

TECHNICAL SPECIFICATION/ 2024.11./ 7 v.

The following specification is related to graphic files intended for printing in Polipaks production. Its goal is to fulfill the high standards of flexo-print.

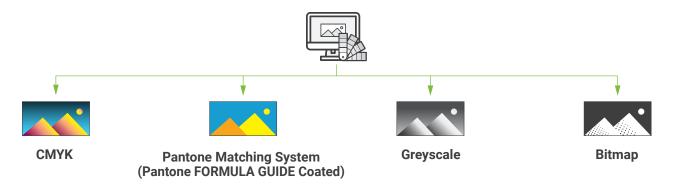
Any deviations from below mentioned requirements must be agreed between customer and Polipaks.

### **1 FILE FORMATS**

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•		Y	•
General Acrobat 8 (PDF 1.7)	Compression	Marks and Bleeds	Output
Options	Color Bitmap Images	Bleeds	Color
<ul> <li>Preserve Editing Capabilities;</li> <li>Create Acrobat Layers from Top-Level Layers</li> </ul>	Do Not Downsample 🔻	Use Document Bleed Settings	Color Conversion:
Create Acrobat Layers from Top-Level Layers	Compression: None -	Top: 0 mm Left: 0 mm	No Conversion -
	Grayscale Bitmap Images	Bottom: 0 mm Right: 0 mm	
	Do Not Downsample 🔹		
	Compression: None -		
	Monochrome Bitmap Images		
	Do Not Downsample -		
	Compression: None -		
	Compress Text and Line Art		

#### 2 COLOUR

**2.1** Vector and raster graphic files should be provided in the following colour models:





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**2.2** Print press allows printing up to **10 inks**, including technical coatings (white ink, varnish coating);

**2.3** The laminator allows application of different coating in register on already preprinted or clear film (**matt** varnish, **anti-slip** varnish, **antifog** coating etc).

2.4 Total ink coverage - 320%;

2.5 Gradient fills must be in tonal range from 3 to 99%;

**2.6** Using the opacities and different blending modes (Screen, Multiply, ...) is allowed, except for the use of opacity in the gradient sliders and on Gradient Mesh object (Adobe Illustrator);

**2.7** Colour tones **less than 8%** and **above 95%** in printing can be reproduced with some deviations from the original layout. For large areas of light tones, it is recommended to enter **special colours (Pantone)**;

**2.8** If the artwork contains **corporate colours**, please provide us with the **Pantone number** according to **"Pantone"** digital catalogue;

**2.9** Standard raster slope angles **7,5**°; **37,5**°; **67,5**°; **82,5**°. So, for "active" colors the difference between raster slope angles must be **30**°, but for "**non-active**" colors raster slope angle may differ for **15**° (e.g. for yellow color). Overlay of colors that have equal raster slope angle and different lineatures (LPI) is unacceptable;

**2.10** For **ink control** on printing, it is required to add **control scales** on artwork (round or square elements, which size is about 5 mm). Two elements for each color (100% and 50%):



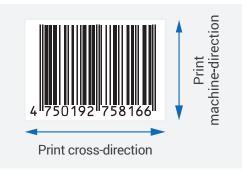
**2.11** We will pay attention to the colour profile if it's part of artwork file. For all other cases **ISOcoated\_v2\_eci** will be the main profile which based on the data specification **FOGRA39** and meet the **ISO 12647-2:2004** standard requirements.



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### 3 EAN-13 BARCODE

**3.1** Minimum EAN-13 barcode size is: **SC0** for **print machine direction** and **SC2** for **print cross-direction**;



**3.2** EAN-13 barcode must be implemented in **1** ink. **Contrast** strongly influences readability (we recommend to use black ink on white background).

- 3.3 BWR: 0.04 mm.
- 3.4 Verification is possible for barcodes up to 66 mm wide, including Quiet Zones:



**3.5** If there are requirements for the barcode reading class, both the left and right Quiet Zones must be increased by at least **2 mm**:





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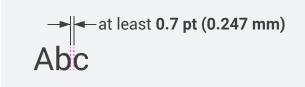
### **4 TEXT**

#### 4.1 Minimum font size

Example		Font	Number of Inks	Font Size
positive	Example	Sans-serif, boldface	Single ink	5 pt
	Example	Serif, decorative and thin face	Single ink	9 pt
	Example	Sans-serif, boldface	2-4 inks	7 pt
	Example	Serif, decorative and thin face	2-4 inks	11 pt
negative	Example	Sans-serif, boldface	Single ink	7 pt
	Example	Serif, decorative and thin face	Single ink	10 pt
	Example	Sans-serif, boldface	2-4 inks	12 pt
	Example	Serif, decorative and thin face	2-4 inks	14 pt

#### 4.2 Letter spacing

The spacing between characters must be at least 0.7 pt (0.247 mm). Reducing the standard letter spacing of the font is not recommended.



**4.3** For successful text adaptation to print the following files are required:

- a design file with converted text to **Outlines** (including text in **Smart Layers** of Photoshop);
- a design file with an active text;
- ► a package of the fonts used in the design.



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### **5 LINES**

#### 5.1 Minimum line width

	Example	Number of Inks	Line width
positive		Single ink	0.1 mm
		2-4 inks	0.4 mm
negative		Single ink	0.3 mm
		2-4 inks	0.6 mm

5.2 Lines with the "Hairline" attribute cannot be used;

# 6 IMAGES

6.1 Rotating, scaling and cropping of images must be performed in Adobe Photoshop;

6.2 If the artwork contains raster images, they should be attached separately:

.PSD	PSD files - with layers	TIFF files - without compression		
	Layers		TIFF Options	
	• E S Curves		mage Compression	
	Object 1		None None	
	• Object 2			
	Background			



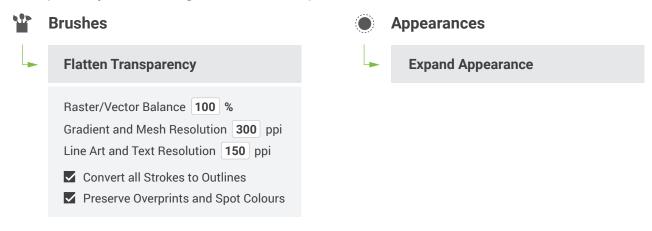
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# 7 **RESOLUTION**

- 7.1 Resolution for raster images is 300 dpi;
- 7.2 Resolution for effects created in Adobe Illustrator is 600 dpi;
- 7.3 Resolution of line images (Bitmap) must be between 600 and 1200 dpi;

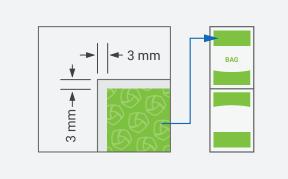
### **8 COMPLEX OBJECTS**

Complex objects in design should be simplified:



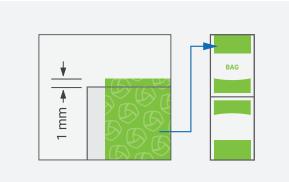
### 9 MARGINS & BLEEDS

#### 9.1 Margin



For the "bread packaging"-type products, all printed elements must be placed with the **margin** of not less than **3 mm** from the edges of the bag;

#### 9.2 Bleed



All printed elements, which are printed up to the edges of the product must have **bleed** of **1 mm**;



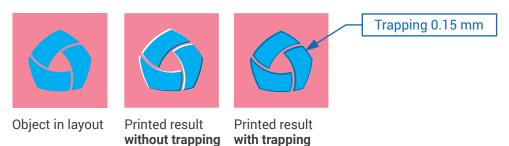
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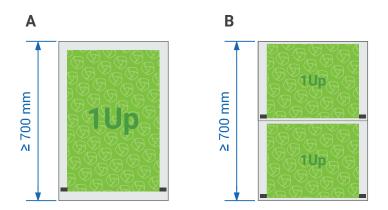
### **10 TRAPPING**

### Trapping - 0.15 mm\*

It should be considered, that "trapping" **changes the visual perception of design**, especially when using contrasting colours and small objects:

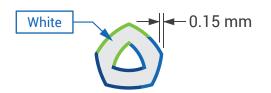


\*If the Step & Repeat file height is greater than 700 mm, 0.2 mm trapping is applied:

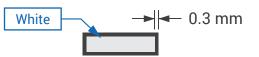


## **11 PULLBACK FOR WHITE INK**

For art elements: **0.15 mm**:



For photo tags: 0.3 mm:





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# 12 VARNISH COATING

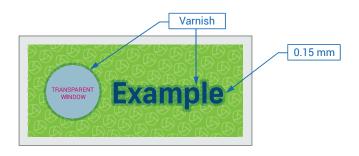
#### 12.1 Minimum object sizes:

E	Example	Object	Matt Varnish	Paper Touch Varnish
positive		Minimum line width	0.4 mm	0.6 mm
	Example	Minimum <b>font size</b> - sans-serif, boldface	12 pt	14 pt
negative		Minimum <b>line width</b>	0.6 mm	0.8 mm
	Example	Minimum <b>font size</b> - sans-serif, boldface	14 pt	16 pt

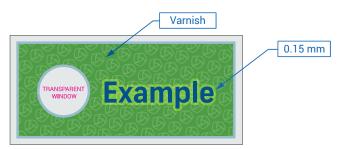
**12.2** If the varnish is applied in **one** run (at the same time with other inks) - the varnish is applied **1:1**;

**12.3** Varnish coating is applied in a **separate** (additional) run:

a) Fragmentary Varnish coating:



b) Varnish coating on the **background**:





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### **13 PLACEMENT OF DESIGN OBJECTS BY LAYERS**

- 13.1 It is recommended to delete all unused colours, brushes and styles;
- 13.2 Artwork must not contain hidden or non-printable elements;
- **13.3** The following information must be on separate layers:

