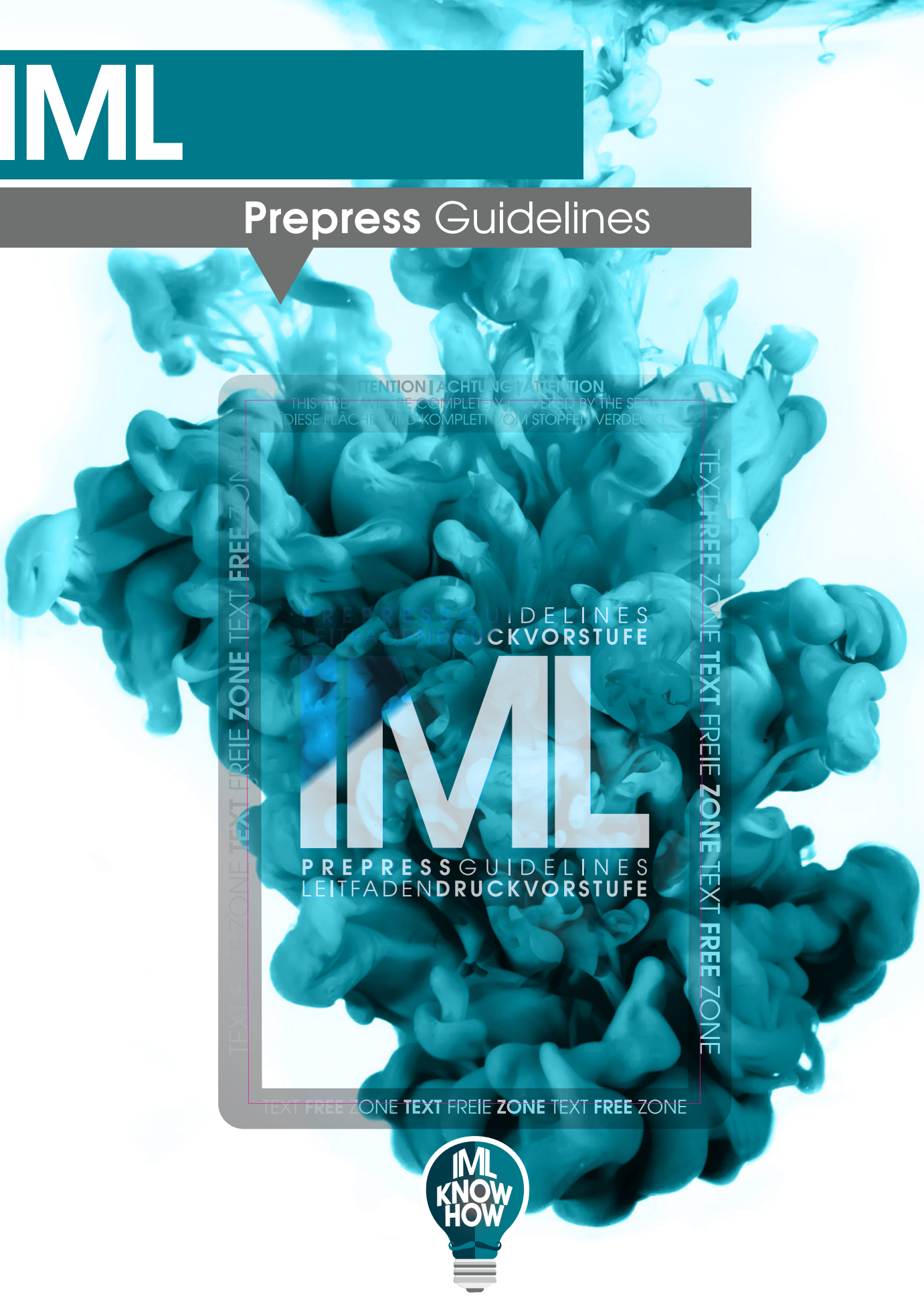
IML

Prepress Guidelines



In-Mould Labeling IML Essentials

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www.jaco.de

KNOW-HOW OF THIS GUIDE I
Process reliability in the IML process

Ideas in plastic

IML SHEET-FED OFFSET

What is IML?

First, a label will be produced using the sheet-fed offset printing process. For this purpose, a specified maximum number of print ready label designs will be combined and mounted digitally on a foil printing sheet. In doing so a printing plate will be produced digitally and directly for each printing ink colour of the printing sheet. In the printing process the ink will be first transferred to a rubberblanket cylinder and then to a foil sheet (indirect flat printing = lipophilic and hydrophilic areas flat in one level). In the further processing of the foil sheet, the labels will be individually punched out (die-cutted) and packed. In the final step, these pre-produced labels made of polypropylene (PP) will be placed directly into a mould on one of our IML machines, which already has the shape of our I230AWG tube (In-Mould-Labeling). The molten PP will be then injected into the mould. There the plastic fuses with the label and takes on the shape of the mould as it hardens. The result: label and packaging form an inseparable, high-quality whole.

Why do we need this guide?

The information provided in this guide is required for correctly constructed artwork and successful printing using the sheet-fed offset process. These instructions will help you to avoid the most common pitfalls, to consider the technical limitations and to get to a digital "Good-for-Printing" (GfP) PDF with the least possible effort. This guideline thus represents the basis for process reliability in the IML process. The aim is to avoid misunderstandings, especially between JACO and its IML-prepress department, customers, marketing departments, agencies and artworkers. The minimum requirements set out in this guide should be met prior to the delivery of any print-ready digital data to JACO.

Print-ready data?

- Sheet-fed offset data ready for production / reproduction
- constructed in accordance with this guideline
- on the respective specific and current tube pattern drawing I230AWG
- which can be directly processed and used without any modification or revision

Please note:

If the digital printing documents you have supplied do not meet the minimum requirements presented here, delays in prepress and additional prepress work are to be expected. Our task in the JACO-IML-prepress is to optimally adapt your print-ready data to the actual production behaviour of the sheet-fed offset printing press. Therefore, we have to mount your print-ready template digitally on the print sheet, distribute it to different inking units (colour works) and produce the necessary printing plates. Typical services of an advertising agency are not provided by JACO-IML-prepress.

ESSENTIAL KEY PARAMETERS I
Please note

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Use specific and current tube layout pattern

Precaution concerning potential errors

Use CMYK only

Ideal and cost-effective sheet-fed offset print artwork structure with translucent inks, can be universally combined on printing sheet

Use CMYK instead RGB for pixel graphics

Apply the colour conversion directly to CMYK (early binding) for print-ready data

Note the minimum resolution for pixel graphics

Precaution concerning potential errors

Apply for text and fine elements (lines) only one-colour

No readability guaranteed through possible register problems when using multi-colour

Use at least 6 pt text size

No readability guaranteed (possible register problems could occur additionally)

Label overlap on the tube is not possible

For technical reasons the label cannot overlap on the tube

Observe the safety zones

Precaution concerning potential errors

ESSENTIAL KEY PARAMETERS I
Please note

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Use of none or outdated tube pattern layout

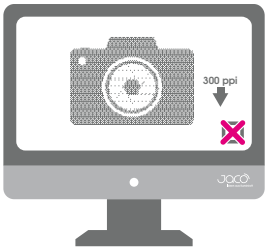
Risk of potential errors

Use of spot colours instead of CMYK

Spot colours cannot be combined universally and are more cost-intensive in the printing process (also applies to special finishings)

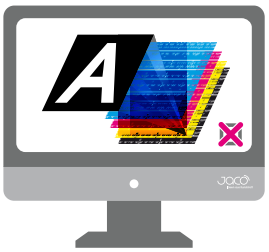
RGB instead of CMYK for pixel graphics

Do not use intermediate and / or late binding, do not deliver pixel graphics in RGB



Using pixel graphics with too low resolution

Risk of potential errors

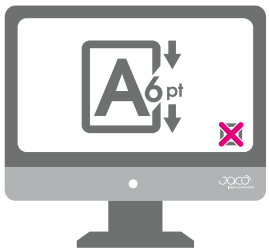


Build up black of 4x mixed process colours (CMYK)

Too high ink application (TAC) and no guarantee of legibility due to possible register problems

Text or fine elements (lines) multi-coloured

No warranty of Readability due to possible register problems



Use of text size below 6 pt

No legibiltiy given

Neglect safety zones

Parts of the artwork can be covered / cut off or shown off differently than planned

PROOFREADING AND PREFLIGHTING I
Control phases of your artwork before submitting

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

Please consider the requirements of the sheet-fed offset process for IML labels. Use the current and specific tube layout drawing (tube pattern layout). Note the essential criteria here: CMYK, seal area, safety zones, no overlap of the label on the tube.

Correction of possible errors in / on the artwork itself

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

- **General colouring:** CMYK / spot colours / too many / not used / left on / in the artwork?
- **Spelling:** Upper / lower case / grammar?
- **Fonts:** Sizes / fonts not converted to paths?
- **Layout elements:** Unused elements in / on the artwork left?
- **Files / code:** embedded instead of linked / placed / print direction?
- **Seal area:** will elements of the artwork be covered by the seal (plug)?
- **Safety zones : Text zone / Text-free zone / Die-cut / Bleed:** adhered to / considered?
- **No overlap of the label on the tube:** adhered to / considered in artwork construction?

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

I230AWG tube pattern layout I
Correct compliance with the safety zones

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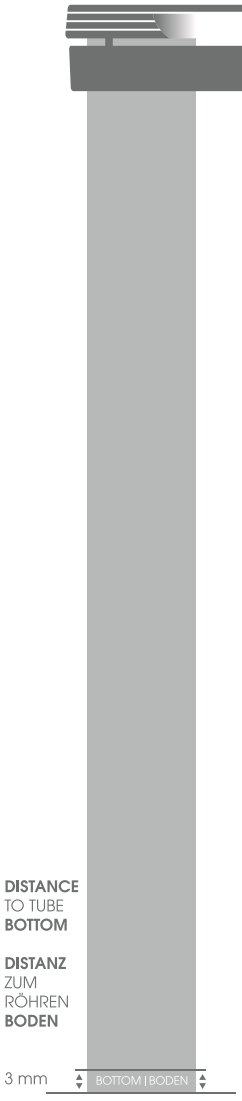
Correct adherence to the safety zones on the I230AWG tube pattern layout drawing

Please consider the requirements of the safety zones. Here you will find short explanations for the individual points. Before, during and after creating your layout, we recommend that you use a suitable program (e.g. Adobe Acrobat Pro DC) to display the individual areas in the preflight and check that they are correctly adhered to.



TEXT ZONE

All elements that are important for the layout and may not be die-cutted should be placed exclusively in the **text zone**. Please keep sufficient distance to the other zones.

NO TEXT

Please do not place any important elements in the **No-Text-Zone** (also called Quiet-Zone). Please note that the seal will also cover all upper elements in this area.

Visualizes the **die-cut** contour, which punches the label out of the foil sheet. The contour can shift by technical tolerances approx. 0-3 mm. Do not place any important elements in or too close to this zone.

BLEED ZONE

The **bleed zone** refers to the edge that projects beyond the final format of the printed product and is removed by the die-cutting machine during further processing. Without the added trim, white flashes of the foil can remain at the edge after die-cutting. To avoid this, all elements that reach to the edge of the final format (die-cutting contour) should protrude beyond it and also fill in the bleed zone.

OVERLAP

NO OVERLAP

In contrast to Letterset printing, IML does **not technically allow label overlapping** on the tube. Instead, there is a narrow, slight label gap (tube shines through). Please note this already during the artwork constructi-on (layout). Do not use designs where the layout was created for an overlap (of the label on the tube) or requires this effect.

PREFLIGHT

With suitable software you can clearly visualize the different safety zones on the label on this page. Please note that this PDF guide has been compressed, some elements are therefore not in printable quality.

DEFAULT PRINT-READY DATA | 1

Please note

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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. Please pay particular attention to the safety zones.

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

Sheet-fed offset printing technique

Indirect flat-bed printing = lipophilic and hydrophilic areas are flat in one level. Given maximum number of print-ready label designs are combined and mounted on a foil printing sheet. One printing plate is produced digitally and directly for each printing colour of the printing sheet. The ink is first transferred to a rubberblanket cylinder and then to a foil sheet. The labels are punched out and packaged in the further processing of the foil sheet. The sheet assembly and the printing plates are produced exclusively by our prepress department. Sheet assembly and printing plates supplied by third parties cannot be used.

Tube size

Currently only I230AWG possible

Substrate

Label foil made of polypropylene (PP) in combination with white tubular body made of polypropylene (PP)

Varnish

Standard: Glossy varnish. Special refinement: High gloss or matt varnish

Special finishing

Different types of varnish, spot colours and metallic IML foil (silver foil) possible

Maximum number of colour works / inking units

8x inking units (colour works), with special finishing metallic foil only 6x inking units + foil possible

Useable file formats

ESKO- or ArtPro Files. Adobe Creative Cloud Files, here Illustrator (.ai), Photoshop (.psd), InDesign (.indd), print-ready PDF file (X-3 / X-4). Pixel graphics in original format (Photoshop .psd) .eps, .tiff, .jpeg transfered in the CMYK colour model (no RGB). No exposure curves, DGC, trapping, screen angles etc. should be created or included in the data. Please convert texts into paths (outlines).

DEFAULT PRINT-READY DATA I 2

Please note

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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. Please pay particular attention to the safety zones.

Colours	Artwork file can not contain more than 8x colour works (CMYK or spot colours). Create and designate spot colours as separate colour channels. Leave safety zones, special finishes (varnishes, metallic) as separate colour channels or create and designate them. Recommendation: Use only four-colour-model (CMYK) for your artwork, this can be easily combined and helps you to keep your costs low.
Safety zones	Due to production tolerances (printing and die-cutting), a layout that exceeds the final format (die-cut contour) is always required (trimming allowance). Please always consider the requirements of the safety zones. For the individual points you will find corresponding explanations on page 5 of this guideline.
Maximum ink coverage	Total Area Coverage (TAC) max. 270 %
Label overlap technically not possible	The label cannot overlap on the tube. Instead, a narrow, small label gap is created. Please note this already during the artwork construction (layout). Please do not use designs where the layout was created for an overlap or where this effect is required.
Minimum size fonts	Positive / Negative one-colour 6 pt - Positive / Negative multi-colour 7 pt
Minimum line width fonts	Positive one-colour 0,15 mm / Positive multi-colour 0,2 mm Negative one-colour 0,25 mm / Negative multi-colour 0,25 mm
Minimum line thickness / width	Positive / negative one-colour 0,15 mm - Positive / Negative multi-colour 0,2 mm
Halftone dot	Eliptical
Halftone dot size	min. 1% / max. 100%
Picture (pixel) resolution / halftone screen width	min. 300 ppi at 100% scaling in original size / print size (60 halftone dots /cm x 2.54 x QF2 = Screen width printing 150 lpi / 60 lpcm. Line art (texts) resolution min. 2400 dpi
Colour profile	ISO COATED v2 (ECI)

DEFAULT PRINT-READY DATA | 3

Please note

Ideas in plastic

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. Please pay particular attention to the safety zones.

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 colour 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. 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 graphic 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 **DataMatrix Codes** can be processed, but readability cannot be guaranteed.

Artwork control / print approval /

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 its obligation as a customer (including the associated colour proof (GMG)), check the correctness of the data as a final check for, e.g:

- Size / layout
- Placements in the tube pattern layout / Compliance with safety zones
- Colourfulness / Inking unit (colour works) separations
- Texts (e.g. spelling)
- Readability (e.g. minimum font sizes)
- Code
- etc.

of the entire GfP PDF document and the GMG 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.

Completion of the prepress phase

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

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IML Know How

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