

Technical Specifications

Preparation of materials for printing, handling templates and basic quality standards

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1. Document scope

The technical specification is a document that defines the technical requirements and the method of preparing graphic materials for printing, the method of transferring materials to PromoNotes, and the rules for using product templates, and also informs about any possible risks resulting from the specificity of printing and manufacturing of products by PromoNotes. The technical specification is an inseparable and integral part of the General Contractual Conditions.

2. Definitions

1. Color profile - a set of data that characterizes the color in accordance with the standards announced by the International Color Consortium (ICC).
2. CMYK - a set of four basic colors of printing inks commonly used for multi-color printing in printing industry and in related methods. The set of these colors is also referred to as "process colors" or "triad colors". CMYK is also one of the color models when working with computer graphics.
3. PMS / HKS - abbreviated names of spot color systems.
4. Uniform background - one-color surface.
5. Metamerism - a phenomenon involving a different perception of the color of the same coloring substance (e.g. contained in paint) depending on the type of light in which a given coloring substance is observed.
6. Color proof - a printout from a digital machine that reflects the target printout. The color proof is the basic color pattern during printing.
7. Plano sheet - a printed sheet of paper, uncut and unlaminated, archived to be used as a color reference for reproduction or to assess possible discrepancies between the color pattern and the printout.

3. File preparation instructions

File formats:

Files for printing should be delivered in PDF format. The preferred version by PromoNotes is PDF/X-4 (or PDF in version 1.4 and higher, allowing for saving layers). The file should not contain color profiles (ICC). When flattening the transparency, pay attention to whether the graphics have not been mixed with template colors. The file should not contain printing marks (cut lines, registration marks and color stripes). The file should be prepared at 1:1 scale; it should not be scaled.

Color:

Materials should be prepared and delivered using the CMYK color model. In the case of materials prepared with PMS or HKS colors, the exact color number must be specified, taking into account the type of surface (see below).

The Pantone patterns used by PromoNotes are valid from 1.09.2023 to 31.03.2025. The following Pantone templates are valid:

- for coated surfaces: Pantone Formula Guide Solid Coated - colors featured in this guide have the letter C added; ISBN 978-1-590655-56-6

- for uncoated surfaces: Pantone Formula Guide Solid Uncoated - the colors in this guide have the letter U added; ISBN 978-1-590655-57-3

The HKS patterns used by PromoNotes are valid from 1.09.2023 to 31.03.2025. The following HKS templates are valid:

- for uncoated surfaces: HKS K- all colors in this guide have the letter K added;

- for uncoated surfaces: HKS N - all colors in this guide have the letter N added.

Regarding Pantone metallic colors, colors 871-877 can be printed on coated and uncoated surfaces and colors 8003, 8021, 8062, 8100, 8201, 8281, 8321 can be printed only on coated surfaces.

Neon Pantone colors 801-807 can be printed on coated and uncoated surfaces.

If black color is used by the Contractor in the graphic design, PromoNotes recommends:

- for large graphic elements (uniform backgrounds) use black color in the CMYK graphic model (suggested CMYK composition for deep black is 50/40/35/100);

- for small graphic elements, e.g. texts or lines, use only black (K 100%);

- to prepare gray and black and white photos only with black. In the case of preparing gray from all CMYK components, they will always take shades of triad colors, and in addition, the perception of color will depend on the lighting (metamerism). In the case of gray prepared from all CMYK components, the view on the monitor screen will always be different than the perception of the finished product.

In the case of CMYK digital printing with white, the elements to be printed in this color should be defined as an additional fifth color called "WHITE".

Color guides:

Unless the customer specifies a different printing color target, we use standard color guides as a color target:

| colors | type of surface | standard color guide |
|----------------------------------------------|---------------------------|-------------------------------------------------|
| CMYK | coated paper | Proof - ISO 12647-7:2016, FOGRA51 |
| CMYK | uncoated paper | Proof - ISO 12647-7:2016, FOGRA52 |
| Pantone® | coated paper | Pantone® Solid Coated |
| Pantone® | uncoated paper | Pantone® Solid Uncoated |
| HKS® | uncoated paper | HKS K guide |
| HKS® | uncoated paper | HKS N guide |
| special spot colors - metallic | coated paper | Pantone Metallics Solid Coated |
| special spot colors - pastel and fluorescent | coated and uncoated paper | Pantone Pastels & Neons Solid Coated & Uncoated |

In the case of renewals - i.e. orders for a product previously made by PromoNotes with the reference by the customer to the number of the previous order, the color guide is an unfinished printing sheet from the previous production, archived with us. Planos are archived for 18 months. Reissues of projects earlier than 18 months are produced in accordance with the standard guides indicated in the table above.

Before production, it is possible to make a certified proof on customer's request.

If the customer is interested in using a color guide other than those listed above, they inform PromoNotes about it when placing the order.

Color evaluation methods:

| color evaluation method | | description | required conditions |
|-------------------------|-------------------|-------------------------------------------------------------------------------------------------|------------------------------------------------------------|
| basic | visual assessment | visual comparison of the color pattern with the unfinished print sheet in standardized lighting | standardized light D50 (with a color temperature of 5000K) |
| selective | color measurement | determination of color differences based on spectrophotometer measurement | measurement conditions listed in the table below |

Measurement conditions:

| | |
|------------------------------------------|-------------------------------------|
| the illuminant | D50 |
| observation angle | 2° |
| geometry | 45°/0° |
| measurement mode | M1: D50, without polarizing filter |
| method for calculating color differences | ΔE_{00} (CIEDE2000, dE2000) |

In the case of metallic paints, we do not measure with a spectrophotometer.

Color checks are carried out during printing and additionally shortly after, before the sheets are archived.

Colors may change due to the physical and chemical properties of paints. Changes may also occur during the printing finishing processes. Fluorescent pigments are not very resistant to light and refining processes, and metallic ones may tarnish. Some paint components change over time - for example, they turn yellow.

Due to the influence of the print finish on the perception of colors, unfinished sheets are subject to evaluation.

In the case of printing on surfaces dyed in the mass with colors other than black - the color of the print is checked on a white surface, and then the target surface is printed over.

Fonts and minimum sizes possible to obtain in print:

All fonts used should be embedded in a file or converted to curves.

PromoNotes recommends using fonts with a size of not less than 6pt or where the thickness of the element is not less than 0.2pt. The given value applies to printing in black with a raster intensity of 100%. As the intensity of the raster decreases, the minimum thickness should increase.

Thickness increase recommended by PromoNotes:

- the minimum element thickness for 100% raster is 0.2pt (0.07mm)
- the minimum element thickness for 75% raster is 0.25pt (0.08mm)
- the minimum element thickness for 50% raster is 0.35pt (0.12mm)
- the minimum element thickness for 25% raster is 0.4pt (0.14mm)

Bitmap quality:

Please note that the images used must have a minimum resolution of 300dpi. Below this value, PromoNotes is not responsible for their quality after printing.

Embossing:

- graphic elements must be vector graphics - it is not possible to make a matrix from raster graphics;
- files should be prepared at 1:1 scale;
- elements should be closed objects with a uniform filling, they cannot contain contours;
- the minimum element thickness is 0.2 mm (= ca 0.6 pt);
- the minimum thickness of the recess (space between two elements) is 0.3 mm (= ca 0.9 pt);
- it is not possible to match the embossing with print elements;
- embossing cannot be placed on UV varnish.

Embossing with foil:

- graphic elements must be vector graphics - it is not possible to make a matrix from raster graphics;
- files should be prepared at 1:1 scale;
- elements should be closed objects with a uniform filling, they cannot contain contours;
- the minimum element thickness is 0.2 mm (= ca 0.6 pt);
- the minimum thickness of the recess (space between two elements) is 0.4 mm (= ca 1 pt)
- it is not possible to match the embossing with print elements;
- embossing cannot be placed on UV varnish.

UV varnish:

- the minimum element thickness is 0.4 mm (= ca 1 pt);
- the minimum thickness of the recess (space between two elements) is 0.5 mm (= ca 1.4 pt);
- graphics in files for UV varnish should be larger by 0.1 mm (= ca. 0.2 pt) than the graphics on which this varnish is to be applied;
- material for UV varnish should be delivered in a separate file - it should not be included in files for offset printing.

Digital printing on the sides:

- the minimum thicknesses of elements possible to obtain are the same as the minimum thicknesses in offset printing;
- the file for printing should be prepared for each side separately (one PDF file or one PDF page);
- files should always be oriented vertically - according to the indications in the template;
- bleeds in the file should be 0.9 mm on each side;
- do not place details such as logos or text in rounded corners. Such elements should be placed at least 10mm from the rounding;
- graphics of a notebook or a block whose sides are to be printed cannot extend to the bleed;
- in the case of sticky notes, the side cannot be printed over with a solid color. Uniform background can be used on the sides of writing pads.

Screen printing:

- graphic elements must be vector graphics - it is not possible to screen print raster graphics;
- graphics must be prepared in single colors (C, M, Y, K, Pantone or HKS) - it is not possible to mix colors
- colors can only be fully saturated (100%) - there is no possibility of printing separations or tonal transitions;

- the minimum element thickness is 0.5 mm (= ca 1.4 pt);
- the minimum thickness of the recess (space between two elements) is 0.5 mm (= ca 1.4 pt)
- the safe distance between two colors is 2 mm

NOTE! Files for screen printing containing a color match (adjacent or overlapping colors) will not always be able to be used - graphics containing such a match must first be verified for the possibility of such printing.

Sticky Notes with animation effect:

The file for printing for a sticky note with an animation effect should contain the exact number of sheets arranged in the order that the finished notebook should have. If the notebook is to have 50 sheets, the PDF file with the graphic material for printing should also have 50 sheets.

Sticky Notes with animation effect can only be printed in CMYK colors.

NOTE! The animation moves forward or backward depending on the direction the pages are flipped. If the pages are flipped from top to bottom, the animation moves forward. If the pages are flipped from bottom to top, the animation moves backward.

4. Rules for working with PromoNotes templates

Only PromoNotes templates should be used when designing. If files are delivered together with template elements, keep the attributes of these elements assigned by PromoNotes (colors and their names, as well as overprint) and save the PDF file with the preservation of layers - the template and graphics should be in separate layers.

Components of templates:

- Overview page: It visualizes all product components, along with dimensions and technological lines and their description. **The graphic design should not be placed on the overview page.**
- Component pages: They visualize separately the individual components of the product which are collectively shown on the overview page. **The design should be placed on the product component pages. These files will be used for printing.**

In templates, both on the overview page and on the product component pages, there are technological lines. These lines determine the parameters of the product and are to facilitate the proper preparation of the graphic design. All lines are described at the bottom of the overview page.

In order for the technological lines not to be applied to the final product during printing, the colors that have been assigned to them (i.e. additional colors) are automatically removed from the project in the process of preparing for printing. Therefore, colors with the following names must not be used in graphic designs:

Trimbox, Bleedbox, Rubber Band, Page Symbol, Solid Board, Axis of the Crease, Glue bar, Holes, Safe Print Area, Glue.

Pages with components have a properly set crop size (so-called trimbox). When importing the template to graphic pro software and saving files for printing, pay special attention to maintaining the correct crop size.

After checking the files and removing template elements by PromoNotes, flattening transparency and performing possible color conversions, a PDF file will be sent to the Contractor for final verification and approval before printing. If the correction of the received files turns out to be impossible, the Contractor will be asked to correct the files according to the given guidelines.

5. Disclaimers and Exclusions

1. Due to the fact that PromoNotes uses materials with both coated and uncoated surfaces in the production process, special attention should be paid to the type of surface chosen, as it often significantly affects the perception of printed colors. The consequence of this characteristic of the production process described above is the fact that color differences between the color indicated in the guide and its actual reception on the printed material are acceptable. The above does not constitute a defect of the product and does not constitute the basis for a complaint, withdrawal from the contract, requesting a price reduction or a discount.

2. Particular attention should also be paid to the reception of colors and colors when printing on papers dyed in mass and ecological papers, e.g. Kraft papers, paper made of grass, coffee, apples, etc. Colors printed on these types of paper will always appear differently than when printed on white paper. Any differences in color referred to above, resulting from printing on paper dyed in mass or ecological paper selected by the Contractor, do not constitute a product defect and do not constitute grounds for a complaint, withdrawal from the contract, requesting a price reduction or a discount.
3. As part of the printing and production of self-adhesive notes, PromoNotes advises against placing an imprint on the adhesive strip of all products made on self-adhesive paper. Namely, the properties of the adhesive may change. Notebook pages may be more glued to each other, but stick to other surfaces less. It may also happen that after tearing off the sheet, some of the paint will remain on the adhesive strip and leave a clear trace. A long drying process may minimize these effects, but will not completely eliminate them. In the case of solid printing, the final color effect of the printed surface within the adhesive strip and beyond it will be different. If, despite the indicated risks, the Contractor decides to place the print within the adhesive strip, when accepting the work they acknowledge and assume the risk of the described or similar side effects when using the product. Such effects result only from the specificity of printing on self-adhesive paper, and do not result from any mistakes made during printing. Imprinting by PromoNotes within the adhesive strip, as requested by the Contractor, does not constitute a product defect and does not constitute grounds for a complaint, withdrawal from the contract, requesting a price reduction or a discount.
4. In the case of printing various types of graphic elements using a low-value raster, which the Contractor is obliged to indicate in the graphic material, the edges of such an element shown on the proof printout will always be smooth. However, in reality in offset printing these edges can appear "jagged". The above does not constitute a defect of the product and does not constitute the basis for a complaint, withdrawal from the contract, requesting a price reduction or a discount.
5. If it is necessary to convert colors in the sent materials, PromoNotes is not responsible for differences between the original colors and the colors after printing. This is especially true for works sent in RGB color space.
6. The color proof is used only to evaluate the colors and not to evaluate the quality of the print.
7. The colors of the graphics and the colors of the accessories presented in the visualization prepared for the Contractor's approval, are for reference only. The difference between the colors of the visualization and the colors in the finished product does not constitute grounds for a complaint.
8. Due to the characteristics of the product, the uniformity of the colors of bookbinding veneers, satin ribbons, closing elastics, pen holders, self-adhesive papers, and endbands cannot be guaranteed in different production batches.
9. In the case of printing on dyed-in-mass papers, papers with an admixture of organic material and other ecological or recycled papers (such as Kraft papers, grass, coffee, apple and other papers), the maximum ink coverage should not exceed 20% of the surface. In addition, due to the fact that printing on these types of papers is inherently not protected by either foil or varnish, graphics should not be designed either on the bleed or in the bend or crease areas of the cover. Placing graphics in the above-mentioned places may cause ink wiping.
10. For technological reasons, large embossing surfaces may have non-uniform discoloration. Inhomogeneity of the embossing surface is not a basis for complaint.
11. Papers of grammage from 70g/m² to 300g/m² are characterized by partial transparency. Print on the top of the sheet may be partially visible on its other side. Such visibility of the print on the other side of the sheet does not constitute grounds for a complaint.
12. The dimensions of the products indicated by PromoNotes in the commercial offer and in the order confirmation may slightly differ from the final dimensions of the product. For technological reasons, the actual size of the finished product may vary from the original dimensions specified by PromoNotes (by +/- 2 mm).
13. The number of sheets in notebooks and pads indicated by PromoNotes in the commercial offer and in the order confirmation may slightly differ from the final number of sheets in the product. For technological reasons, the actual number of sheets in notebooks and pads may vary from the original amount specified by PromoNotes (by +/- 4%).
14. For technological reasons, the actual location of the product elements may vary in relation to the visualization approved by the Contractor:

Color scheme

| parameter | requirements | tolerance |
|--------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| print colors | compliance with the color pattern | CMYK max. $\Delta E00$ 5.00, spot colors - target $\Delta E00$ 2.5, in case of surfaces of a different whiteness than in the templates allowable deviations up to $\Delta E00$ 4.0 |
| | color consistency between prints in the print run | CMYK max. $\Delta E00$ 3.00 spot colors max. $\Delta E00$ 2.00 |
| screen printing / transfer printing / dyed edges / pad printing | compliance with the specification | acceptable slight color differences - visual assessment |
| colors of bookbinding veneers | compliance with the symbol from the veneer template given in the specification | shades may vary between batches of veneers |
| spiral color | compliance with the name of the color in the specification | shades may vary between deliveries |
| rubber bands, ribbons, headbands | compatibility according to the symbol from the accessory guide | shades may vary between deliveries |

Dimensions and volume

| controlled parameter | requirements | tolerance |
|-------------------------|----------------------------------------|------------------------------------------------------------------------------|
| component dimensions | compliance with the specification | +/- 0.5mm* *cutting during one manufacturing run |
| number of insert sheets | compliance with the specification | maximum +/- 10% +/- 2 sheets for 50 sheets +/- 4 sheets for 100 sheets |
| pad height | corresponds to the order specification | +/- 2mm |
| product weight (net) | compliance with the specification | +/-10% |

Placement

| controlled parameter | requirements | tolerance |
|-------------------------------------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| print alignment and registration | registered print | +/- 0.05mm |
| location of the cut edge, relative to the print | compliance with the product template | max. shifts to the secure print fields marked on the product template |
| elements cut using a flat punch | compliance with the product template | offset of graphics relative to the cut shape by +/- 0.5 mm |
| elements punched using a punching die | compliance with the product template | offset of graphics relative to the cut shape by +/- 1mm |
| debossing/embossing | compliance with the product template | +/- 1.5mm relative to the side lay |
| selective UV varnish | compliance with the product template, matching to the print | varnish shift relative to the print +/- 1mm |
| digital printing on bookbinding veneers | compliance with the product template, matching to the print | +/- 1mm |
| Screen printing on paper pads - location relative to the side edge | compliance with the product template | +/- 1mm |
| Screen printing on paper pads - print registration and alignment | registered screen print | +/- 1mm |
| screen printing, transfer printing on veneers and covers - placement | compliance with the product template | +/- 2mm |
| screen printing, transfer printing on veneers and covers - print registration | compliance with the product template | +/- 1.5mm |
| creases of paperbacks | compliance with the product template | +/- 1mm |
| perforation (sectional cutting) | compliance with the product template | +/- 1mm |
| drills | compliance with the product template | +/- 1mm |
| hard cover - location of the exterior in relation to the cardboards | compliance with the product template | graphic offset up to 1.5 mm |
| location of inserted product elements | compliance with the product template | +/- 1mm relative to the side lay |
| creases in binders | compliance with the product template | +/- 2mm * changes in crease spacing are allowed when there is a need to match the ridge to a given batch of ring mechanisms |
| rivets, eyelets | compliance with the product template | +/- 2mm |

15. The colour on the side of the cube that is coated with glue will always differ from the colour on the other glue-free sides. All sides are printed with the same colour settings and the glue layer is responsible for the difference in colour, between the glue-covered and glue-free sides.