

LETTERSET

JACO
Ideas in plastic

Prepress Guidelines



LETTERSET Essentials

VI 2018

www.jaco.de

OBJECTIVES OF THIS GUIDE I

Process reliability in the Letterset printing process

LETTERSET

What is Letterset?

Letterset is an indirect Letterpress-process which is mechanically influenced. Thus the process differs in various aspects from conventional printing methods such as conventional sheet-fed offset printing (indirect flat-bed printing). Differences concern the structure of artworks, the prepress stage and the actual printing process itself.

Why do we need this guide?

In order for a artwork to be constructed correctly and for the printing to be carried out successfully on round tube bodies using the Letterset-process, it is necessary to take into account the information given in this guide. These instructions will help you to avoid the most common pitfalls, to consider the technical limitations and to get to the digital "Good-for-Printing" (GfP) PDF with the least possible effort. This guideline thus represents the basis for process reliability in the Letterset-process. The aim is to avoid misunderstandings, especially between JACO and its prepress department, customers, marketing departments, agencies and artworkers. The minimum requirements set out in this guide should be met prior to the delivery of print-ready digital data to JACO.

Print-ready data?

- Letterset data ready for production / reproduction
- constructed in accordance with this guideline
- on the respective specific and current tube pattern drawing
- which can be directly processed and used without modification or revision

Please note the following:

If the digital printing documents you have supplied do not meet the minimum requirements presented here, delays in prepress and additional efforts for the prepress work are to be expected. Our task in the JACO-Prepress is to optimally adapt your print-ready data to the actual production behaviour of the Letterset printing press. Therefore we have to distribute the artwork to different inking units (color works) and produce the required films and printing plates. Typical services of an advertising agency are not provided by JACO-Prepress.

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This guide and the recommendations given do not replace in any way the advice and the preparation / control by an expert.

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ESSENTIAL KEY PARAMETERS I

Please note

THE DO'S



Use specific and current tube layout pattern

Precaution for potential errors



Use exclusively PANTONE or other spot colors

Necessary Letterset artwork construction approach



Do not print-over (overprint) instead knockout

Necessary Letterset artwork construction approach



Anticipate high dot gain when using screens (halftones)

Mechanical printing pressure leads to high dot gain in printing



Separate half- (screens) from fulltones

Only then specific fine regulation possible



Separate fine from fat elements

Only then specific fine regulation possible



Use at least 6 pt text size

Otherwise no readability guaranteed



Always place EAN Code vertical

Always with actual printing direction

ESSENTIAL KEY PARAMETERS I

Please note

THE DON'T'S



Use of none or outdated tube pattern layout

Risk of potential errors



No CMYK 4-color-construction

Typical 4-color-construction (e.g. Sheet-fed offset) not suitable



No CMYK print-over-another approach

Typical CMYK 4-colors „print on each other“ approach (e.g. Sheet-fed offset) not printable



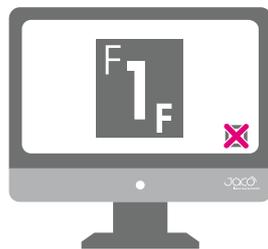
No tonal values with 0-5 % for halftones (screens)

Hard edges (visible) may appear (due to high dot gain)



No half- and fulltones on one single printing plate

No specific fine regulation possible



No fine and fat elements on one single printing plate

No specific fine regulation possible



No text size below 6 pt

No legibility given



No EAN code horizontal

Against printing direction no legibility given

PROOFREADING AND PREFLIGHTING I

Control phases of your artwork before submitting

PREFLIGHT CONTROL

The importance of preflighting your artwork prior to the start of the prepress phase

Please consider the requirements of the Letterset-process on round tube bodies. Use the current and specific tube layout drawing (tube pattern layout). Note the essential criteria here: Tube size, number of inking units (6 or 8 color works possible), printable area, overlapping / unfolding? (Yes / No)

Correction of possible errors in / on artwork itself

Please always use three views for checking purposes: Path view, overprint- and color works separation preview

- **General colouring:** CMYK used? / spot colors too many / not used / left on / in the artwork?
- **Spelling:** Upper / lower case / grammar?
- **Fonts:** Sizes / Fonts not converted to paths?
- **Layout elements:** not used elements in / on artwork left?
- **Color separations for halftone / full tone / bold / fine elements:** necessary separations performed?
- **Halftones:** Tonal values below 5% used? / high dot gain observed?
- **Overlapping / unfolding:** intentional / not intentional?
- **Files / Code:** embedded instead of linked / placed / print direction?

Prepare in such a way that the prepress stage (next step / phase) can easily comprehend the structure and intention.

Hint: create your own paper printout on tube pattern for orientation placement / imprint in advance.

Checking the print data structure before sending

- Use Layers in the layout of the artwork
- Deliver linked / placed files separately in original program file format
- Use respective article / material numbers and tube size in file name
- Use file names without special characters or umlauts and do not name in Cyrillic / Chinese / Arabic
- Make file, image and folder names uniquely identifiable and assignable
- When saving, pay attention to compression / formats (data loss), ideally deliver data in original format.

Sending print data as a print-ready template

You should only complete the digital design phase after carefully performing validation checks on your planned artwork. In order to process your print-ready artwork quickly, we rely on a data transmission that you have checked in accordance with this Letterset Guide. If the digital artwork you supply does not meet the minimum requirements presented, delays in prepress and additional work for the prepress work are to be expected.

HIGHT TOTAL DOT GAIN I

Dot gain in Letterset printing

DOT GAIN

A high total dot gain is always present in Letterset within the scope of mechanical letterpress printing.

Tonal value increase = enlargement of the diameter of the halftone dot. Numerical difference between the digital print artwork and the corresponding (print) dot size on the printed tube body.

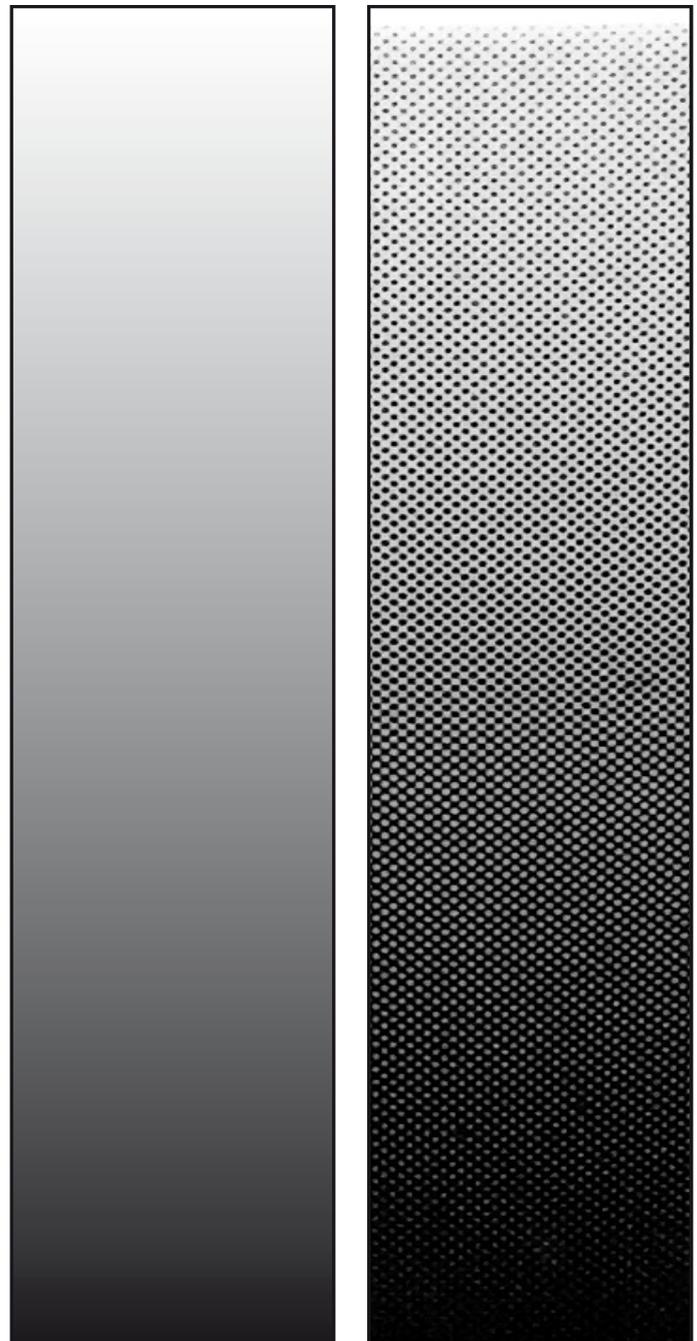
High dot gain throughout the process

The total dot gain on the Letterset press is always the sum of several different factors: If, for example, printing ink is rubbed-in (inking unit from plate to blanket to round tube body and others), a degree of squeezing occurs which increases the physical diameter of the printed dot. The highest dot gain is in the range of approx. 3-5 % to approx. 60 %. Above this range (as the dots gradually touch) the length of the free circumference available for growth decreases slightly at each point

For the subjective impression of the total increase in tonal value, the use of lighter or darker color impressions as well as long and short gradients plays a serious role

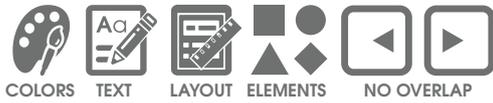
The dot pattern of a halftone, which was originally applied with 3-5% tonal value, usually actually covers approx. 15-20% tonal value when printed. Please therefore take into account the generally high dot gain in the letter set when creating your artwork.

Digital gradient 0 - 100% tonal value (left) vs. actual tonal value with dot gain after printing (right)



DEFAULT PRINT-READY DATA | 1

Please note



For reasons of process reliability: Please deliver all data always print-ready, adapted to the specifications and created on the corresponding (current) tube pattern layout.

Letterset printing technique

Mechanical letter set pressure (indirect high pressure) on round tube bodies (substrate). Printing inks are printed individually, one after the other, without intermediate drying (so called "wet-in-wet"), by means of printing plates on a rubber blanket and then transferred to the tube body. The process results in colour and print tolerances. Associated photopolymer printing plates with films are produced exclusively by our prepress department. Films / printing plates supplied by third parties cannot be used.

Substrate

White polypropylene (PP) tubular body

Varnish

Standard gloss finish ■ other varnish not possible

Special finishing

No special finishing possible

Maximum number of color works / inking units

6-8 color works / inking units ■ tube size depending

Accepted file formats

Adobe Illustrator (.ai), Photoshop (.psd), InDesign (.indd), print-ready PDF file, vectorized document. Fonts converted to paths or supplied completely separately. Don't embed images, deliver them separately in their original format (.tif, .psd).

CMYK - not useable

CMYK process colors + structure (screening / printing on top of each other) cannot be used. CMYK mixing colors are not standardizable / calculable due to high color variations.

Artwork construction - only spot colors useable

Create artwork directly in spot colors (e.g. PMS Pantone + Solid Coated or HKS). Create the structure on different layers. Place the current tube drawing on a separate layer. Designate and assign accordingly. Observe limited color space for spot colors vs. CMYK. Metal or neon special colors not possible, can only be simulated.

No transparencies. Do not overprint elements, instead knock them out against each other. Do not use halftoning of more than two colour impressions on top of each other. No elements / gradients / halftones with 0-5 % tonal value (dot gain). Separate fine vs. bold elements. Separate areas vs. gradients. Separate half- vs. fulltone. Only by actual separation on at least two different printing plates a later fine adjustment at the printing machine is possible.

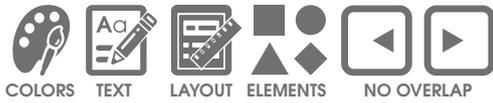
Overlap



Due to printing tolerances, a typical overlapping (overlap) of the (end) surfaces of approx. 1-2 mm occurs in the tube circumferential printing. If you do not wish to have this overlap, please create sufficient space and state this clearly.

DEFAULT PRINT-READY DATA | 2

Please note



For reasons of process reliability: Please deliver all data always print-ready, adapted to the specifications and created on the corresponding (current) tube pattern layout.

Prepress

Trapping etc. will be done by the JACO Prepress. In the case of data delivery and preparation in accordance with our Prepress Guidelines, you will receive the "Good-for-Printing" (GfP) within approx. eight working days as a PDF simulation (inking unit / color works separable) in conjunction with an associated colour proof for orientation (spot colours and tonal values). If data is not delivered correctly, the processing time and prepress costs can increase.

Fonts / Typography

Converted to paths / provided separately and in full
 ■ apply only one color

Minimum size fonts

Positive / negative 6 pt ■ apply only one color

Minimum line with fonts

Positive 0,07 mm / negative 0,1 mm

Minimum x-height fonts

1,2 mm positive / 1,5 mm negative

Minimum line thickness / width

Positive 0,2 pt / negative 0,3 pt ■ apply only one color

Halftone dot

Round-square ■ applied through Prepress

Halftone dot size

Min. 3-5 % / Max. 100 % ■ expect dot gain

Dot gain

Dot gain increase approx. 15 % - 20 % when printing on tube body. Expiring gradients with 0 - 3 % tonal value not possible, these produce visible, "frayed" appearing break-off edges. 3-5 % halftones actually appear as 15-20 % on the tube. Additional variables in tonal value increases in bright vs. dark color impression as well as in long vs. short halftone elements (caution with short gradients).

Picture (pixel) resolution / Halftone screen with

$48 \text{ halftone dots / cm} \times 2,54 \times QF2 = \text{ideal min. } 300 \text{ ppi}$ for color- and greyscale pictures at 100 % scaling in original size / print size. Screen width printing 120 lpi / 48 lpcm. Line art (texts) resolution min. 1200 dpi.

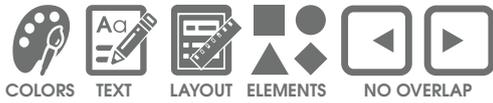
Don't embed images (pixel graphics) instead link them as .psd or e. g. .tiff file and deliver them separately and in full.

Maximum ink coverage

Maximum ink coverage approx. 160%

DEFAULT PRINT-READY DATA | 3

Please note



For reasons of process reliability: Please deliver all data always print-ready, adapted to the specifications and created on the corresponding (current) tube pattern layout.

Code (EAN / QR) / Data Matrix-Codes

Minimum code size **EAN** SC0 (82%). Use high contrast difference (ideal: pure K on whitish tube background, never reddish / light color impressions, do not use screenings (halftones)). When creating a code, an additional so called "quiet zone / white field distance" right / left of min. 4 mm is always necessary. Always apply the EAN code vertically (with the print direction) not horizontally (against the print direction).

The code must be delivered as a separate file (vectorized, no pixel formats and placed (linked)). Never embed code directly into the artwork. This makes the code unusable, since it is converted from the imperial to the metric system and standard graphics programs usually cannot calculate it accurately enough (to 3 digits after the decimal point). For the same reason, encodings may not be scaled after placement. If the above points are not observed, legibility cannot be guaranteed.

QR codes (Quick-response codes) and **Data-Matrix-Codes** can be processed, but readability cannot be guaranteed.

Artwork control / print approval / completion of the prepress phase

The customer is responsible for the proper, print-ready delivery of data in accordance with our guidelines. In particular, when checking the GfP-PDF ("Good-for-Printing" PDF) specially produced for this purpose, the customer shall, in accordance with his obligation as the customer (including the associated color proof), check the correctness of the data as a final check for, e.g.:

- Size / Printable Area / Layout
- Placements in the tube pattern layout
- Inking unit (color works) separations
- Texts (e.g. spelling)
- Readability (e.g. minimum font sizes)
- Colour, code, overlap Yes / No
- etc.

of the entire GfP-PDF document before completion of the prepress phase through its specific approval. For process reliability, the customer confirms the print approval via e-mail, e.g. as a scanned document, ideally with date, signature and company stamp.

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



LETTERSET Know How

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This guide and the recommendations given do not replace in any way the advice and the preparation / control by an expert in this field.

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