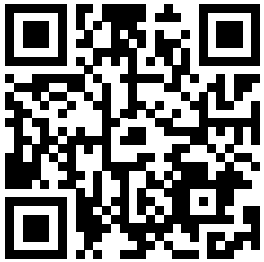
- Resolution of halftone images on final format = at least 300 dpi
- Resolution of Qr-/Barcodes in haftone = at least 600 dpi
- Compression of halftone images ZIP or LZW, no JPG/JPEG
- No screening of halftone images
- Monochrome halftone images only in black colour separation



3.3 Barcodes / QR Codes requirements

Barcodes/QR-Codes:

- Barcode /QR-Codes = 100% K
- Barcode minimum format SC0 (82%), Font size: 8 pt
- Barcode maximum format SC9 (200%), Font size: 19,5 pt



Variable Barcodes, QR-Codes or System-Codes:

- Variable Codes = 100% K

3.4 VDP - Variable Data Printing

Variable data printing (VDP) is a form of digital printing, in which elements such as text, barcodes, graphics and images may be changed from one printed piece to the next, without stopping or slowing down the printing process and using information from a database or external file.
For example, a set of packages with individual barcodes , each with the same basic layout but different barcode numbers, can be printed without changing printing plates or blocks. An additional advantage is, that there´s no needs for labels anymore.

We need following informations to create a variable data packaging:

- CAD, on which the variable design will be placed

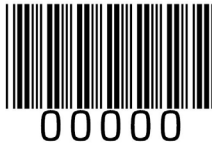
- Desired barcode type

- Position of the barcode

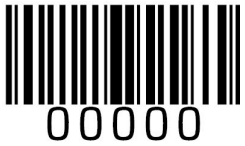
- Number range of the barcode (from/to)

Listing of all printable barcodes:

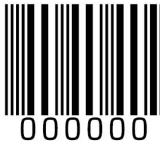
- **Code 39**
  Also known as Code 3 of 9. Widely known in the industry, trade and public authorities. Self-checking barcode



- **Code 128**
  modern 1D Barcode type with high data density.
  widely known in all sectors
  Including three font characters, which will switch automatically



- **Interleaved 2/5**
  Also known as Code 2 of 5 Interleaved. Mainly used in the Industry.

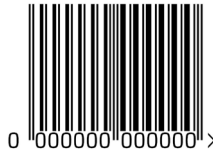


- **Data Matrix**
  2D-Barcode for coding high data volumes with one code.

- **EAN-8**
  Shortform from the European product number for small items.

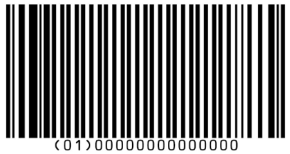
- EAN-13

European Article Number
is a standard describing barcode symbolism used in the global trade
EAN-Codes are mainly used in supermarkets for
indicating products at the point of sale.



- GS1-128

These special form of code 128 is used for goods and pallet labelling
in trade and industry. More than one data field can be coded
with the help of application identifiers.



- ITF-14

The ITF-14-Barcode is mainly used for creating
a Shipping Container Symbol.
This code is used to identify parcels and palettes
to mark products contained with an EAN-13 code.

- ITF-16

ITF-16 is a standardized version of the Interleaved 2/5 barcode,
which contains 16 digits. The last digit is a check digit.

- Micro QR

The Micro QR-Code is a very small QR-Code for using on smaller areas (e.g. for coding the ID of circuit boards and electronic parts). It works with small amounts of data (maximum 35 numeric characters) and uses only a position pattern.

- SICK

SICK is a barcode used by the German packaging industry. Its a binary barcode that uses a thick bar for a 0 and a thin bar for a 1. It can have up to 12 bars.
It can encode numeric or binary data.

- UPC-A

The UPC A code is the standard version of the UPC Code and has 12 digits.
It is also called UPC 12 and is very similar to the EAN code. Its used in the USA instead of the EAN-8. Used for marking products in retail trade.

- UPC-E

Used in the USA instead of EAN-8. Used for marking products in retail trade.
Short version of UPC-A for small products.

Please note a longer processing time for first printing.

4.0 I Requirements for EAN codes

4. 1 General Information

There are generally three areas to consider before placing a barcode. One is the size, the colour and also the position of the packaging. A general rule is that the barcode must be on „overprint“.

4. 2 Size

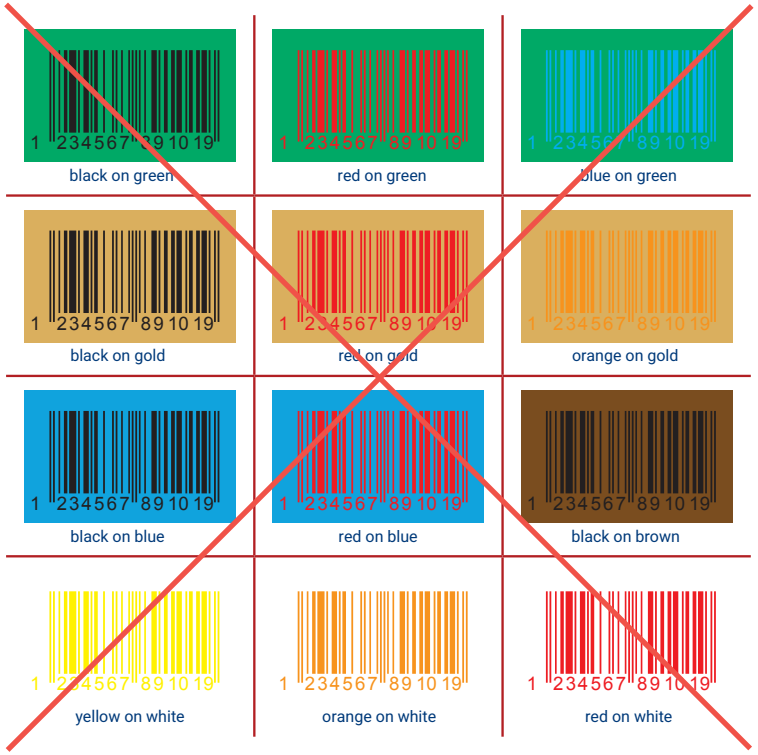
Barcode symbols can be printed in various sizes to cover the different requirements of printing and scanning processes. The size of EAN13 labels is regulated by the international standard ISO/IEC 15420. As a result, the minimum size SC 0 of the barcode is 82% and the maximum size SC9 is 200%.

SC 0

SC 9

	factor for default value	width in mm	height in mm	tolerance in mm
SC 0	0,82	30,5	21,48	0,042
SC 1	0,9	33,56	23,34	0,068
SC 2	1	37,29	25,93	0,101
SC 3	1,1	41,02	28,52	0,115
SC 4	1,2	44,75	31,12	0,131
SC 5	1,35	50,34	35,01	0,156
SC 6	1,5	55,94	38,90	0,178
SC 7	1,65	61,53	42,78	0,2
SC 8	1,85	68,99	47,97	0,233
SC 9	2	74,58	51,86	0,255

4.3 Colours



Suitable Colours:

For bars: black, dark brown, dark blue and dark green.
Background: white, light grey, beige, yellow, orange, pink, red and bright pastel tones.

Attention!

Red bars are interpreted as white by a red laser light beam, which is why red can **only be used for the background.** On the other hand, all metallic colours are problematic as backgrounds because they reflect too strongly.

4.4. Positions

Since the front of the packaging is mainly used as an advertising space, the **lower right part on the back of the packaging** is usually suitable for positioning the barcode.

The barcode should not be positioned **closer than 8 mm** and **no further than 100 mm** from the respective packaging edge. Other graphics, fonts or packaging interfaces must not be protrude into the area of the barcode.

5.0 I Space for your notes

6.0 I Contact

6.1 Offset printing contact information

Jennifer Fürst
- Phone: 09191 9787 - 262
- E-Mail: jennifer.fuerst@schumacher-packaging.com
- Position/Field of activity: **Department Manager Prepress**

Holger Behr
- Phone: 09191 9787 - 261
- E-Mail: holger.behr@schumacher-packaging.com
- Position/Field of activity: **Prepress Customer Service**
  - Special Field Offset Print

6.2 Digital printing contact information

Matthias Seeler
- Phone: 09191 9787 - 260
- E-Mail: matthias.seeler@schumacher-packaging.com
- Position/Field of activity: **Head of Prepress Excellence and Customer Service**

Wolfgang Schulze
- Phone: 09191 9787 - 274
- E-Mail: wolfgang.schulze@schumacher-packaging.com
- Position/Field of activity: **Prepress Customer Service - Special field Digital Print**

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INNOVATIVE. FLEXIBLE. EUROPE-WIDE.

Schumacher Packaging GmbH
Plant Forchheim
Am Hausener Weg 1
91301 Forchheim
DEUTSCHLAND

Phone: +49 9191 9787-0
Fax: +49 9191 9787-299
Contact: forchheim@schumacher-packaging.com