SANNER

Protecting Health.

OFFSET

Offset Printing (Letterset)

Printing Guide



Guide to process reliability in the offset process

What is offset printing?

Many years of expertise and high quality in classic **high-speed offset printing** of plastic effervescent tubes characterize us. We print all common tube sizes with **up to 8 colors in offset HD technology**, in different color variations and nuances.

We use **low-migration paints and varnishes** that comply with international pharmaceutical and food standards.

Our service includes the **entire print data management** and support from design to the finished tube.

Offset printing enables higher printing speeds and is therefore particularly suitable for **larger print runs**. Tubes are printed exclusively on the basis of **Pantone colors**.

How offset printing works

1 **Separation**
The print image is divided into as many clichés as there are colors (max. 8).

2 **Inking**
Each cliché represents a single part of the printed image on the tube; all colors are gradually transferred to a rubber pad.

3 **Printing & Drying**
In one operation, all the parts of the printed image are transferred from the rubber pad to the tube and dried.

4 **Varnishing**
A final varnish protects the colors of the printed image so it does not rub off.

! **Note:** One and the same color sometimes requires two or more clichés – for example if the color occurs in more than two fonts or font sizes, or in color areas of different sizes.

01 General

Parameter	Specification
Tube formats	All tubes for tablet diameters of 18 mm to 35 mm (wider or narrower formats on request)
Printing process	Offset printing, incl. flaming and coating of the tubes for perfect ink adhesion
Colors	Designs in Pantone colors recommended; standard: max. 8 colors
Inks & varnishes	Low-migration, compliant with international pharmaceutical and food standards

02 Guidelines for creating print data

! The customer is responsible for correct, print-ready data delivery in accordance with the points below. In particular, when checking the release of GzD PDFs (OK for printing PDF) and, if requested, the associated color proofs (GMGs), the customer checks for correctness as a final check.

General review

- Correctly used tube drawing including compliance with the safety zones specified therein
- Format / layout and colorfulness
- Texts: spelling and legibility (minimum font size)
- EAN code

Accepted print data formats

Esko AE 20.1.0 (incl. ArtPro files)

Adobe CC 2021 (Photoshop, Illustrator, InDesign, PDF)

QuarkXPress

No Excel or Word files for security reasons – please convert to PDF.

Color mixes

Mixing different inks comes with limitations:

- Printing two spot colors on top of each other contaminates the colors on the rubber blanket.
- With each rotation, an increasingly mixed ink “soils” all the others.
- Replace heterogeneous ink areas (e.g. yellow and blue) with a single Pantone, e.g. green.

Four-color printing & direct tones

- **Four-color printing:**
  Overlaying the four CMYK colors (cyan, magenta, yellow, key) is not possible in offset printing.
- **Direct tones:**
  Color separation in offset printing requires a selection of miscible color shades, arranged according to their color dominance.

Pictures in Full HD

Printing an image in Full HD requires sophisticated skills and software. This is how the offset press operator prepares the print image with **ColorTone (Esko)**:

- ColorTone allows for perfect fine-tuning of the color balance, contrasts, light areas and ink overlays (PCR/GCR).
- Blurs or residual points are resolved efficiently

Please deliver your print data directly in Pantone colors.
A conversion from CMYK to Pantone always involves additional costs.

Text defaults

- Minimum engraving of positive texts / reserves / screens
- Text size (readability)
- Compliance with the printing area plan
- Color separation, distribution and Pantone conversion
- Superimposition of inks and their miscibility
- Image values optimized for Full HD reproduction
- Compliance with the source file (Eye C certificate)

Minimum sizes

Element (positive / negative)	Minimum
Line weight, single color	0.10 mm
Text / characters, monochrome	5 pt
Text / characters, multicolored	6 pt
Letter thickness on colored area	0.25 mm
Diameter for legibility	0.9 mm

Corrections

By the customer: please send a new correction file.

By Sanner France: if possible, please specify the font used. Requires full proofreading of the texts by the customer.

Sanner reserves the right to use the same color on two or more printing blocks, e.g. for a text and a color field of the same color.

Color screen & dot gain

A color is rasterized to achieve lighter gradations: e.g. dividing a solid red area into smaller areas creates a bright red through raster points. For example, printing a cube pattern uses 50% of the hue and leaves 50% white. The halftone percentage is proportional to the colored area.

- Standard cliché: **130 lpi** (lpi = lines per inch)
- Smallest printable dot for color screens: **20 %**
- A minimum of 1 % must be observed for gradations, contrasts, modeling, light and shade
- Color screen areas from 1–30 % experience a **dot fattening of approx. 20 %** on the tube

Risks of screened areas:

- Individual dots or letters may disappear,
- Texts can blur or become illegible,
- Contours may be truncated,
- Ink can splash,
- Large screened areas print as lighter solids.

Replacing a screen with a light solid shade can often be an effective alternative.

The on-screen representation of certain elements is not contractually binding

- The Pantone profile (CVC) of the PDF differs greatly from the paper color palette.
- This varies randomly with screen quality and calibration.
- Screen percentages are compensated for dot fatness and therefore appear lighter.

Other notes

- Avoid constrictions
- Letter thickness of text on a colored area: 0.25 mm
- Vectorized texts are fully secured

Artwork customization

Adapting artwork to the requirements of offset printing requires, at a minimum, comprehensive control of the print images and clichés by an offset press operator. Sanner offers its customers the skills required for dry offset printing on PP tubes – however, there are limitations. For a Full HD letterset result, Sanner reserves the right to convert to Pantone for each color profile and to make chroma corrections.

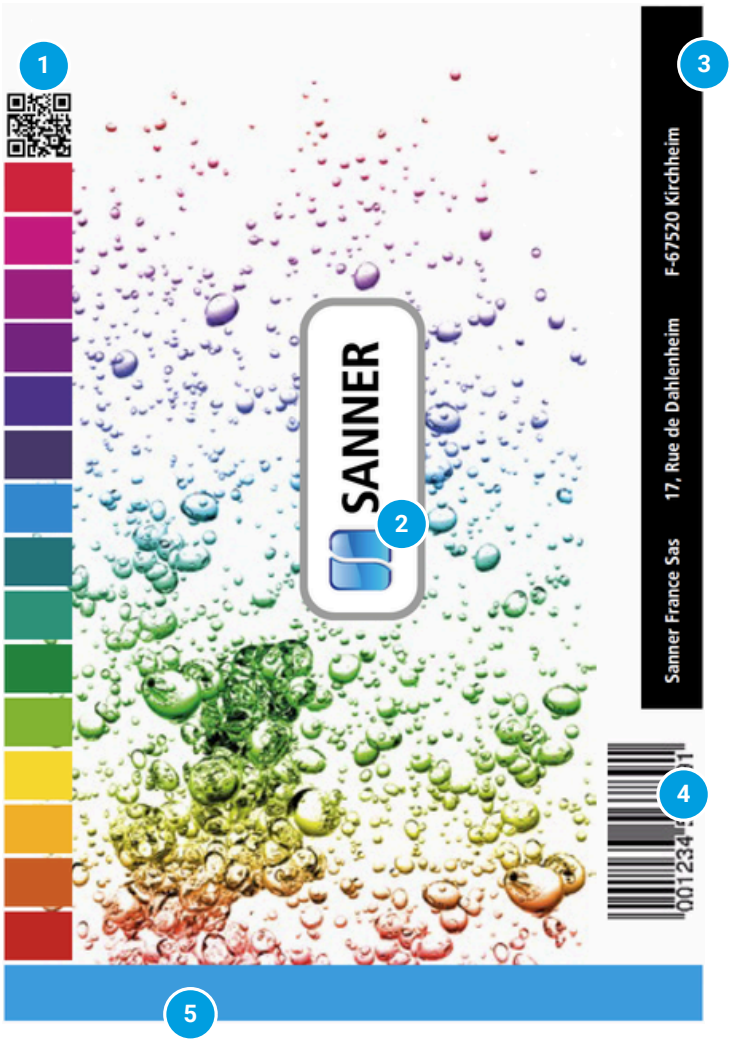
EAN / UPC & barcode

EAN/UPC code from SC 0 – **all of the following points contribute to perfect legibility:**

- Minimum size 80 % (officially 30 × 10 mm)
- Bar width reduction: 0.015 mm
- “Bright zone”: at least 3 mm; margins left 4 mm, right 3 mm
- Do not place the code at the injection point
- High contrast to the background – ideally black or a dark color
- Do not scale codes after creation
- Ideally place the code perpendicular to the print direction
- Deliver the code as a separate file, not embedded in the print image

03 Design reference

The following reference drawing helps you create your print design. .





1 Data Matrix
Depending on its properties, a diagnosis is required.

2 Stripe effects in gradients
- In bright areas (dots from 1 to 20%), the dot gain is around 25%, so the color gradient ends with an edge.
- The effect is intensified with dark colors.

3 Positive & reverse texts

Tube font size 6 PS-pt
0.25 mm MiNi

Tube font size 5 PS-pt
0.25 mm MiNi

4 Barcode
- Minimum size 80 % (officially 30 × 10 mm)
- Bar width reduction by 0.015 mm.
- Margins: left 4 mm, right 3 mm.
- Dark colors only – not red, orange or yellow.
- Reading direction perpendicular to the tube.

5 Overlap
- The inking area has a thickness of 1 mm.
- The imprint is darker on 1 mm.
- The color must be the same.

Design notes in detail

Grid areas

- Halftones need special precautions and are printed on a separate plate.
- Possible edge effects: shearing, dot losses, distortions, anti-aliasing settings.

Pantone 072 on 3 separate plates

- Blue 072 – thin text
- Blue 072 – screened
- Blue 072 – single color

Finesse

- Minimum line width 0.1 mm
- Minimum diameter for legibility 0.9 mm

Black screen values

- Black has the highest density. Excessive overprint is required to keep text and backgrounds dense – dots become highly densified and the halftone appears darker.
- A single dot on the photopolymer plate can ruin and smudge the print.
- Rasterized black text and lines are converted to **Pantone Grey 430**.

Full HD resolution image

- Four-color overlays are not possible with dry offset.
- For a high-resolution result, Sanner converts the image to Pantone using a color profile and color treatment.
- At least **300 dpi** is required for the image resolution (at 100 % scaling).

04 Data transfer

If you have observed all the points listed above, please transmit the data to Sanner:

By e-mail to your Sanner contact person

By download link e.g. WeTransfer

05 Print approval process

1 **Deliver**
The customer delivers the print data to Sanner in accordance with the guidelines above.

2 **Review**
The customer receives a release PDF (“OK for printing” PDF) for checking and approval.

3 **Approve**
The customer confirms the print approval by e-mail with signature and date.

The OK for printing is also the contractual confirmation that the clichés can be created, and confirms that the graphic elements conform to the dry offset specifications. It commits you to:

- the texts
- the color separation
- the indicated shades

Sanner Printing Team

Questions or ambiguities? Our printing team is happy to help!



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