



SIG Combibloc

Gravure

Artwork Manual for Rotogravure Printing

Edition: EN V6 | Status July 2020

Introduction	
Contents	01
Introduction	02
Carton Structure	03
The Printing Technique	04
The Filling Process	05
Workflow	06

Working with the Keylines

The Structure of the combibloc and combifit Layouts	07
The Bottom Section of the Carton	10
The Carton Top Panel	11
The Carton Top Panel combisafe	12
The Back Panel and Longitudinal Seam	13
Misalignment along the Longitudinal Seam	14
Re-Setting Dimensions	15

The Opening Devices

Punching and Applying the Straw	17
Cross-Section of the Opening Devices	18
Opening Instruction Pictograms	21

Designing

Colour Sequence	22
Black Sequence	23
Colour Drift	24
First Tone Printed	26
Gradations	27
Spreading	28
EAN-Code Standard/UPC-Code	30
Special EAN-Code for ALDI	31
QR-Code	32
Standard Values	33
How to Save Money	34

Delivering Data

Information for Delivering Data	35
Check-List for Delivering Data	36

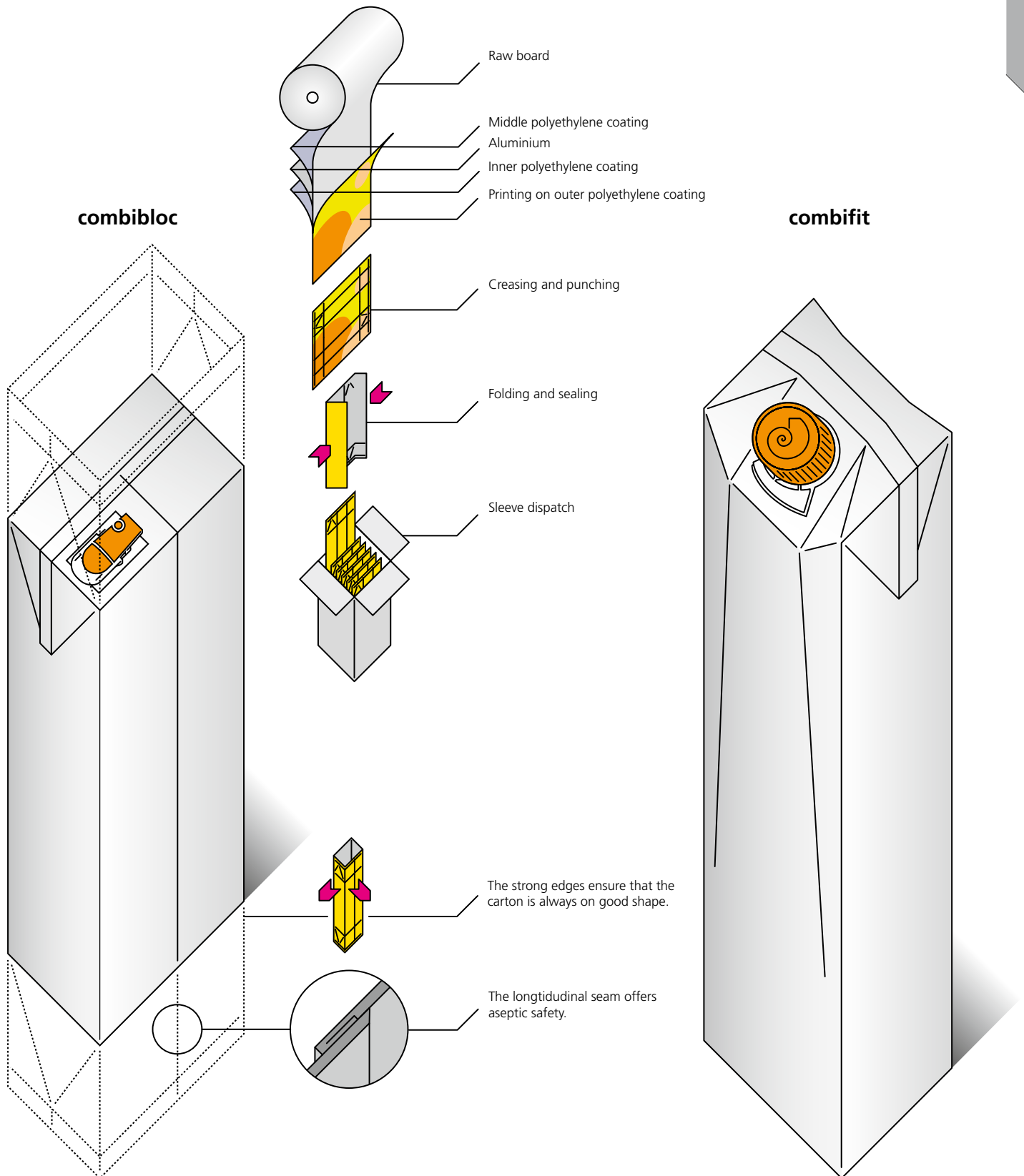


The System for Success.

SIG Combibloc is the company leading the way in the global packaging industry. We manufacture aseptic carton packaging for food such as milk, juice, soups and sauces while developing and producing the required filling machines.

We are driven by the motivation of achieving joint success with our customers. We use our high-grade, high-performance and flexible system to guide the entire packaging process. One portion of this process is preparing packaging design for production in rotogravure printing.

We would like to use this manual to support you in laying out the design of your carton packaging. Applying the criteria described in this manual will provide a reliable foundation for optimum implementation of your design ideas in the SIG standard.



The preformed carton sleeves are produced in the packaging material facilities at SIG Combibloc and they are later aseptically filled on the filling machines on the customer's premises. The carton is given an inside and outside layer of high-grade polyethylene (PE) including an extremely thin layer of aluminium and another inner layer of polyethylene.

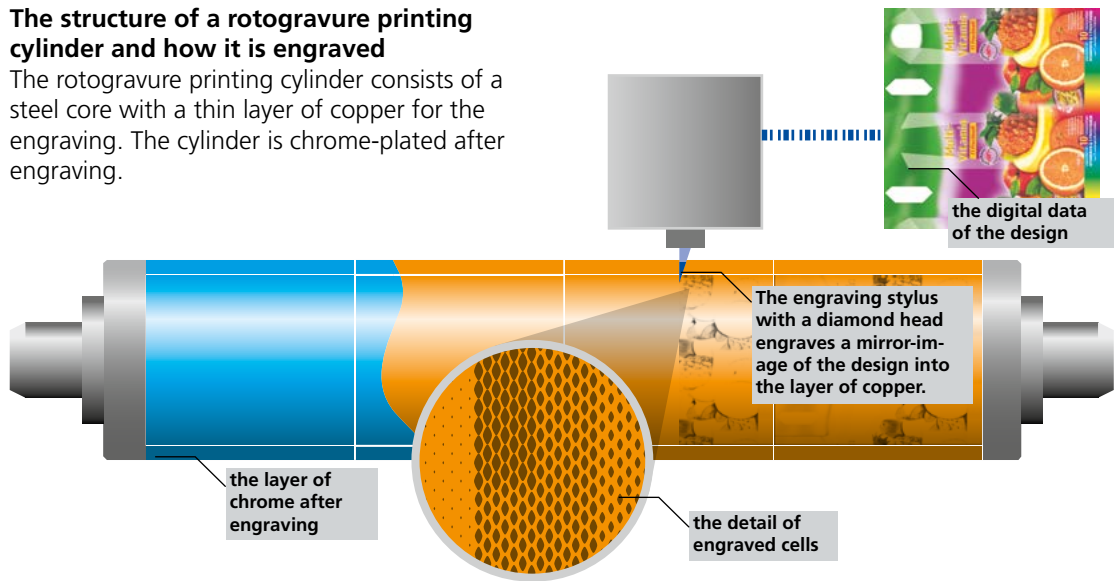
Rotogravure printing for stunning colours
After coating, a high-grade rotogravure printing technique that is especially suited to high runs of sophisticated products with intensive colours is used to print on the carton.

Introduction

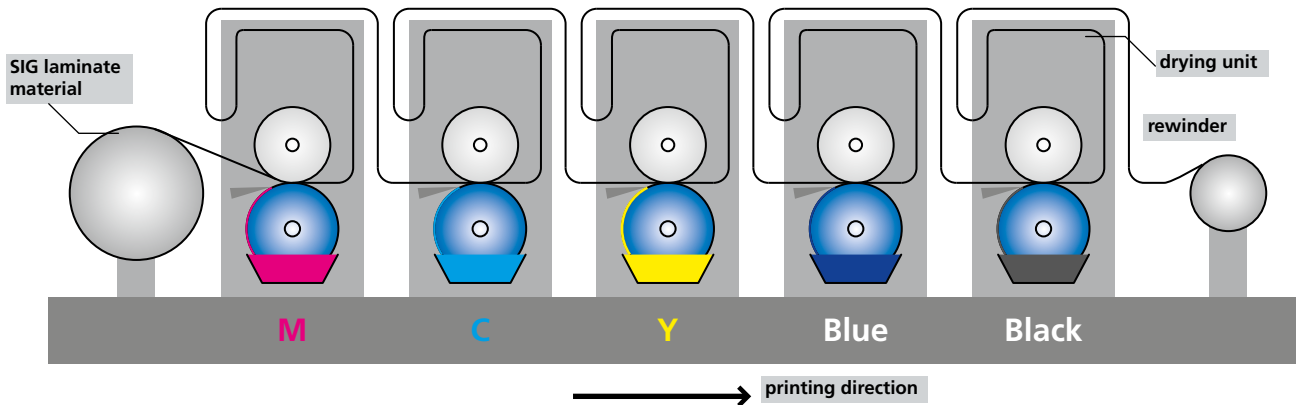
The Printing Technique - The SIG Process

The structure of a rotogravure printing cylinder and how it is engraved

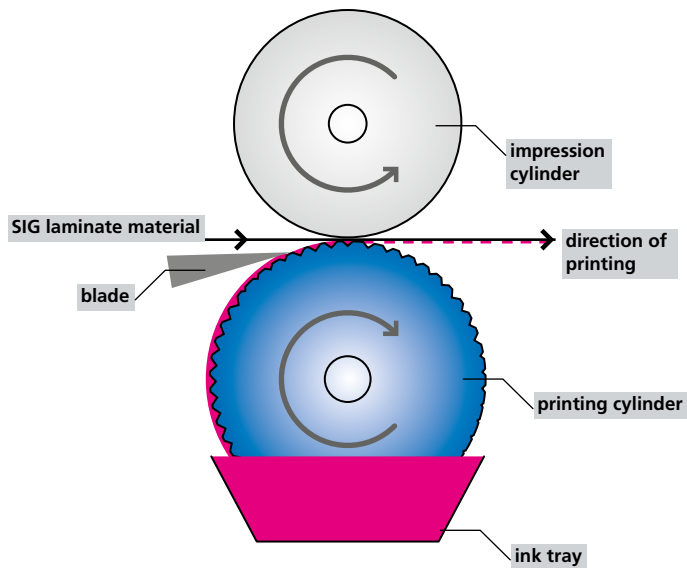
The rotogravure printing cylinder consists of a steel core with a thin layer of copper for the engraving. The cylinder is chrome-plated after engraving.



A schematic diagram of the printing machine

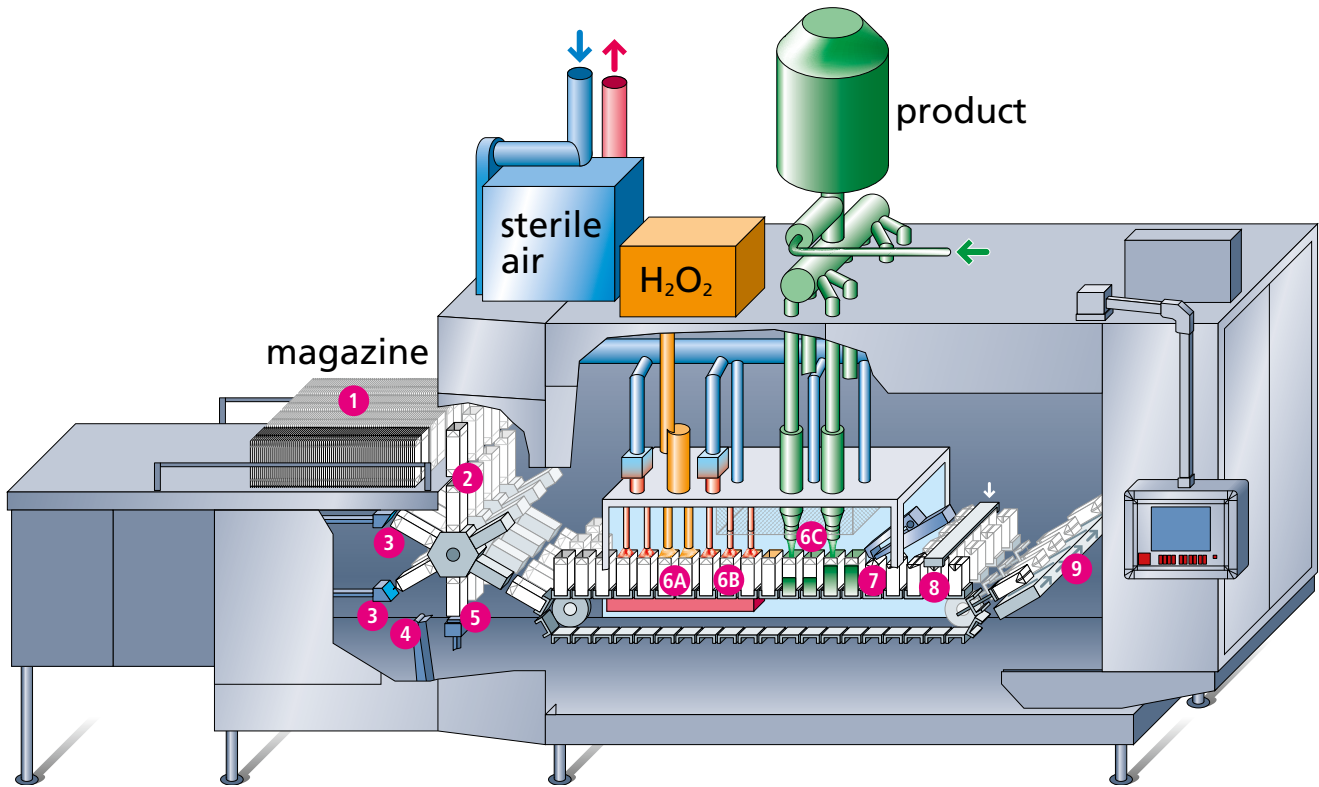


A schematic diagram of the printing unit



The rotogravure printing technique

Rotogravure printing is a direct printing technique where all of the printing elements are engraved to the cylinder surface as little cells. The cylinder rotates in a trough filled with low-viscosity ink. The ink flows into the cell, while the surplus ink is scraped off from the print free zones with a doctor blade. The ink is then transferred to the laminate.



1 Magazine

The magazine holds the sleeves, and is refilled by the operator or the optional CAM module.

2 Sleeve extraction + opening-up of sleeves

The individual sleeves are extracted through suction units, they are opened up rectangularly and are pushed onto a mandrel. This ensures a reliable guidance for the production of the bottom section.

3 Bottom activation

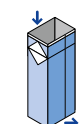
Hot air is used at two stations to activate the areas of the bottom section of the sleeve.

4 Bottom folding

During the time the mandrel wheel transports the sleeve to the bottom pressing station, rotating lateral folders and a longitudinal folder are used to prefold the bottom section.

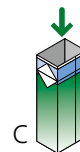
5 Bottom pressing station

Bottom press dies and the face side of the mandrel are used to fully press and seal the bottom section of the carton. The specific design of the pressing elements ensures the typical, patented concave-shaped bottom section guaranteeing the particularly good standing features.



6 Aseptic area

The aseptic area consists of the areas: sterilisation (A), drying (B) and filling (C) of the carton. First, hydrogen peroxide (H₂O₂) is used to sterilise the inside of the carton. Afterwards, the heated sterile air is blown in at several stations and thus dries out, the H₂O₂ still inside. The process is used to kill the micro-organisms inside the package in a reliable way. The product is filled into the carton in the filling station at two stages. The aseptic area is under a slight overpressure of sterile air, thus avoiding the ingress of non-sterile air from the outside and thus preventing the aseptic area from being contaminated.



7 Top sealing through ultrasonic sealing

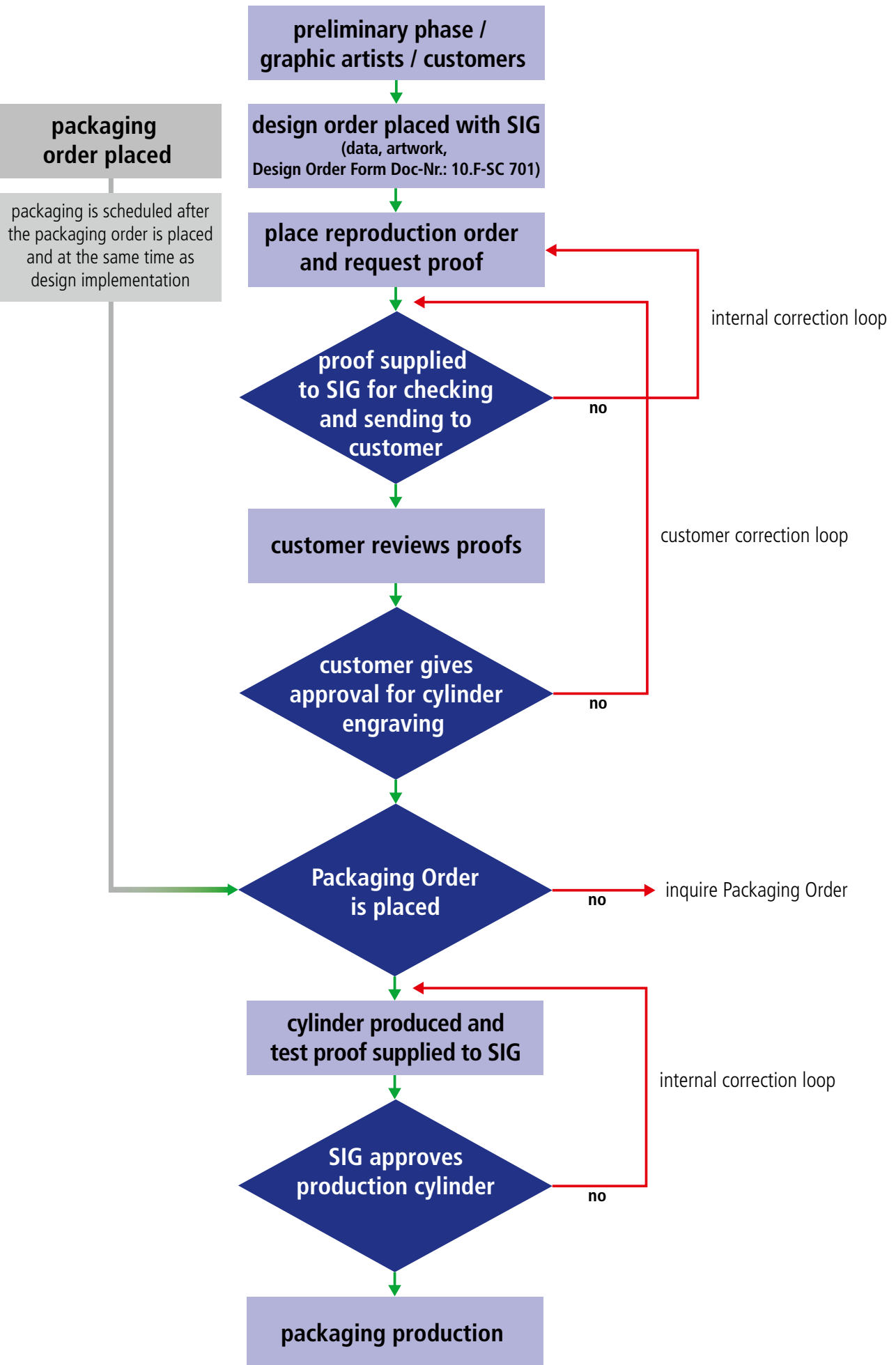
The top section of the carton is folded by the ultrasonic sealing tools and is sealed on top of the fill level. Before sealing the carton with ultrasonic energy, steam is injected into the carton to reduce the head space to a minimum after the cooling-down process. A nitrogen injection is available as an option.

8 Top forming station

The polyethylene is heated up with hot air at the top triangles and at the narrow side of the carton, the top triangles are folded downwards and are sealed to the carton.

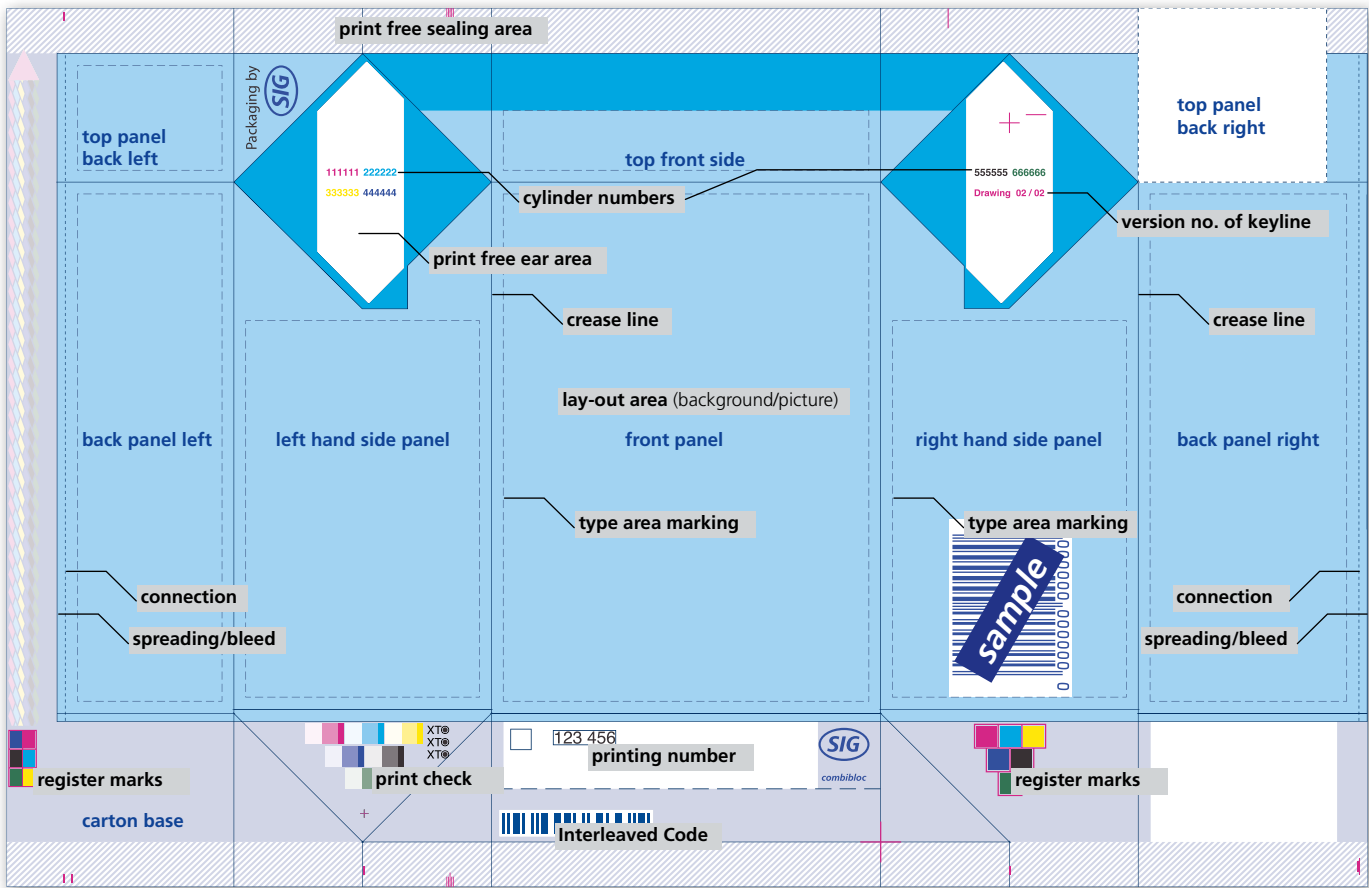
9 Ejector and discharge station

The carton is ejected out of the pocket, and is put up and then placed onto the off-conveyor.



Working with the Keylines

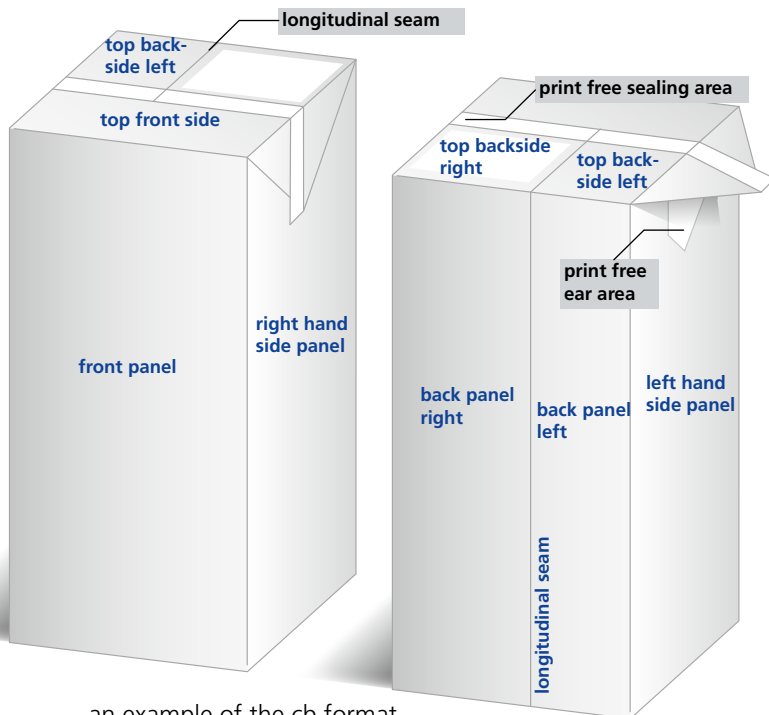
The Structure of the combibloc and combifits Layouts (Back Panel Divided)



The Structure of the combibloc and combifits Layouts







Format series

cb4 · cb5 · cb6 · cb7 · cf7



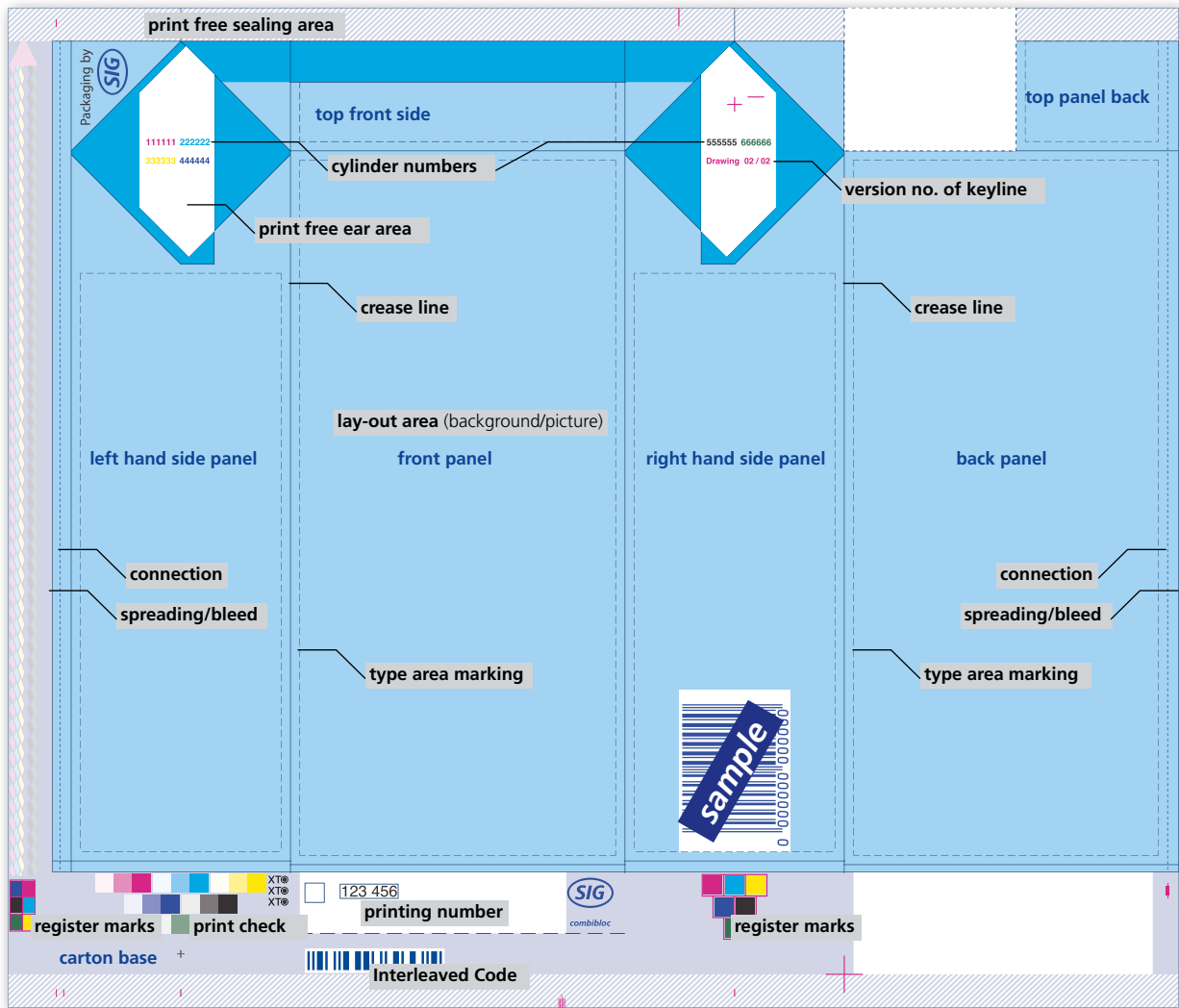
an example of the cb format

Area definition:

-  **Lay-out area**
-  **Covered lay-out area, with formed packaging**
-  **Print free areas**
for ear area and opening device (white)
-  **Print free sealing areas**
on top and bottom
-  **Type area marking**
(dashed)
-  **Printable areas on the carton base** (white)

Working with the Keylines

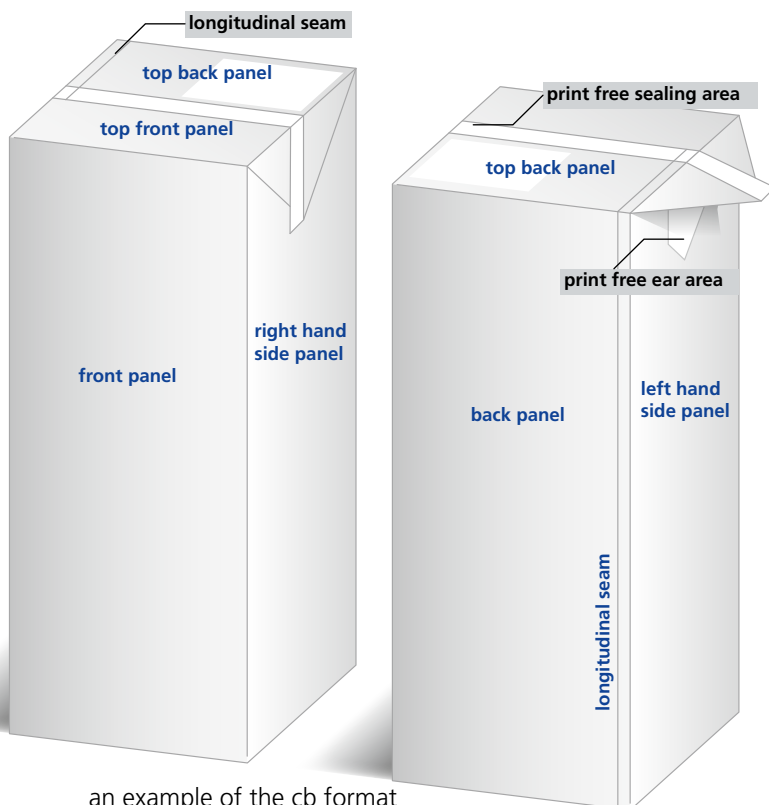
The Structure of the combibloc Layouts (Back Panel Not Divided)



The Structure of the combibloc Layouts






Format series

cb1 · cb2 · cb3 · cb8 · cb9



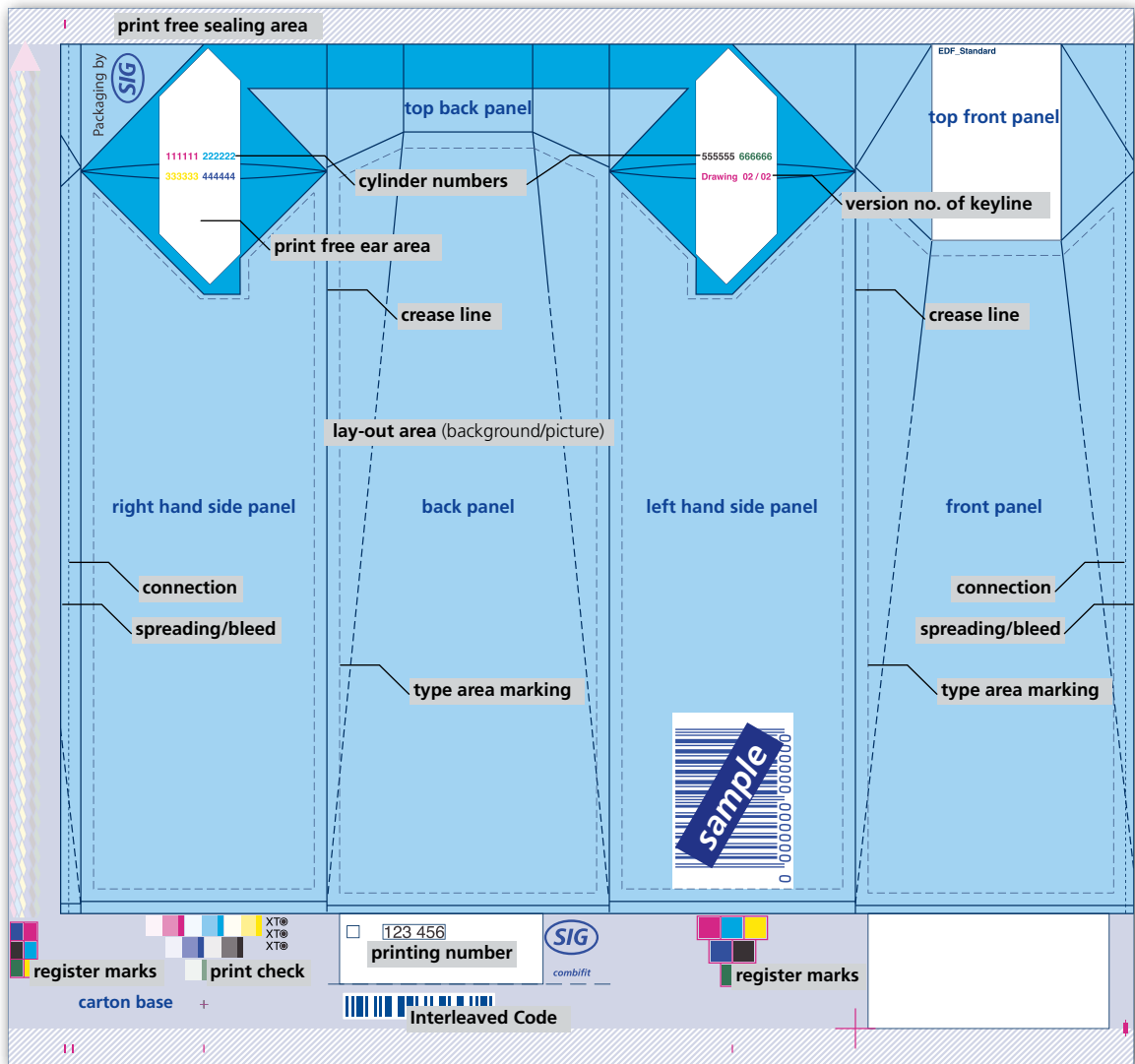
an example of the cb format

Area definition:

-  **Lay-out area**
-  **Covered lay-out area, with formed packaging**
-  **Print free areas** for ear area and opening device (white)
-  **Print free sealing areas** on top and bottom
-  **Type area marking** (dashed)
-  **Printable areas on the carton base** (white)

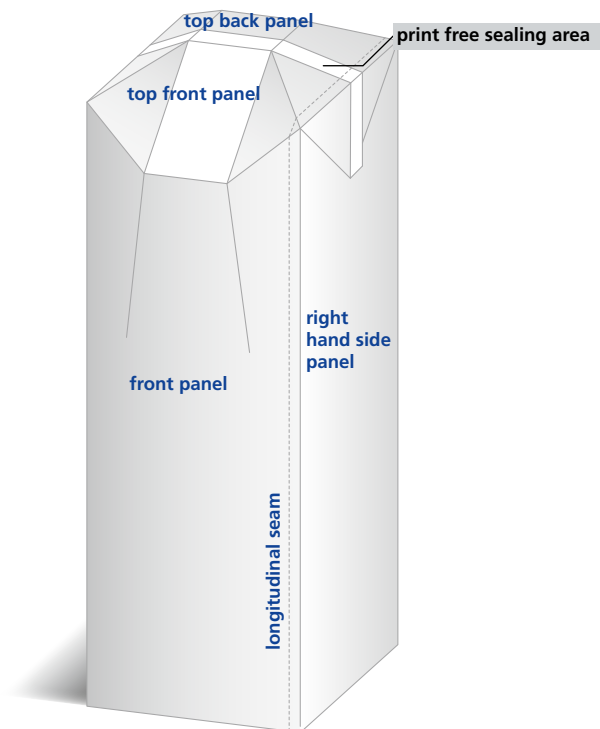
Working with the Keylines

The Structure of the combifit Layouts (Back Panel Not Divided)









The Structure of the combifit Layouts

Format series
cf2 · cf8 · cf9

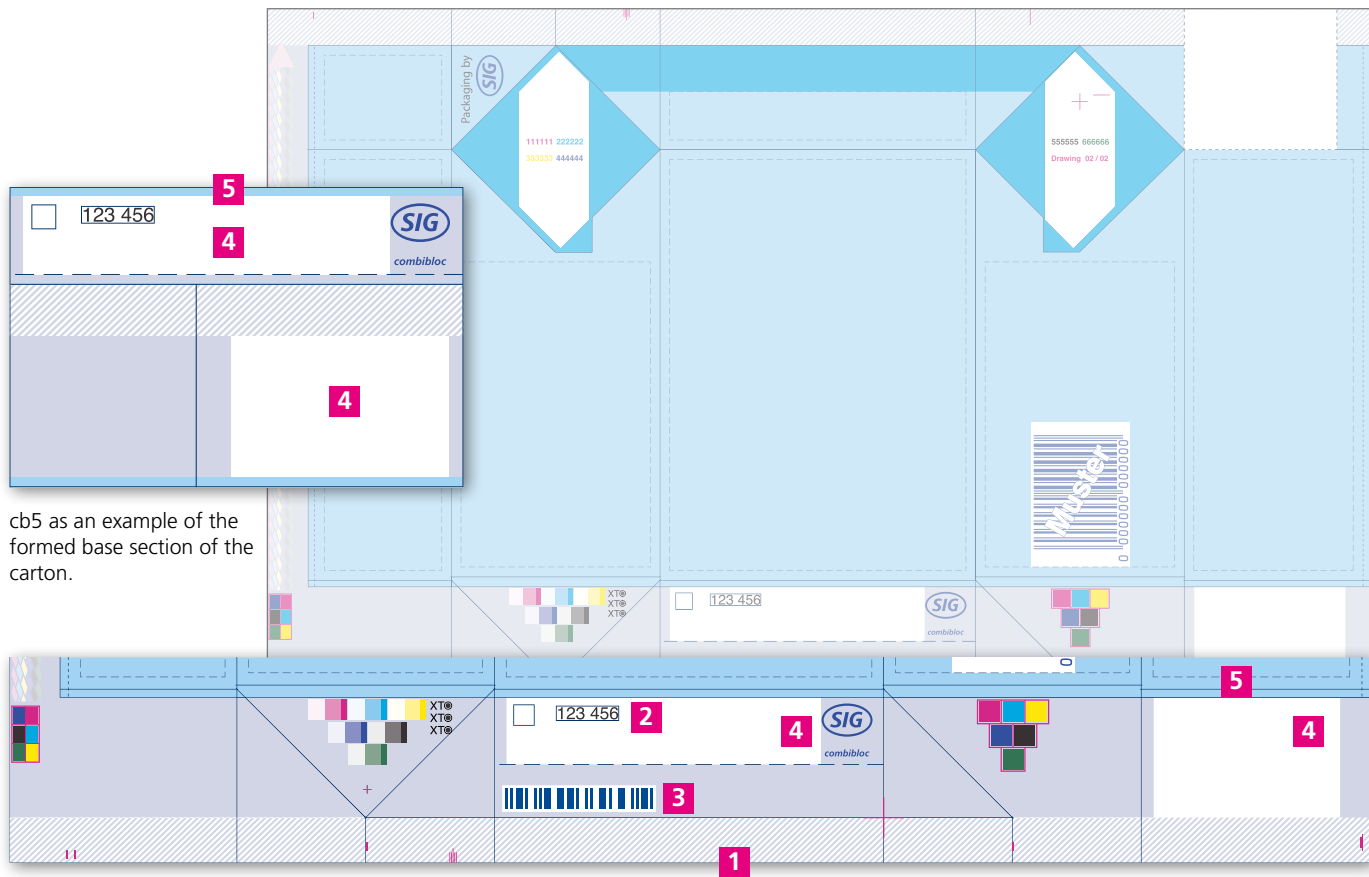


an example of the cf format

Area definition:

-  **Lay-out area**
-  **Covered lay-out area, with formed packaging**
-  **Print free areas** for ear area and opening device (white)
-  **Print free sealing areas** on top and bottom
-  **Type area marking** (dashed)
-  **Printable areas on the carton base** (white)

Working with the Keylines The Bottom Section of the Carton



cb5 as an example of the formed base section of the carton.

1 The base area contains printing control, printing assistance and colour control marks. None of the bottom elements can be changed from the standard. The areas marked in grey are either covered or have to remain uncovered for technical control elements.

2 The print number is the most important and most reliable feature for identifying a design. It should always be given as a reference number when asking questions or getting information. You can see this number when the carton is formed. The impression number is shown to the left of the printing number reproduced in the register colour (first colour).

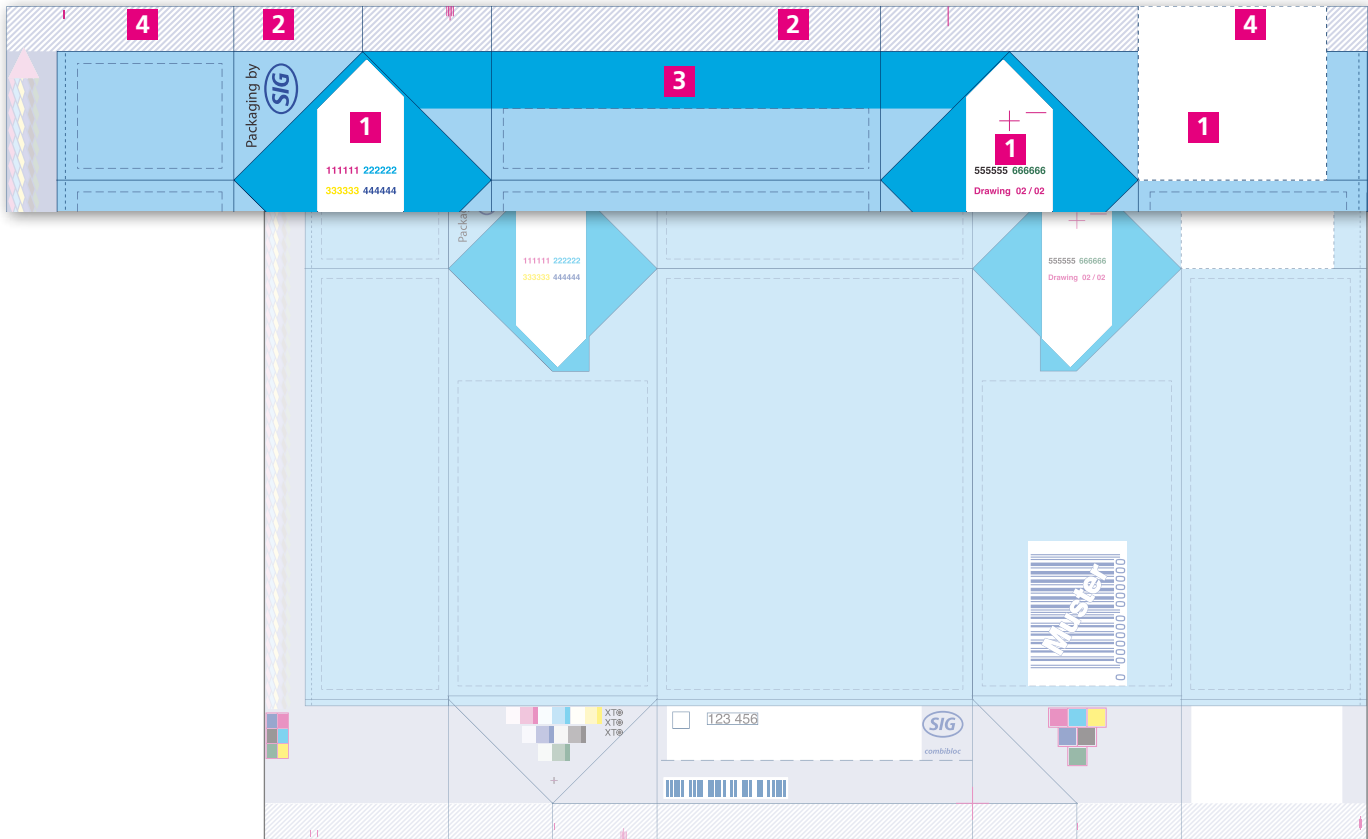
3 The interleaved code contains the print number and is used for SIG storage purposes.

4 Free zones for additional text and linework elements are shown in white. These areas are not allowed to be printed with screen printing or as full tone area.

5 The background, pictures and graphic elements going down to the bottom section must continue bleeding 2mm beyond the base crease.

Working with the Keylines

The Carton Top Panel



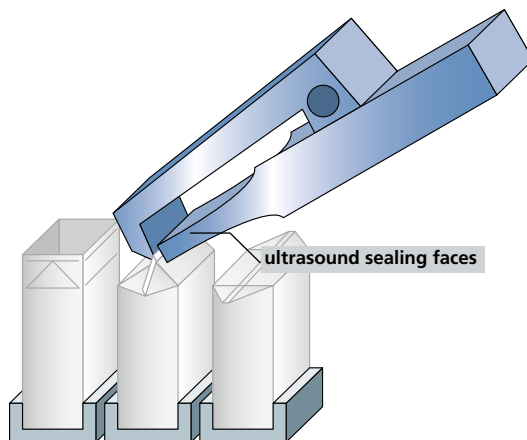
The Carton Top Panel

1 There are print free areas for the glueing surfaces of the ears and for opening devices in the carton top panel area. The register cannot change them. The cylinder numbers are in the print free ear area. They are internal numbers for SIG Combibloc printing preparation and are covered after the carton is formed.

2 The seal is generated by pressure and ultrasound that are applied by two sealing faces.

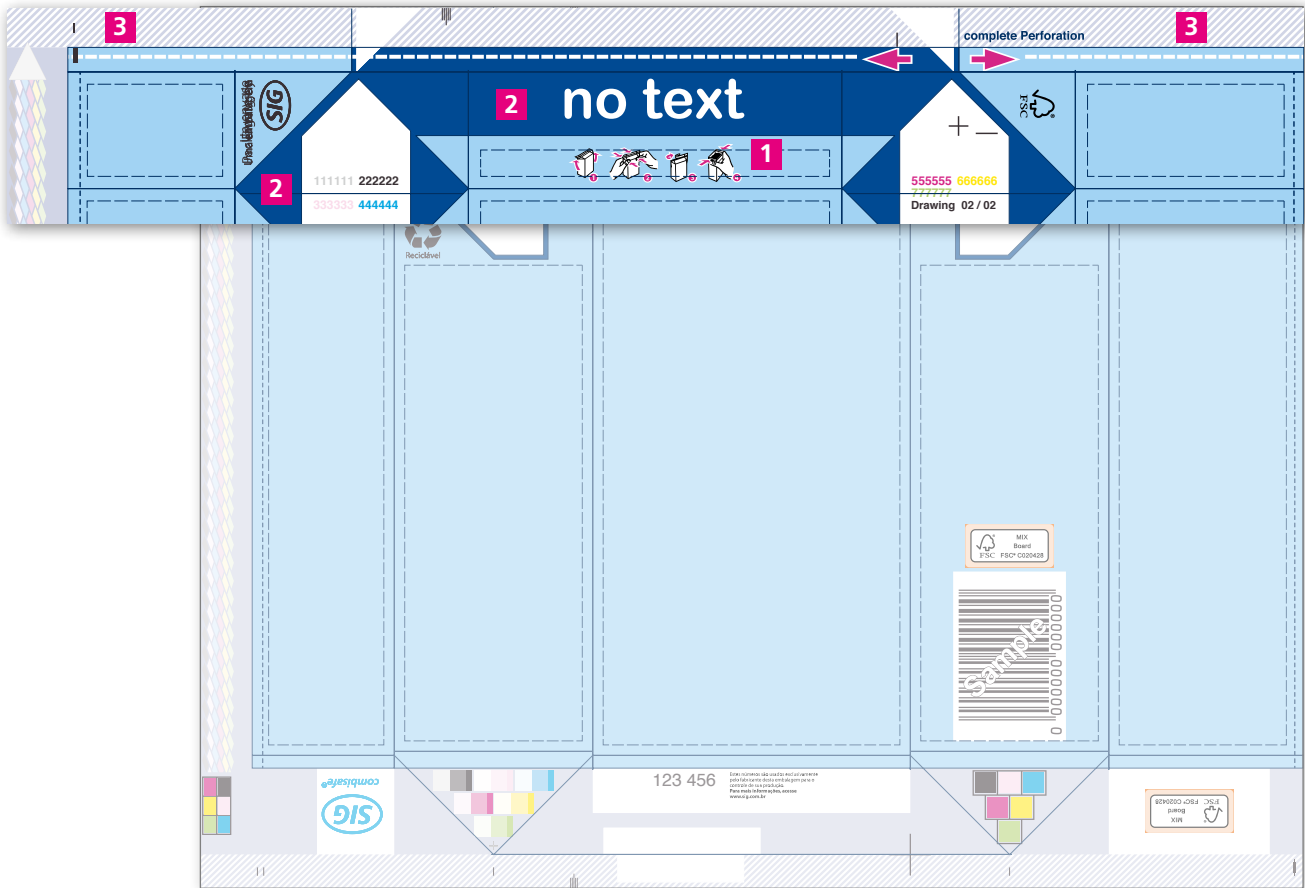
3 These zones are covered after the forming of the top panel.

4 Printing the best before date
The best before date or other information can be printed in the seal area of the carton top panel of the filled carton using inkjet printing.

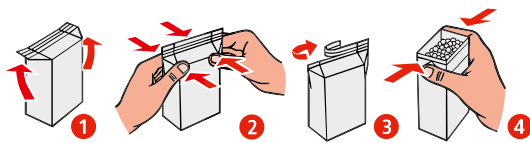


Working with the Keylines

The Carton Top Panel combisafe



The Carton Top Panel combisafe



SIG Combibloc will give you opening pictograms as a computer file on request.

1 The opening pictogram are used optionally. SIG Combibloc recommends that this element is accepted unchanged.

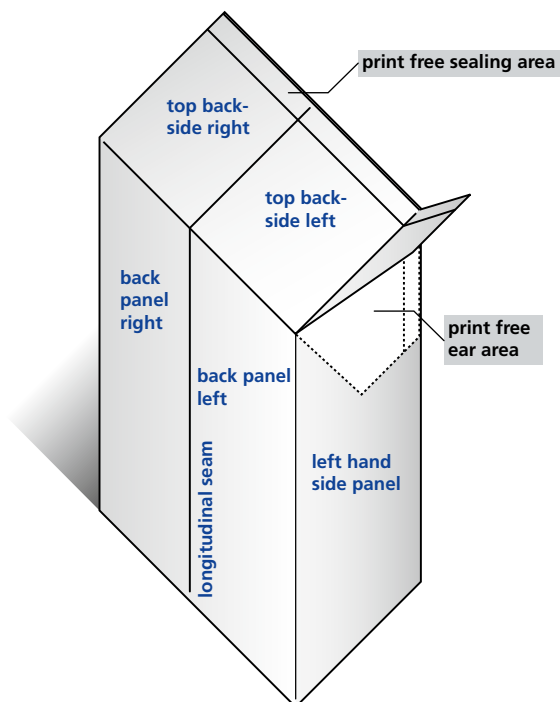
2 These zones are covered after the forming of the top panel.

3 Printing the best before date

The best before date or other information can be printed in the seal area of the carton top panel of the filled carton using the inkjet printing. Please note that the design colours need to be ghosted strongly to ensure the legibility of the Inkjet printing.



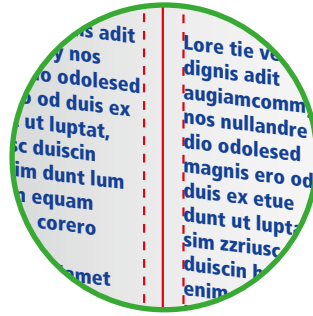
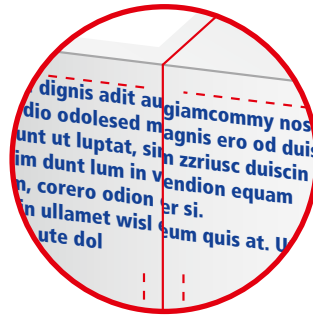
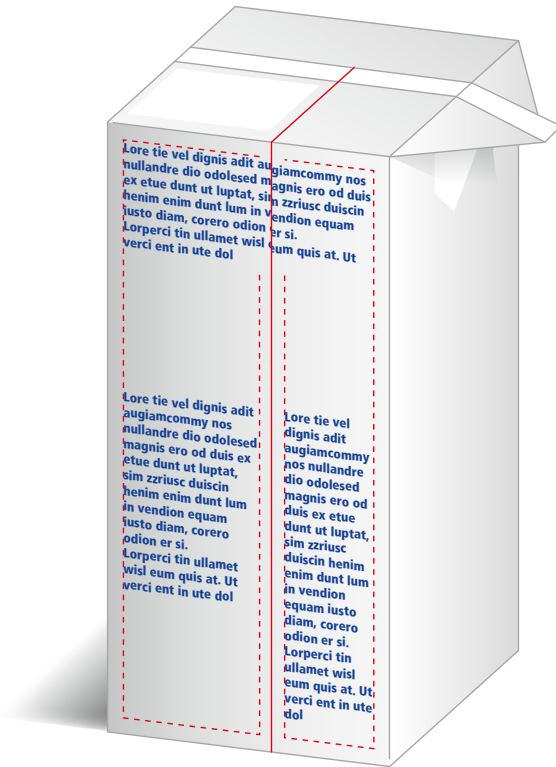
For the formatline combisafe a minimum Bar-Code size of 100% - SC 02 is prescribed.



an example for combisafe

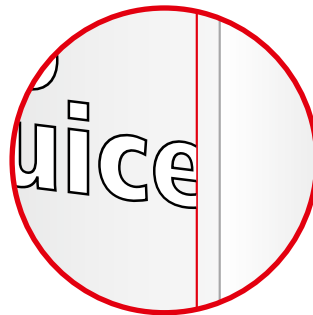
Working with the Keylines

The Back Panel and Longitudinal Seam



Types of cartons with a divided back panel cb4 · cb5 · cb6 · cb7 · cf7

The back panel is not divided in the middle and the left-hand side is wider than the right-hand side. Please see the type area marking to prevent elements from being cut.



Types of cartons without a divided back panel

cb1 · cb2 · cb3 · cb8 · cb9 · cf2 · cf8 · cf9

The back panel is 3 mm narrower than the front panel and the missing area is added from the left-hand panel area. Please see the type area marking to prevent elements from being cut.

Working with the Keylines

Misalignment along the Longitudinal Seam

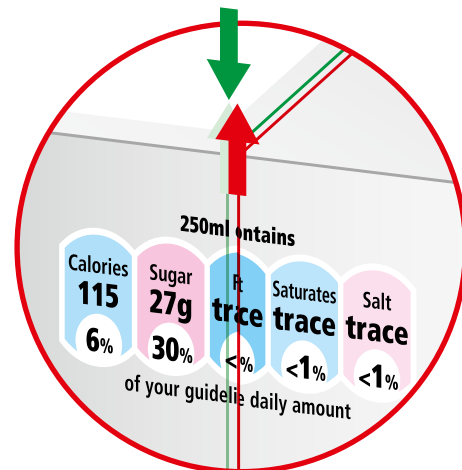
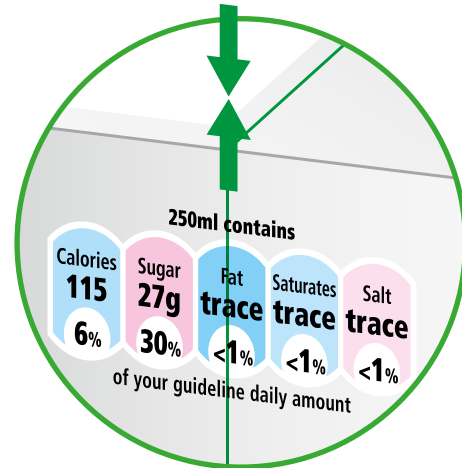
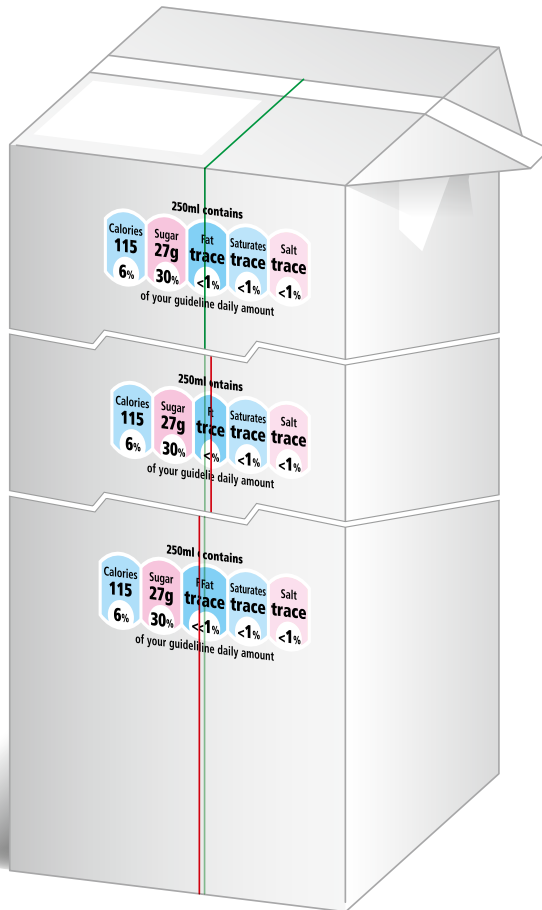
Misalignment along the longitudinal seam

Production tolerances in the dye-cutting and glueing machines cause deviation along the longitudinal seam. To ensure that text will neither be cut nor appear double the type area marking needs to be maintained.

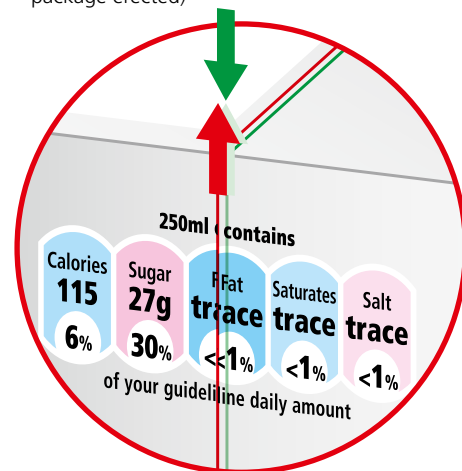
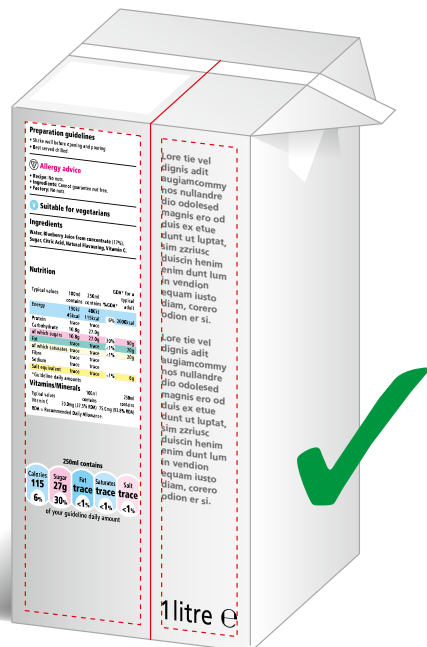
If it is not possible to maintain the type area marking by reason of the design, deviations compared to the approved artwork will occur in the bulk production. The clearness of the deviation depends on the size and width of the text and the typefont used.

The illustrations on this page show possible production tolerances.

Please consider the tolerances specified in the table on page "Standard Values: Print - Reproduction - Carton blank".

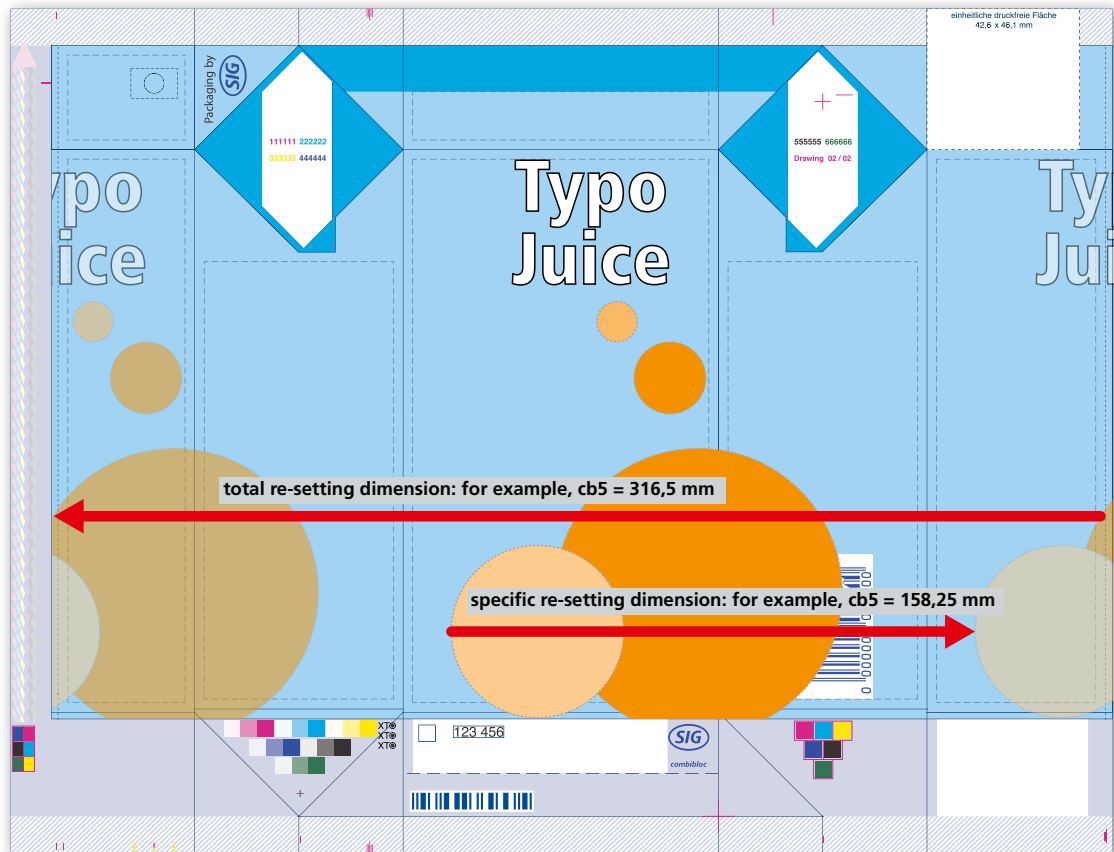


Misalignment: ± 2.0 mm
(longitudinal seam horizontal match point – package erected)



Working with the Keylines

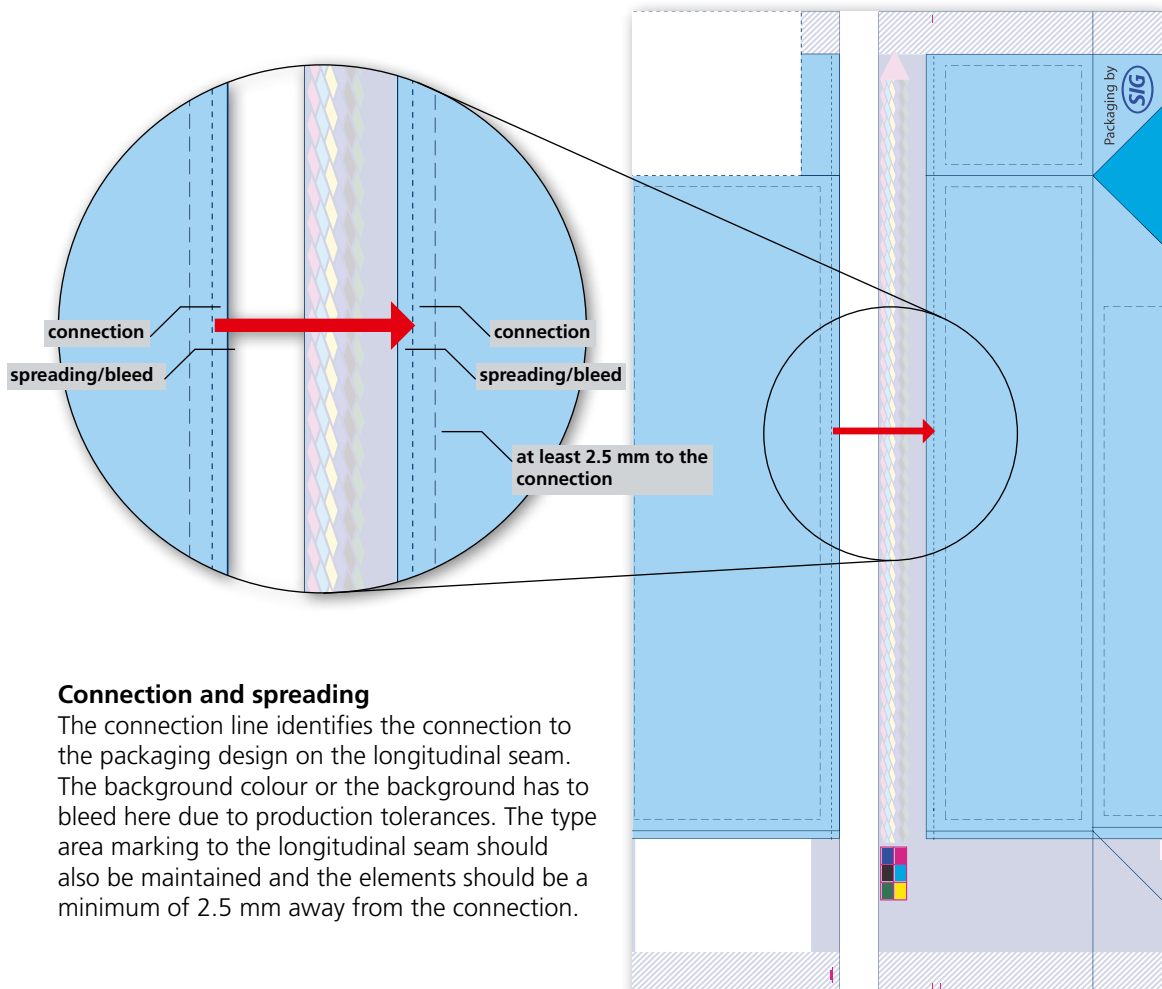
Re-Setting Dimensions and Connection



Re-Setting Dimensions

Re-Setting Dimensions/Report

The re-setting dimension can be found on the keylines. It has the purpose of re-setting a design for the front and back panel while providing a seamless connection between the dimensions and longitudinal seam.

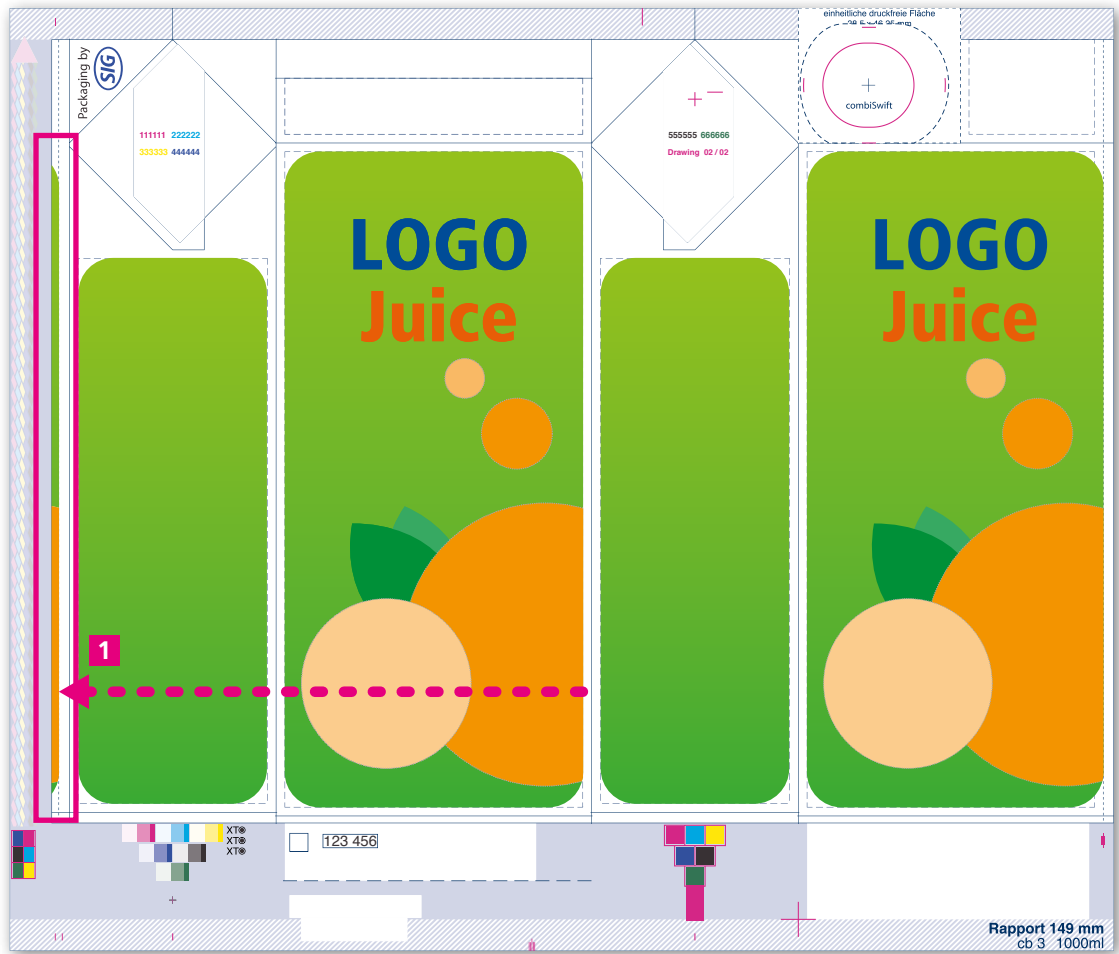


Connection and spreading

The connection line identifies the connection to the packaging design on the longitudinal seam. The background colour or the background has to bleed here due to production tolerances. The type area marking to the longitudinal seam should also be maintained and the elements should be a minimum of 2.5 mm away from the connection.

Working with the Keylines

Re-Setting Dimensions and Connection

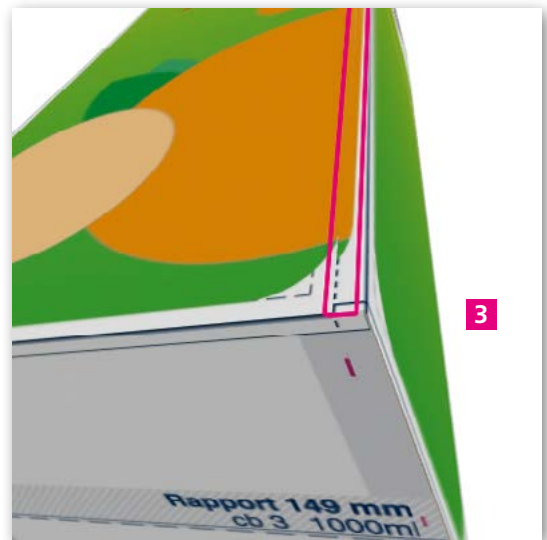


Re-Setting Dimensions



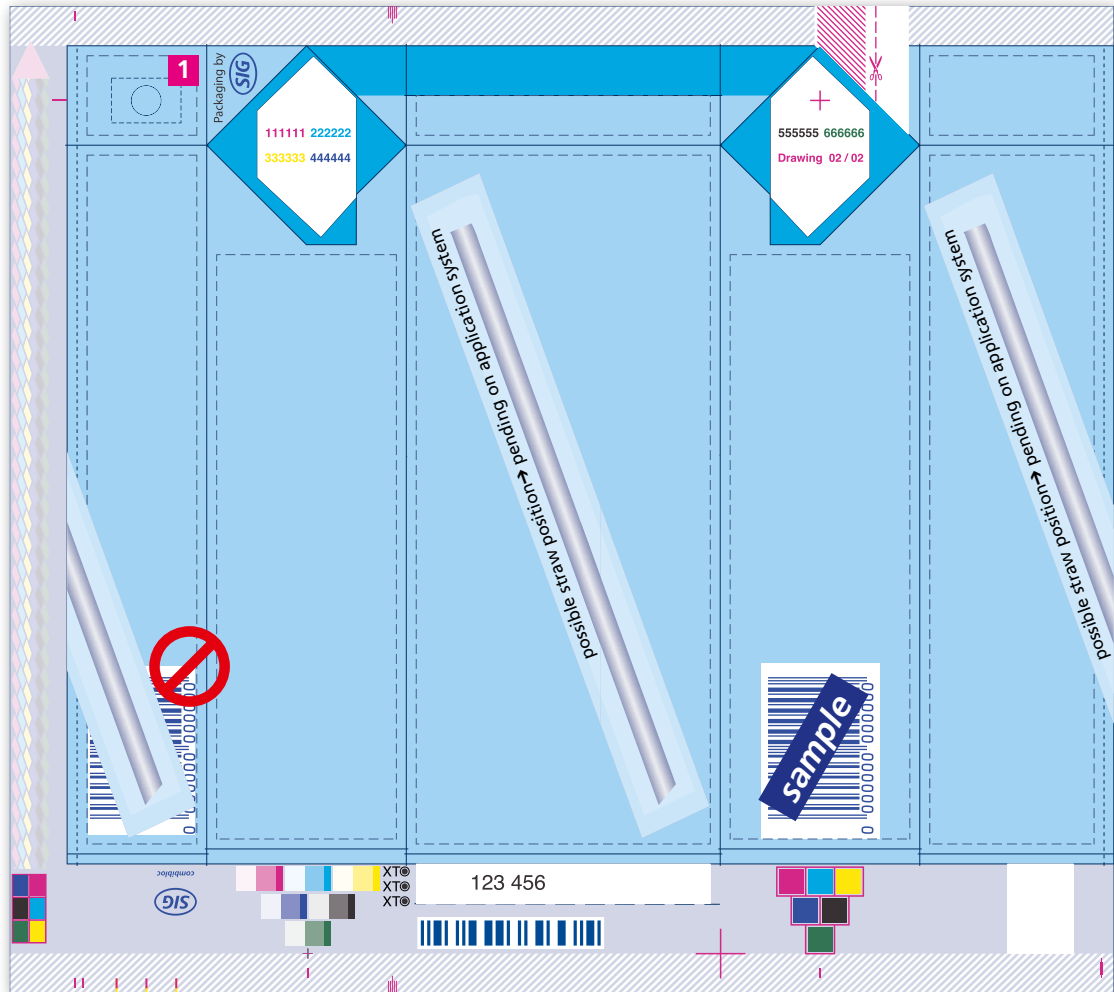
In designs without a divided back panel the design must **not be copied** to the left side when it only meets the connection line **1**.

If the design is not copied **2** edges after longitudinal seam glueing will be avoided **3**.



The Opening Devices

Punching and Applying the Straw



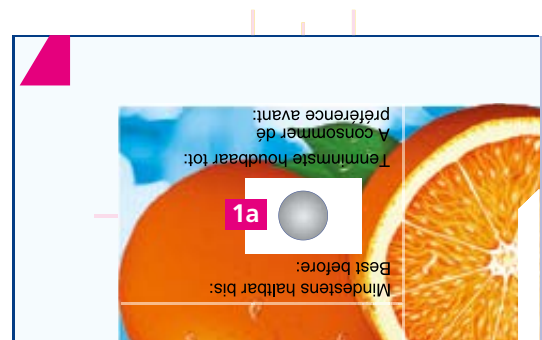
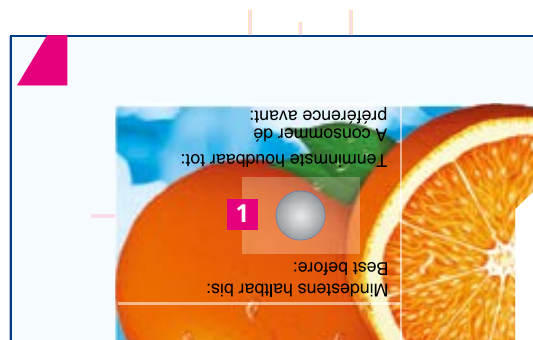
1 **Applying the straw**
There may not be a barcode in this space if a straw is applied to the back panel.

1 **The straw hole**
The straw hole has a diameter of 6 mm normally and is on the left-hand side of the carton top panel. A 9 mm vertical and 14 mm horizontal rectangle around the centre point has to be kept unprinted and free of graphic elements to prevent punching. The background and the pictures can run through. For the formats cb1, cb7, cf7 and cb12 additionally to the 6 mm strawhole an 8 mm strawhole is available. The area free of text and graphic is 11 mm x 18 mm large here.

1a Ink may be applied to the layer of aluminium if a background or picture runs over the prepunched hole for the straw. Customers often complain about this even though the printing inks used are physiologically safe (i.e., suitable for foodstuffs). The 9.0 mm x 16.0 mm (6 mm strawhole) respectively 11.0 x 18.0 mm (8 mm strawhole) area around the hole for the straw has to be unprinted (i.e., white) to prevent inking.

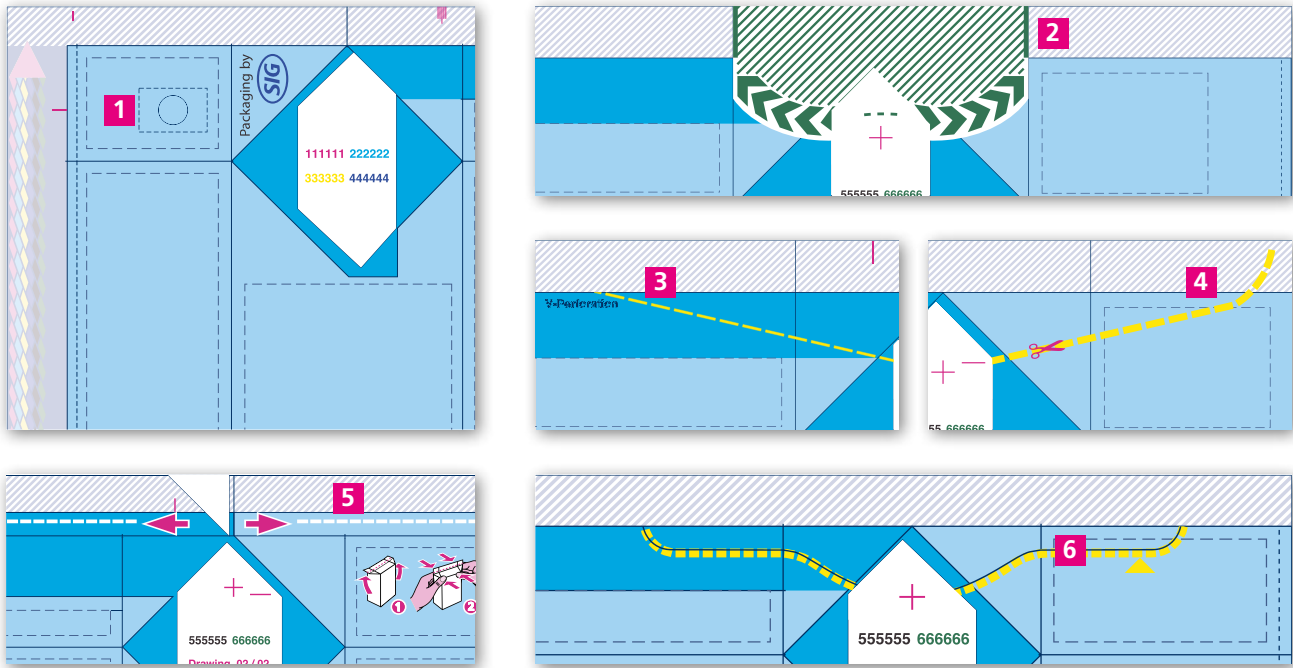
The valid keylines show the precise register.

The register cannot change the element.



The Opening Devices

Cross-Section of the Opening Devices per Format



1 Straw hole (see page 17)
The **cb1** and **cf7** format series get one standard straw application and the **cb5**, **cb6** and **cb7** format series may also have a straw application.

5 Complete Perforation is a perforation for **ce6** only, that goes along the complete width of the package. The opening pictograms in the key-lines can be used on customer demand.

2 W Perforation, 3 V Perforation, 4 optimised V Perforation, 5 Complete Perforation and 6 C Perforation

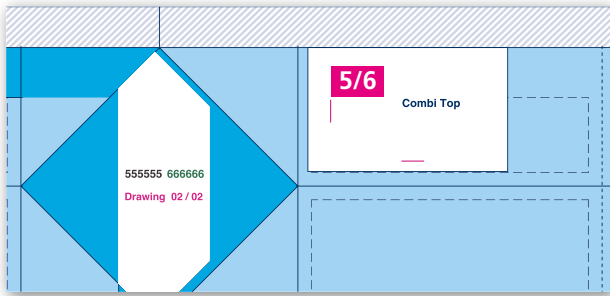
They are on the ear of the right-hand side of the carton and do not require any unprinted areas. Opening instruction pictograms should be placed on the narrow right-hand side and individual opening instruction pictograms can also be located here. The bend & tear text can be in any language.

The register cannot be changed with any element.

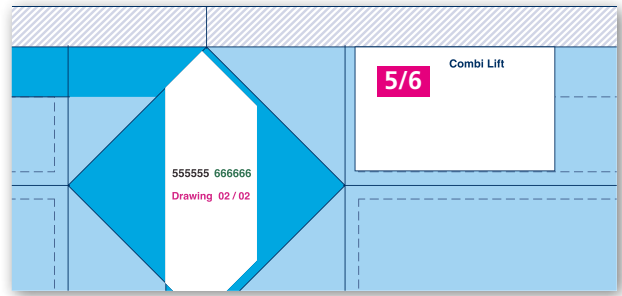
	Straw	W Perforation	V Perforation/ optimised V Perforation	Complete Perforation	C Perforation
	1	2	3 / 4	5	6
cb1	● 8 mm		●		
cb2					
cf2					
cb3	500 ml	●	●		
cb4			●		
cb5	500 ml	●	●		
cb6	●	●	●		
cb7	● 6 mm / 8 mm		●		
cf7	● 6 mm / 8 mm				
cb8			●		
cf8					
cb9					
cf9					
ce6				●	
cb12	● 6 mm / 8 mm				

The Opening Devices

Cross-Section of the Opening Devices per Format



types of cartons with the undivided back panel



types of cartons with the divided back panel

5 combiTop, 6 combiLift

They are on the right-hand carton top panel. The area within the white area (combiTop, combiLift) is to be unprinted at least.

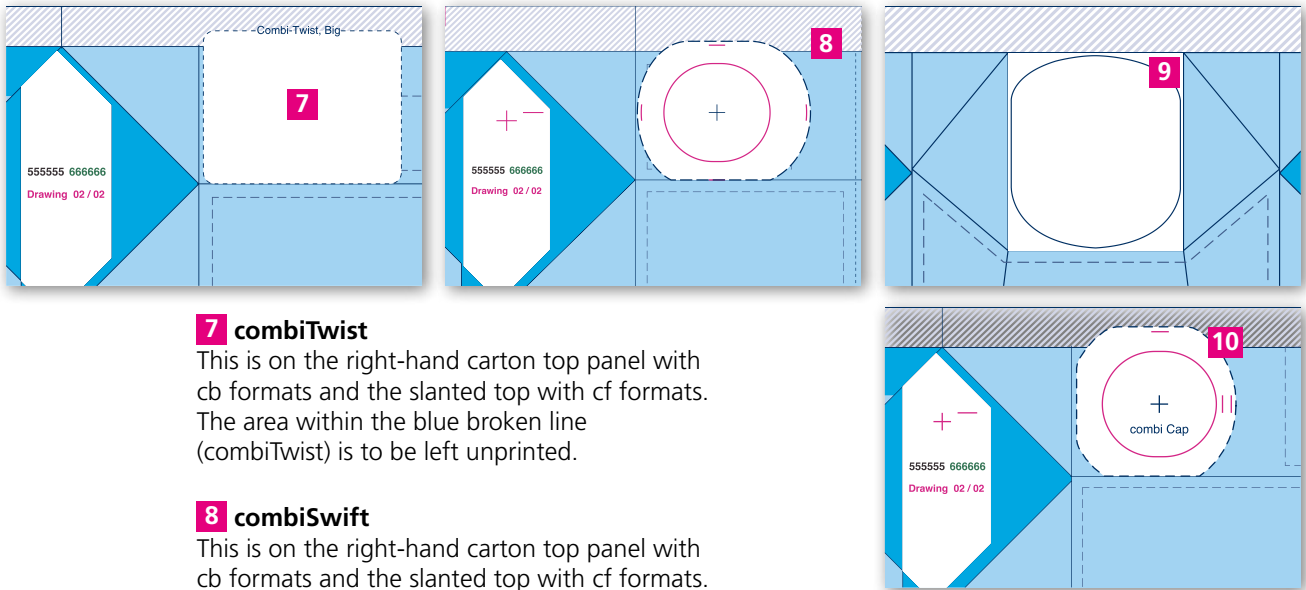


	combiTop	combiLift
	5	6
cb1		
cb2	●	●
cf2		
cb3	●	●
cb4	●	●
cb5	●	●
cb6		
cb7		
cf7		
cb8	●	●
cf8		
cb9	●	●
cf9		
ce6		
cb12		

*Not available for future projects

The Opening Devices

Cross-Section of the Opening Devices per Format



7 combiTwist

This is on the right-hand carton top panel with cb formats and the slanted top with cf formats. The area within the blue broken line (combiTwist) is to be left unprinted.

8 combiSwift

This is on the right-hand carton top panel with cb formats and the slanted top with cf formats. The area within the broken line (combiSwift) is to be left unprinted.

9 combiSmart

This is on the right-hand carton top panel with cb formats and the slanted top with cf formats. The area within the blue line (combiSmart) is to be left unprinted.

10 combiCap

This is on the right-hand carton top panel with cb formats. The area within the broken line (combiCap) is to be left unprinted.

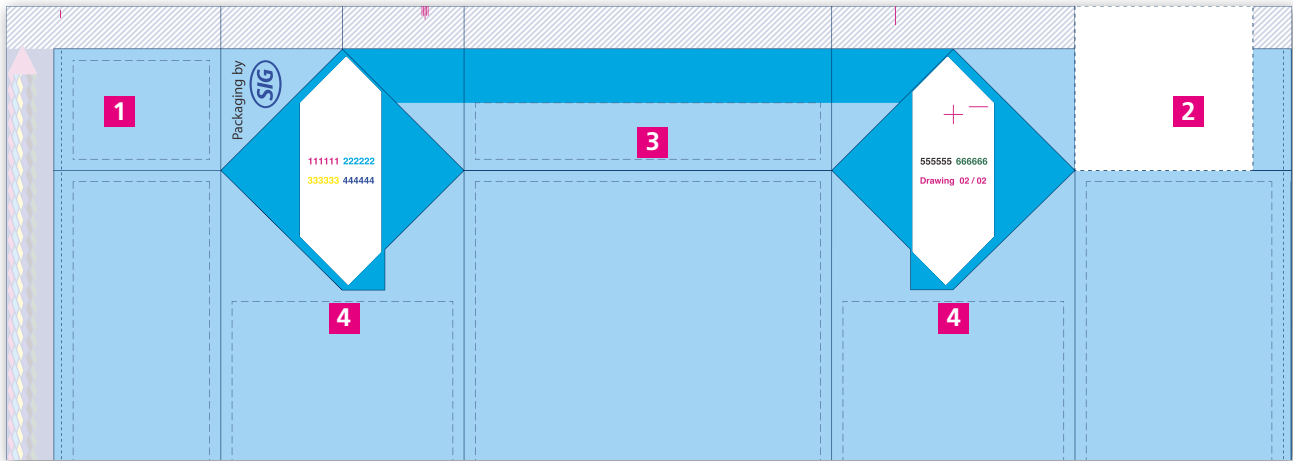


	combiTwist	combiSwift	combiSmart	combiCap
	7	8	9	10
cb1				
cb2	●	●		
cf2	●	●		
cb3	●	●		●
cb4	●			
cb5	●	●		●
cb6			●	
cb7				
cf7			●	
cb8	●	●		
cf8	●	●		
cb9	●	●		
cf9	●	●		
ce6				
cb12				

*Not available for future projects

The Opening Devices

Examples of Opening Instruction Pictograms and How They are Positioned



The illustration above shows the possible positioning of the opening instruction.

1 2 It can be positioned on the left- or right-hand top panel, however only if the opening device is not provided here. There is only one top rear panel area throughout cartons with an undivided back panel.

3 Positioning on the front top panel.

4 Positioning below or next to the ear areas.

SIG Combibloc will give you various opening instruction pictograms for each of the opening devices as a computer file on request.

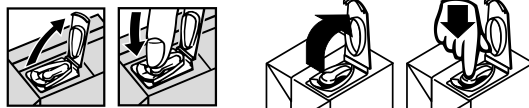
W Perforation



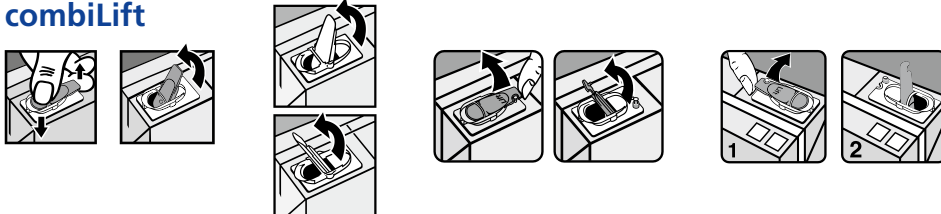
V Perforation



combiTop



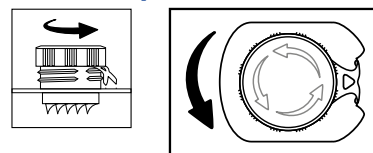
combiLift



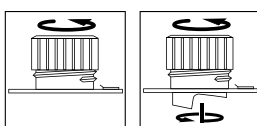
combiTwist



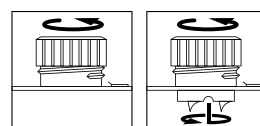
combiCap



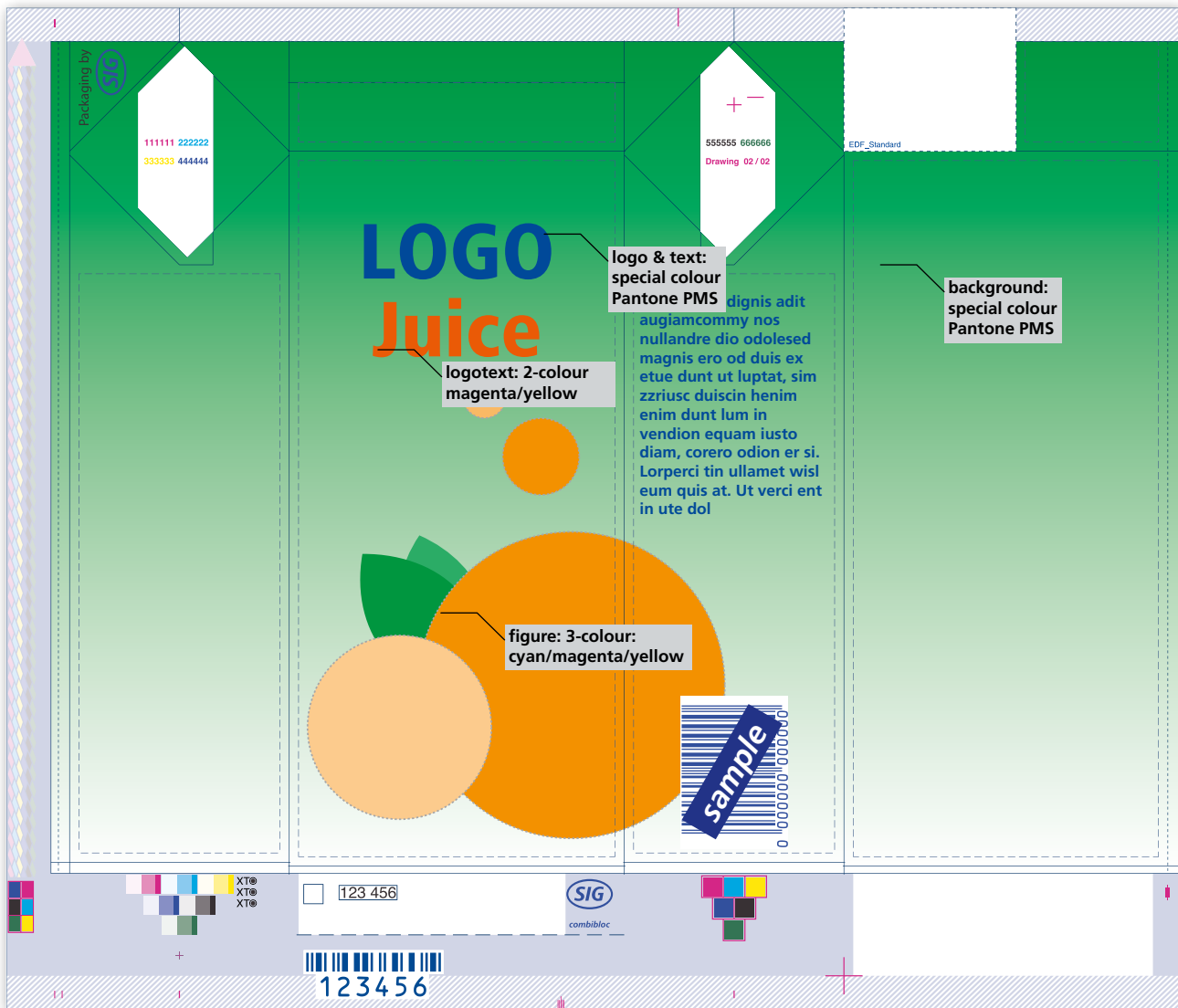
combiSmart



combiSwift



Designing Colour Sequence



- Figures are created with magenta, cyan and yellow in the SIG standard and black is generally not necessary
- We target re-setting with five decorative colours with the colour sequence.
- Three printing colours are required for illustrating figures.
- One more printing colour is required for the running text if a basic colour cannot be used for it.
- The last unprinted colour can be used for the background.

Stating Colours

Please define special colours with Pantone numbers from our Pantone Formula Guide Coated. The SIG process can only reproduce these colours approximately although the SIG colour profile will do its best to reproduce prints or colour patterns supplied.

Gold and silver

We have gold and silver for metallic effects. These colours have to be set up as special colours.

If necessary, please request an ink sample from SIG.

Designing Black Sequence

The black sequence in the SIG standard

The SIG standard only creates figures in magenta, cyan and yellow **1** and black is generally not necessary. **2** An image sequence with black is required with graphic figures with high contrast black contours (such as comics).

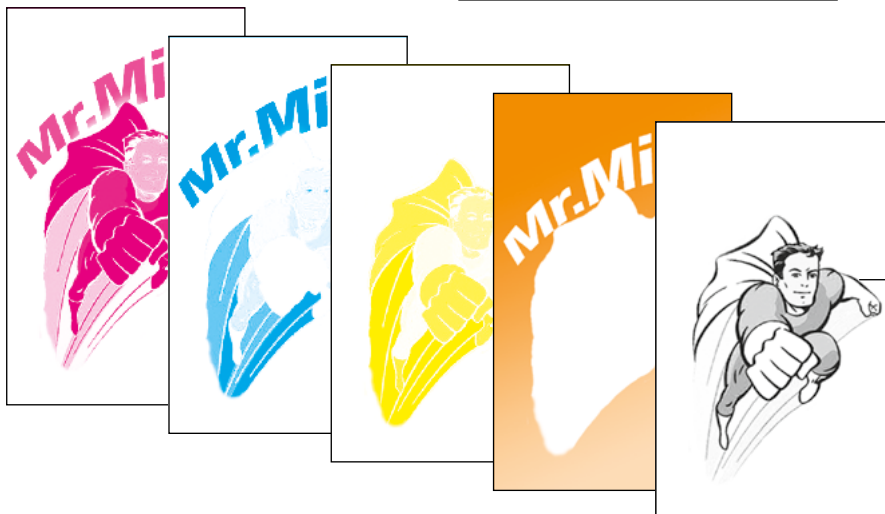


5-colour image sequence with black

3-colour image sequence without black



SIG standard printing with 3-colour build-up of the picture design



printing 5-colour build-up of the picture design

Designing Colour Drift with Grey and Brown Elements

With the three-colour build-up, there may be colour drift (i.e., a shift in colour) with process colours in different batches (see below) using grey or brown elements such as glasses of milk, porcelain, cocoa or brown backgrounds.

This means that the colour characteristic of the blanks may vary in relation to one another. This is the reason why it is essential to use special colours for these tones to ensure the impression of one colour throughout.



colour drift to blue



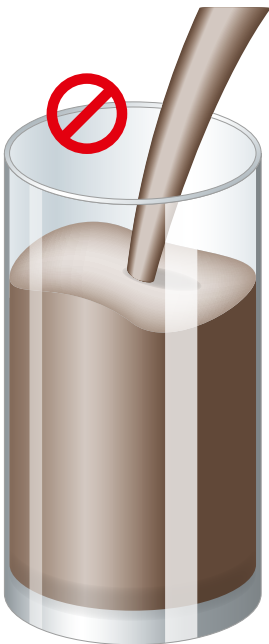
colour drift to yellow



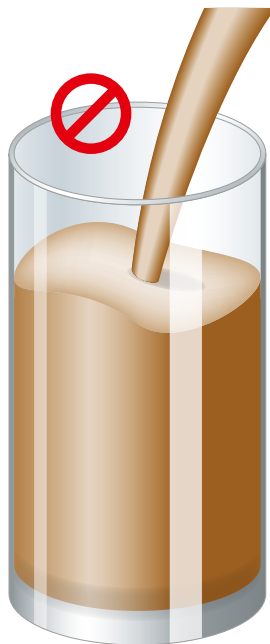
colour drift to red



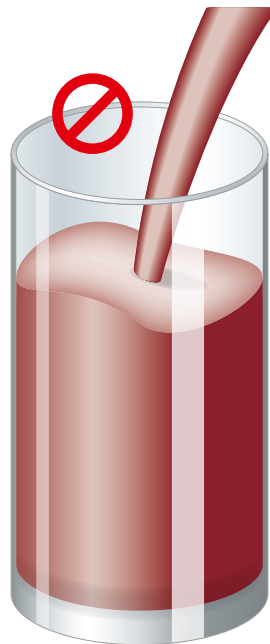
build-up with a special colour



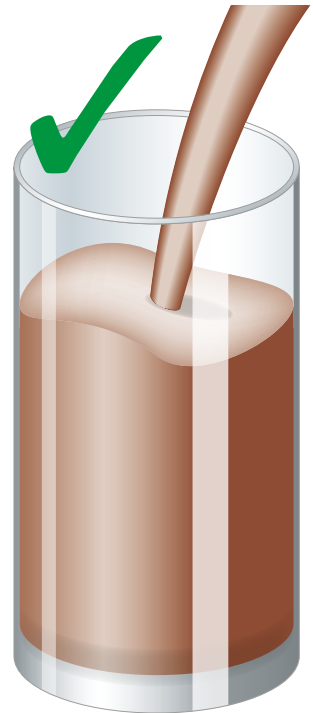
colour drift to blue



colour drift to yellow



colour drift to red

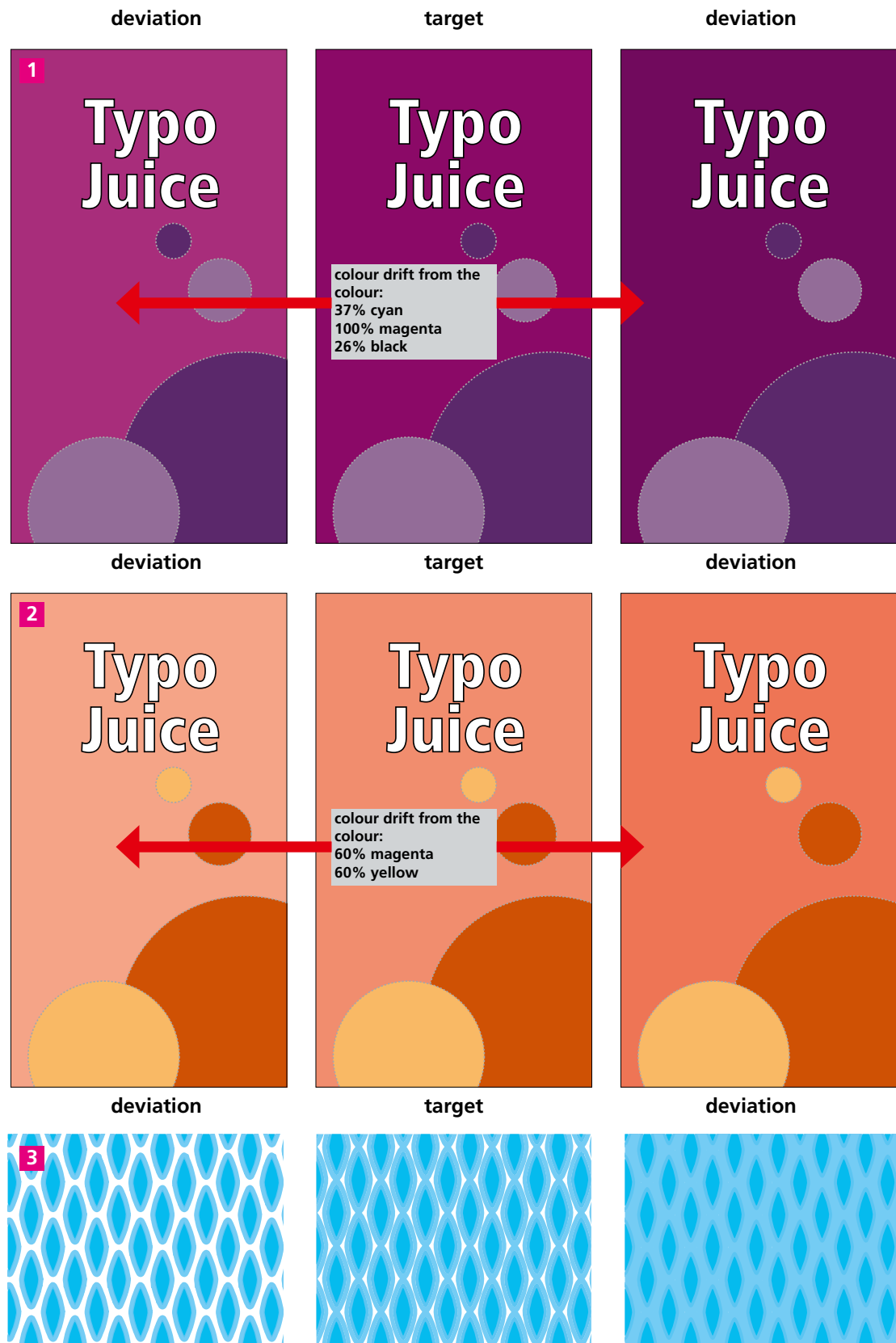


build-up with a special colour

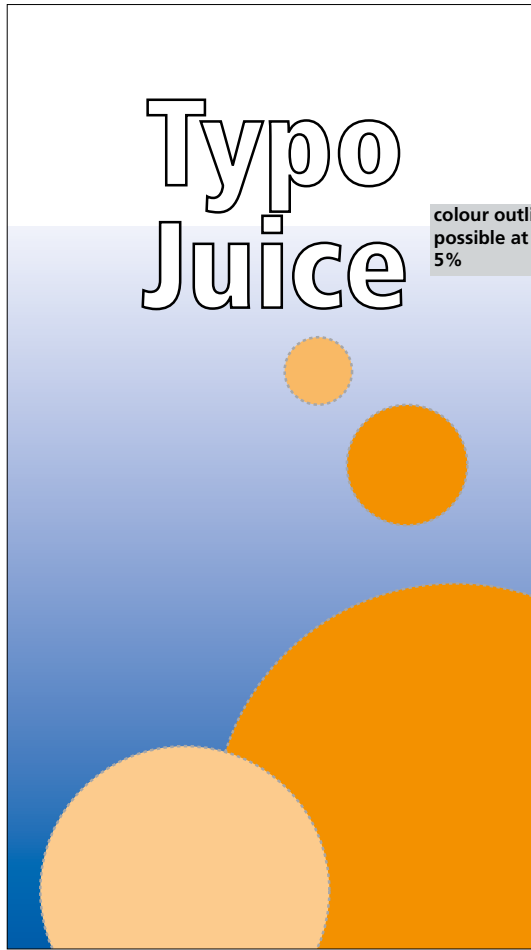
Colour Drift

Designing Colour Drift

With the three-colour build-up, there may be colour drift in different batches with background areas, logos and product colours **1** or by packing the flooding limit **2**. The colour overflows the cup at the flooding limit which leads to a tonal value shift. **3** The flooding limit is in the range of 60% and there may be colour drift with all copies within one unwinding. This is the reason why we recommend using a special colour.

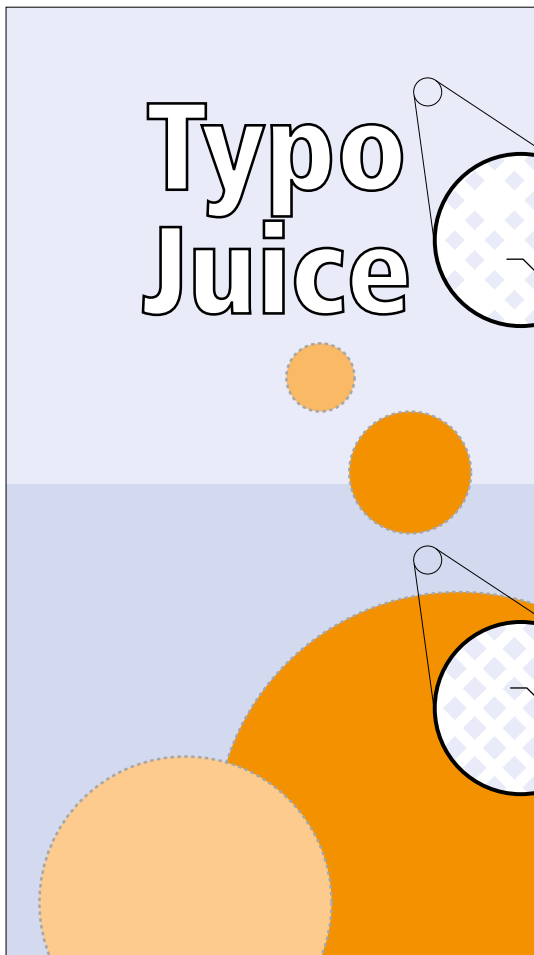


Designing First Tone Printed



The first technical tone printed (5%)

This is the first tone that the engraved cylinder can transfer to the carton. The lighter tonal values do not print. The density of the first transferred tone printed is not stable and it is set up as a minimum tone gradation in pictures and gradations. High-precision highlight dots can be set up in figures below the 5% limit.



Minimum tone for even ink transfer (18%)

Since the first technical tone printed cannot be printed stable, the minimum tone has to be 18% in broken graphic elements and areas. The first tone printed is higher in areas of technical tones or larger areas. A colour can only be printed on an area stable in the SIG process from 18% area coverage. Please bear this in mind since the print may be uneven.

less than 18%
area coverage

The use of a light special colour instead of a screened colour needs to be checked.

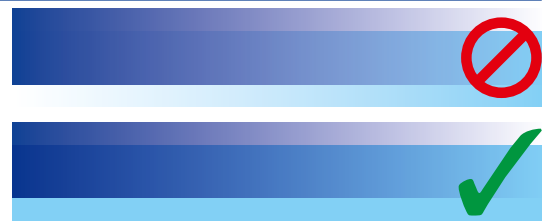
more than 18%
area coverage

Designing Gradations

The SIG printing process can generally reproduce gradations well. However, please bear the following in mind when setting up gradations.

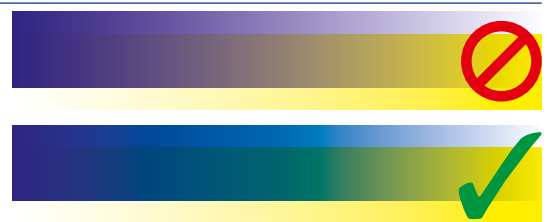
Two-colour reverse gradations

With gradations from bright blue to dark blue, the brighter tone should be the area under the entire gradation to achieve even print-out and good saturation. The mixture of gradations laid opposite one another has a very flat effect.



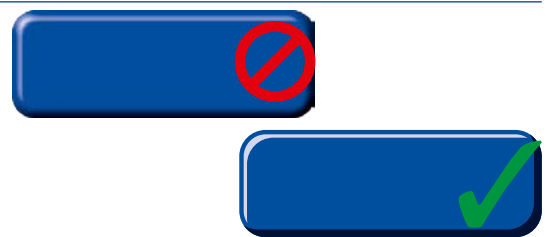
Gradations of complementary colours

Gradations of complementary colours mix in the middle and become a neutral grey, which cannot be seen as clearly on the monitor as in the print-out. You can only counter this effect by adjusting the gradation curve.



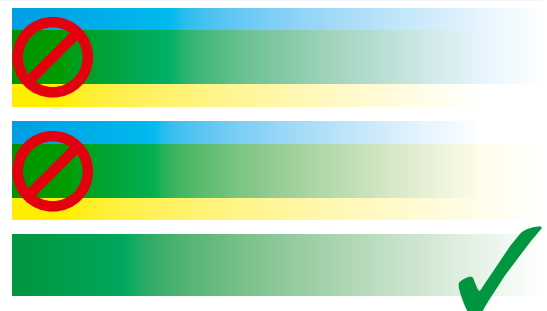
Short gradations

Short gradations in logos that follow the button design for the internet are difficult to print especially with small carton formats. This is the reason why we recommend setting up the bright/dark edges as surfaces. Please lay out these elements from a maximum of two colours for reasons of register tolerance (dark blue and black in this example).

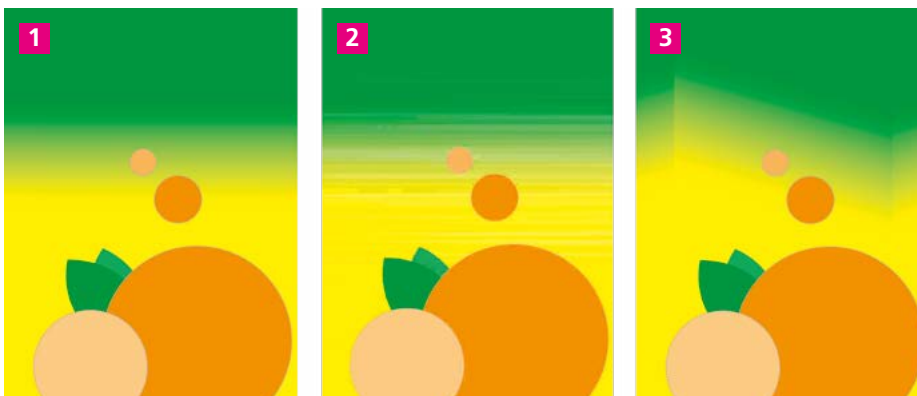


Two-colour parallel gradations

There may be colour outlines with gradations built up of two printing colours. Ideally, these gradations are printed from one special colour.



Diagonal gradations



Streaking:

In the mass production streaks in vignettes that run in printing direction, cannot be avoided unfortunately **1**.

2 Simulation of streaks.

Vignettes that are designed a little diagonally, have less tendency to print streaky **3**.

Designing Trapping / Spreading

Registers

There may be register variations in the printing process from the roll between the individual printing units.

- 1 Without trapping no white flashes are visible in the Epsonproof.
- 2 Due to register movement within the permitted production tolerance of +/- 0,25mm for each colour white flashes are visible. This will be perceived as uncomfortable often.
- 3 White flashes will be avoided by trapping contacting elements.

SIG Combibloc will adapt the necessary trappings to the design.



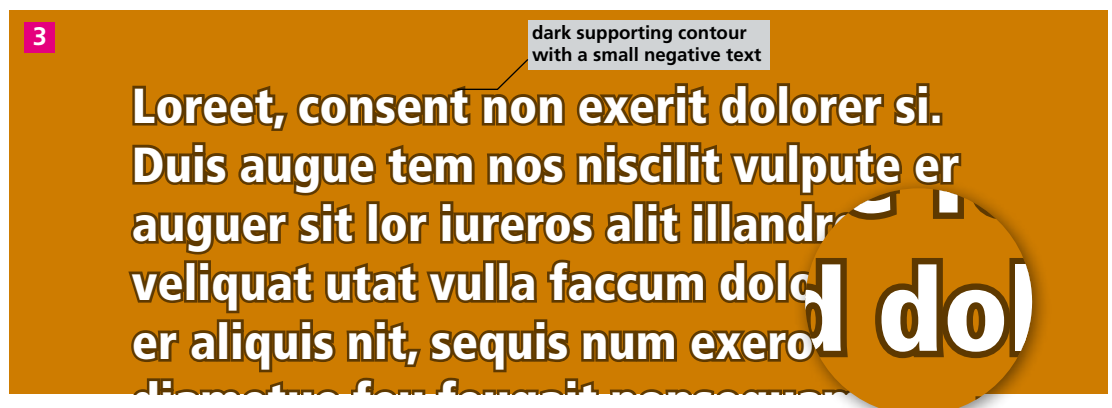
Designing Trapping / Spreading

Examples

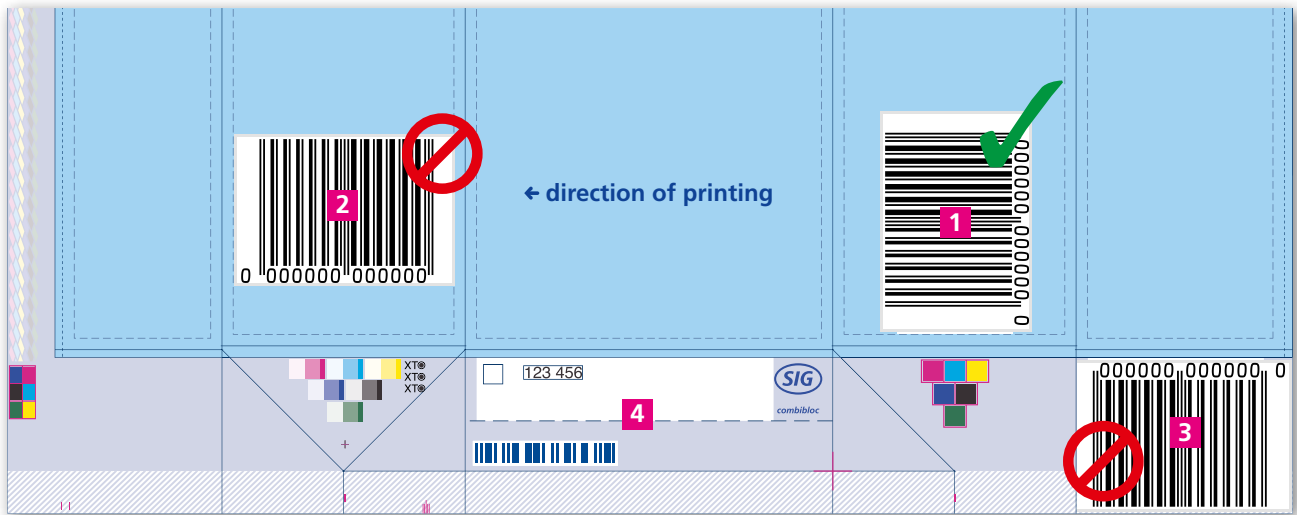
Trappings will be worked out in different ways to avoid problems with miss register in the print production.

- 1 If two colours overlap, you can prevent annoying white flash edges by setting up trapping. The worst-case scenario would be a dark contour.
- 2 If elements are left open in two colours, the brighter colour is pulled back. The darker colour remains as a sharp contour.
- 3 Register fluctuations may impair the readability of negative text in a multicoloured environment. This is the reason why a supporting contour has to be laid around the text in a dark contrast colour. We recommend avoiding negative text because of its poor readability.

SIG Combibloc will adapt the necessary trappings to the design.



Designing EAN-Code Standard/UPC-Ccode



1 The code's standard position is parallel to the printing direction. SIG can only guarantee the readability of the code in the standard position and when the minimum code size is chosen.
The minimum code size for all formats except for cb12 and combisafe is about 91% - SC 01.
The minimum code size for cb12 is about 85%.
The line reduction is about standard 30 µ.
The minimum code size for combisafe is about 100% - SC 02.

2 In this position SIG cannot guarantee the readability of the barcodes.

3 In this position SIG cannot guarantee the readability of the barcodes. The biggest possible code will be inserted in the limited free space in the right hand side of the bottom (see format series). As required the wording will be moved to the left hand side of the bottom.

4 The interleaved code is identical with the print number and is used for storage purposes. Binding for the position is the rectangle in the valid keylines.

Interleaved-Code		
code size	line reduction	code height
63%	0.00 mm	5.00 mm

General Instructions

The height of the codes can be shortened (bar length) by 33%. If the code number is not known yet, insert zeros instead. Do not use number sequences such as 1234...6789. Only by using zeros do you make sure that an invalid code is definitely recognized.

Barcodes have to be set up in a high contrast colour. Therefore, please set up the code in black, cyan, dark blue or dark green and avoid codes in yellow, orange, red, violet, bright brown tones and pastel colours since the red-light laser perceives these colours as white. Codes in metallised colours and negative set-up codes cannot be decoded.

The background of barcodes should be completely white.

Electro-mechanical engraving is used as standard engraving technology.

If requested by SIG Preprint department, other engraving technologies like HQH, XT can be used as well.

UPC Code

The information for the EAN code also applies to the UPC code. Please also note that the white space of the UPC code differs.

Designing Special EAN-Codes for ALDI

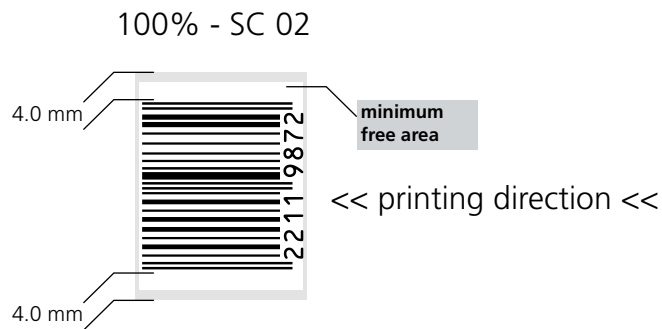
- **The minimum code size for all formats is about 100% - SC 02.**

The line reduction is about standard 30μ.

Electro-mechanical engraving is used as standard engraving technology. If XT is used for other elements in the relevant colour, the barcode must be engraved using the special engraving technology also.

- The background of barcodes should be completely white.
- Before the first and behind the last bar a print free area of 4 mm is indispensable.

The readability is worked out according to DIN EN ISO/IEC 15416.
To re-check the REA Scan-Check is used. Quality class B has to be achieved.



Designing QR-Code




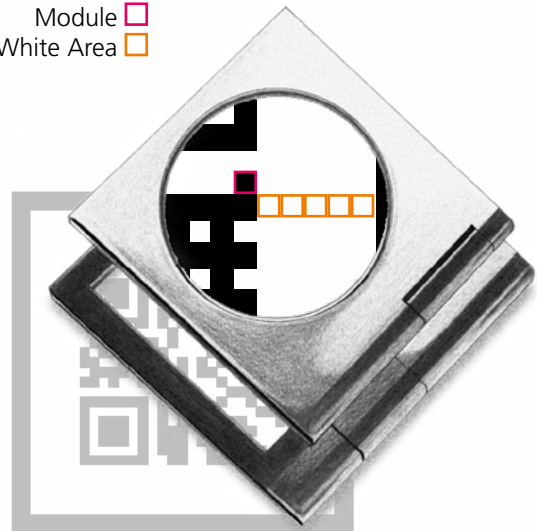
QR-Code		
Module-Size	Quality-Grade	White Area
0.47	Q	5 Modules

The QR-Code cannot be generated by SIG Combibloc and must be created and delivered by the design agency following the specification.



Example for minimum QR-Code size

Module 
White Area 



Designing

Standard Values: Print - Reproduction - Carton Blank

The following standard values result from SIG Combibloc's production process.

register tolerance	± 0.25 mm
first printing tone	5%
minimum tonal value	18% (graphic elements)
Maximum ink-coverage	300% , in trapping keylines also
register colour	1st colour
Lines and text always print in one colour	
line weight positive 1-colour	min. 0.2 mm
line weight negative 1-colour	min. 0.2 mm
White keyline	min. 0.5 mm
positive text in one colour	1.6 mm min. cap height and 0.2 mm line weight 6.5 points Helvetica Regular (Adobe Illustrator für Macintosh)
negative text in one colour	1.6 mm min. cap height and 0.2 mm line weight 6.5 points Helvetica Regular (Adobe Illustrator für Macintosh)
positive text in one colour with special engraving	1.2 mm min. cap height and 0.12 mm line weight 4.8 points Helvetica Regular (Adobe Illustrator für Macintosh)
text contoured and 1-colour	min. 0.5 mm + underfilling $\frac{1}{2}$ contour = 0.25 mm
Gold and Silver	
These colours can only be printed as fulltone colours, not as screened halftones. Electromechanical engraving using 54 screen is required	
text / lines in gold and silver	3.0 mm min. cap height and 0.35 mm line weight 12 points Helvetica Regular (Adobe Illustrator for Macintosh)
serif typefaces	special engraving if serifs are below 0.2 mm
height difference of the seam	± 0.75 mm (longitudinal seam vertical match point – package erected)
seam deviation	± 2.0 mm (longitudinal seam horizontal match point, package erected)



Restrictions for the use of font styles

The font styles "condensed", "compressed" and fonts using kerning are not allowed to be used for tables and main text as the legibility is constricted.

Helvetica condensed

Ich bin nur ein kleiner Blindtext. Wenn ich gross bin, will ich Ulysses von James Joyce werden. Aber jetzt lohnt es sich noch nicht, mich weiterzulesen. Denn vorerst bin ich nur ein kleiner Blindtext.

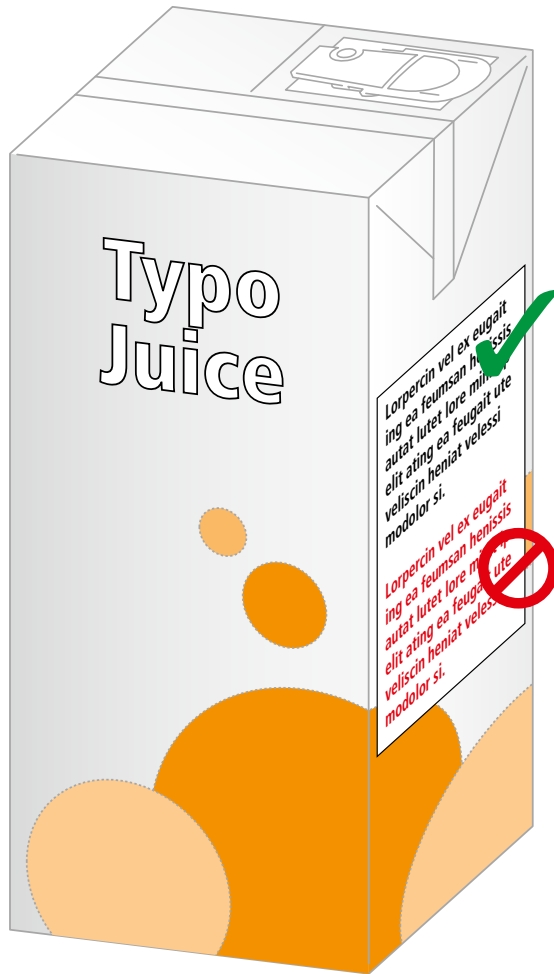
Helvetica compressed

Ich bin nur ein kleiner Blindtext. Wenn ich gross bin, will ich Ulysses von James Joyce werden. Aber jetzt lohnt es sich noch nicht, mich weiterzulesen. Denn vorerst bin ich nur ein kleiner Blindtext.

Helvetica regular using kerning

Ich bin nur ein kleiner Blindtext. Wenn ich gross bin, will ich Ulysses von James Joyce werden. Aber jetzt lohnt es sich noch nicht, mich weiterzulesen. Denn vorerst bin ich nur ein kleiner Blindtext.

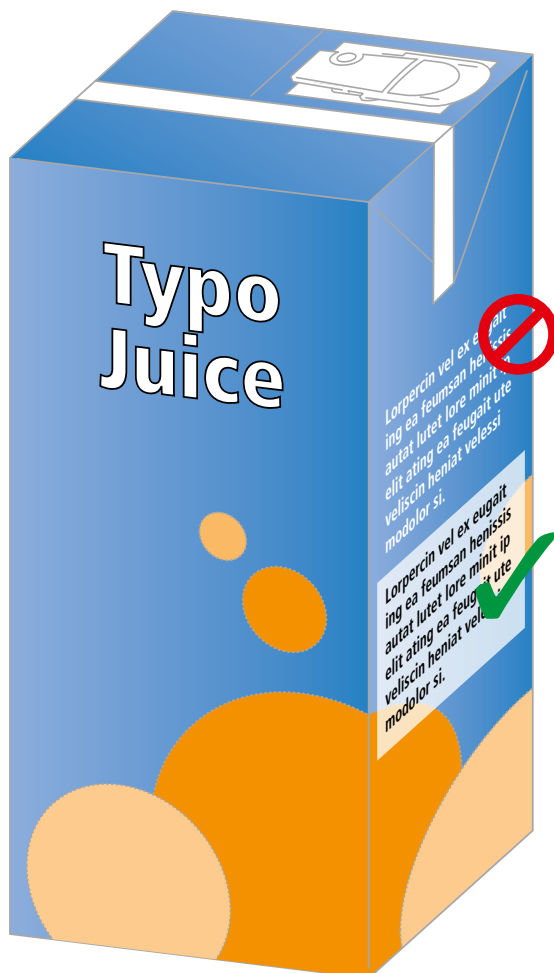
Designing How to Save Money



Lay out your design so that only one cylinder will have to be engraved again if there are later changes in the text (for instance, if there are ingredients or nutritional value changes). Avoid negative white texts that run through parts of the image because this always makes more colours (and therefore cylinders) necessary.

Monocolour text (black) = Here you save money because you only have to engrave one printing cylinder again.

Two or multicolour text = higher costs because you have to engrave two or more printing cylinders again.



Negative text = higher costs, because you have to engrave two or more printing cylinders again.

Monocolour text on lightened background = Here you save money because you only have to engrave one printing cylinder again.

Delivering Data

Information for Delivering Data

We have compiled some information for optimum and least expensive working conditions.

Please bear the fact in mind that your designs have to be transformed into engraving data for optimization for the SIG printing process. This might involve modifying the data to comply with all specifications and adapting them to SIG's colour space.

Open computer files

Certain rules have to be followed for creating and delivering open computer files. For example, no layers must be flattened in Photoshop or Illustrator. In other words, pictures, texts and backgrounds, etc. all have to have a separate layer to be able to work efficiently.

The programs and operating systems used

We can process all open computer files from the standard graphic programs in the Mac and Windows operating systems. Please do not use any office software (such as Word, Excel or PowerPoint) for layouts. We also process all common storage media available today.

The completeness of data components

Please always make sure that all data components linked to the document such as fonts, pictures or graphics, etc. are on the data carrier.

Fonts

To work out all necessary technical adaptations and to do corrections belated please send the graphic file with open, editable texts and also saved with vectorised texts. Please remember that the typefonts used in the design need to be delivered. All font information has to be converted to path in files from a Windows environment and with non-latin characters.

Print-outs and colour specifications

It is important to attach print-outs in colour along with your data. This is the only way we can compare the computer file you supply with the expected results.

Picture data

We process the picture data formats TIFF, EPS, PSD and DCS. Digital picture resolution also has to be at least 300 dpi on a scale of 100% for optimum reproduction quality. Graphic elements such as logos and symbols should be set up for optimum reproduction in printing as vector graphics.

Check-list + delivering data form

We have prepared a check list to make work easier to ensure there are no unpleasant surprises. For smooth handling, you should also fill out the delivering data form and forward it to us with your data.

Order for the production / modification of a design

To start the repro work and to produce the printing forms after approval of the design SIG requires the filled "Order for the production / modification of a design" form. Please ask your contact person at SIG to provide you the document if you don't have it on hand.

Please remember that we can only start the origination process on receipt of all data.

Delivering Data

Check-List for Delivering Data

- Print-outs and colour information**

We have attached colour print-outs with remarks on colours. We have also attached and labelled the existing colour specifications such as labels. We have given internal and logo colours or they are attached as patterns.
- The programs and operating systems used**

The computer file was created in QuarkXPress, InDesign, Illustrator, Freehand and Photoshop or ArtPro in the MAC or Windows operating systems. Please consult with SIG if other programs than the ones mentioned above have been used to create the files. All computer files have been supplied as open data.
- Completeness of data components**

All linked data components of the document such as fonts (also used in EPS computer files), pictures and graphics, etc. are on the data carrier. All font information is already converted to path in graphic EPS computer files from a Windows environment.
- Typefonts**

The typefonts of all characters used in the design will be delivered. The file has been saved with open, editable texts and also with vectorised texts. Please remember that the typefonts used in the design need to be delivered. All font information has been converted to path in files from a Windows environment. Non-latin characters are delivered converted to path only.
- Document structure**

The design was created on an SIG Combibloc supplied keyline.
- Colours**

It only contains CMYK colours with the exception of the defined special colours and RGB files have already been converted. Colours not used in the document are deleted.
- Picture data**

The picture data correspond to the TIFF, EPS, PSD or DCS formats in the colour modes of bitmap, grey levels, CMYK or Duplex.
- Special instructions**

Special instructions are required and they should be noted on the delivery protocol.
- Internal coding**

The pattern or article number is given on the carton for visible printing.
- Order for the production / modification of a design**

By forwarding the document the order to process repro and printing forms is intended.