LETTERSET

JACO
Ideas in plastic

Mechanical letterset printing (indirect relief process) on white tubes made of polypropylene (PP) (substrate). Printing inks are applied sequentially, without intermediate drying (so-called "wet-on-wet"), using printing plates transferred first onto a rubber blanket and then onto the tubes. Due to the nature of the process, color and print tolerances may occur. The corresponding printing plates are produced exclusively by our prepress. Printing plates supplied by third parties cannot be used.

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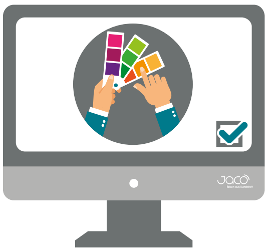
Technical Specifications

for print data

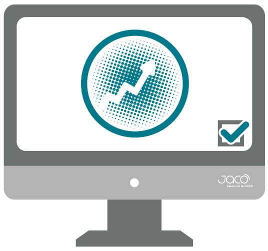
Only after carefully reviewing your planned print template should you finalize the digital design phase. For prompt processing of your print-ready template, we rely on data submitted by you that has been checked according to this letterset guideline. If the digital print files you provide do not meet the specified minimum requirements, delays in the prepress stage and additional effort for the necessary prepress work are to be expected.

Use specific and current tube layout pattern



Use exclusively PANTONE as spot colors

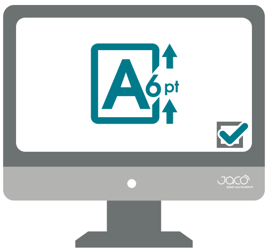
Not overlapping, but knocking out



Please note the high dot gain when using screens (halftones) (see page 3)

Separate half (screens) from fulltones

Separate fine from fat elements



Use at least 6 pt text size

(Otherwise no readability guaranteed)

Always place EAN Code vertically

Please always provide the print data in a print-ready format, adjusted according to the specifications, and based on the current print layout drawing.

Questions?

artwork@jaco.de

High dot gain

Explanation

In the Letterset, there is a significant increase in points within the scope of the mechanical Letterset printing process always involves this.

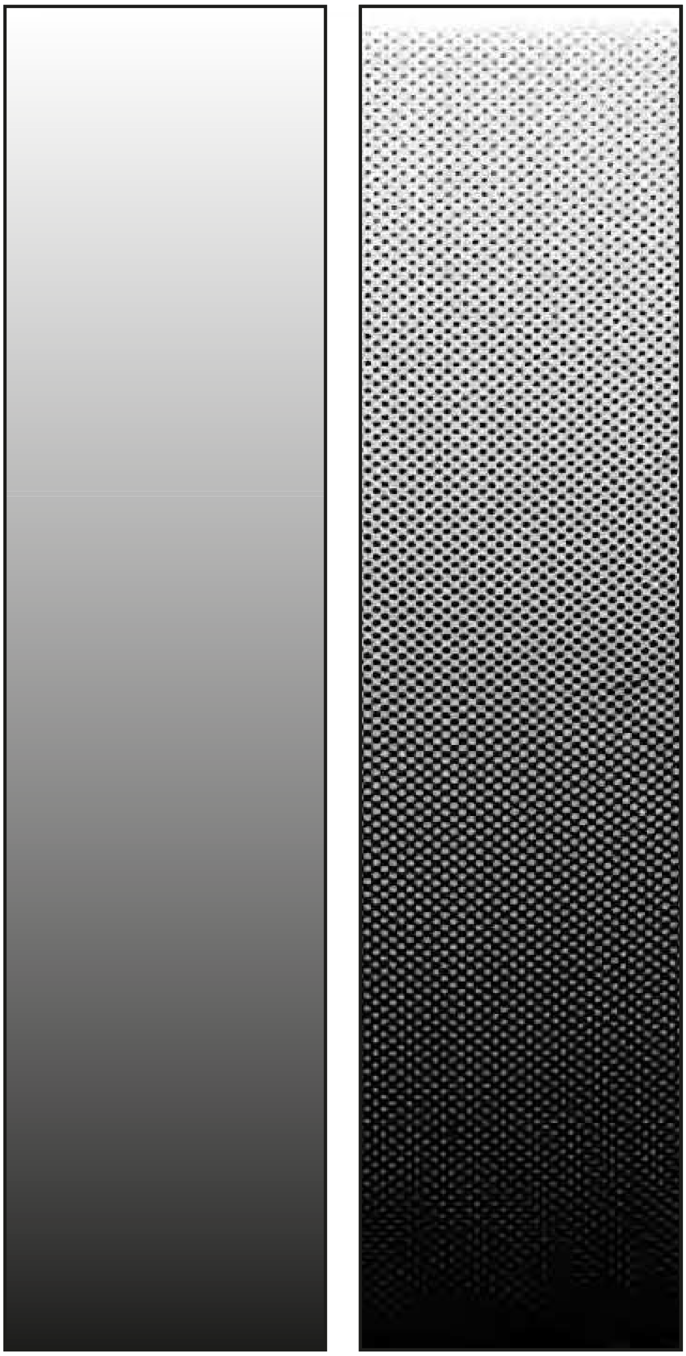
Tone value increase = enlargement of the diameter of the halftone dot. It refers to the numerical difference between the digital print image and the corresponding dot size on the printed tube body.

High tone value increase throughout the entire process.

The tone value increase on the Letterset printing machine is always a sum of several different influencing factors:
For example, if the printing ink is rubbed (from the inking unit to the plate, to the blanket, to the tube body, and further), a degree of squeezing occurs that enlarges the diameter of the printed dot. Printing dots also do not grow uniformly: The highest tone value increase is in the range of about 3–5% up to about 60%. Above this range (as the dots gradually begin to touch each other), the length of the free circumference available for growth on each dot slightly decreases.

For the subjective impression of the total tone value increase, the use of lighter or darker color shades as well as long and short gradients naturally plays a significant role.

The dot pattern of a halftone, which is originally set at 3–5% tone printed. Therefore, please take into account the generally high tone value increase in Letterset when creating your print image.



Digital gradient 0–100% tone value ***(left)*** *and actual tone value with tone value increase after printing* ***(right)***.

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Technical Specifications
for print data

Varnish
Only standard gloss varnish possible

Special finishing
No special finishing possible

Maximum number of printing units
6–8 printing units (depending on tube format)

Usable file formats
Adobe Illustrator (ai.) and print-ready, high-resolution and vectorized PDFs. Please embed/link images!

Fonts
Convert fonts to outlines and create them in single color only

Minimum font size
Positiv / Negativ 6 pt

Minimum line thickness for fonts
Positiv 0,07 mm / Negativ 0,1 mm

Minimum font height
1,2 mm positiv / 1,5 mm negativ

Minimum line thickness / width
Positiv 0,07 mm / Negativ 0,1 mm
Single color only!

Screen (halftone)
Min. 3-5 % (s. Seite 3)

Maximum ink coverage
Max. Coverage ca. 160%

Print image structure – only spot colors possible!
Create the artwork directly in spot colors (Pantone Solid Coated). Set up the structure on different layers. Place the current tube drawing on a separate layer. Label and assign accordingly.

Metallic or neon spot colors are not possible.
They can only be simulated.

- No transparencies
- Do not overprint elements
- No screening of more than two colors on top of each other
- Separate fine from bold elements
- Separate solid areas from gradients

Only by separating onto at least two different printing plates is later fine adjustment on the printing press possible.

Overlap
NO OVERLAP OVERLAP

Due to printing tolerances, a typical overlap of the end areas of approx. 1–2 mm occurs in tube wrap-around printing. If not desired, please allow sufficient spacing and indicate clearly.

Image resolution / halftone screen frequency
Resolution at least 300 ppi
Screen ruling for printing: 120 lpi / 48 lpcm

Dot gain (see page 3)
Tone value increase of approx. 15%–20% when printing on tubes. Gradients fading out in 0–3% tone value are not possible, as they create visible break edges. A 3–5% screen actually appears like 15–20% on the tube. Additionally, the brightness of colors varies with tone value increase.

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Technical Specifications
for codes

Code GTIN (EAN) / QR (Quick-Response-Codes) / Data Matrix (2D-Codes)

In general, a distinction must be made between reading the barcode content at the point of sale and measuring the quality of the printed code. For all printing processes, the specifications for GS1/EAN codes according to ISO 15416:2016 and ISO 15420:2009 apply.

For the Letterset printing process on cylindrical bodies (tubes), however, special requirements must be observed:
Minimum code size EAN SC1 (90%). If the code is smaller, the code content may possibly be read incorrectly by a measuring device. Use a high contrast difference (ideal: pure black on a white tube background, never reddish/light color tones, do not use halftone screens).

When creating a code, the required additional so-called "quiet zone / white space" on the right and left should be at least 4 mm. Always position the EAN code vertically ("ladder", in the printing direction). The code should be provided as a separate file (vectorized, no pixel formats) and placed (linked). If possible, do not embed the code directly into the artwork. Codes should not be scaled after placement. If the above points are not observed, readability cannot be guaranteed.

QR-Codes and Data Matrix-Codes: JACO can print these codes but does not perform any verification of print quality.
The minimum size of 2D codes for readability also depends on the circumference of the tube format to be used. Therefore, corresponding tests are necessary before mass production.

Print Approval

The customer is responsible for the proper delivery of print-ready data in accordance with our guidelines. In particular, when reviewing the specially prepared GzD PDF ("Approved for Printing" PDF), the customer, as the client, checks the accuracy of the entire GzD PDF document as the final control before completing the prepress phase through their specific approval.
For process reliability, the client confirms print approval via email, e.g., as a scanned document, ideally with date, signature, and company stamp.

Please note: We cannot be held responsible for any errors overlooked after print approval.