

# Technical Specification

of preparation of files  
for DIGITAL and OFFSET printing

The technical specification is valid from May 20, 2023.

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## 1. MAIN INFORMATION

The document defines the technical parameters and method of preparing materials for printing at Mellow Printing House. It was created to familiarize us with the technical requirements for preparing materials for sheetfed offset and digital printing. For files that do not meet the following guidelines and require appropriate adjustment on the part of the printing house, an additional fee will be charged. Files prepared not in accordance with the following guidelines are the responsibility of the customer.

## 2. PREPERATION OF WORK

- The design should be submitted in CMYK or Pantone colors with the assigned color profile Fogra39 (raw coated) Fogra29 (raw uncoated) in accordance with ISO 12647-2:2007.
- The required format for uploading projects is PDF.
- TPDF compatibility mode - Acrobat 5 (PDF 1.3)
- Acceptable resolution of graphics 200 - 350 dpi
- Ophthalmation must not exceed:
  - 300% for coated papers
  - 250% for uncoated papers
  - 270% for digital print
- Each project must have a properly labeled TrimBox and have target format tags.
- All pages must be prepared in the same orientation (vertical or horizontal).
- Each work must have bleeds of 3 mm on each side.
- Each work must have a safe margin of 3-5 mm - from the cutting and creasing / folding lines.
- All fine black / gray elements must be prepared as 100% K or grid % K.
- All fonts must be embedded in the PDF document or converted to curves
- Each page for printing should include bleeds of at least 3mm.
- Small texts (up to 10 pt) must be overprinted on the background (overprint)
- Texts above 10 pt must be flooded (trapping)
- All other objects with overprint attribute are honored by Mellow printing house and will not be edited.
- It is required to flood (trapping) elements that do not have a common color.
- The size of the flood should not be smaller than 0.05 mm.
- Fine elements should not be smaller than:
  - 100%K elements on light background - 0.07 mm
  - CMYK elements on light background - 0,15 mm
  - counterbalanced elements on a single-color background - 0.15 mm (except for metallic colors - minimum 0.2 mm)
  - counterbalanced elements on a CMYK background - 0.2 mm
- The designs of die-cut / enhanced products should include the following
  - printed design (without applied die-cutting, embossing, UV masking or hot-stamping)
  - design with applied enhancements in a separate file
  - design with applied enhancements and die-cutting pattern

## 3. CATALOGUES

- Glue binding - files must be prepared as single pages with consideration of vacancies. The cover file must be submitted as a spread with consideration of spine thickness.
- Booklet binding - catalog files must be prepared as single pages with consideration of vacancies. The number of pages must be divisible by 4.
- Laminate binding - the files must be submitted in the form of spreads. The cover must take into account the thickness of the spine

## 4. DIE-CUTTERS

- The die-cut must be prepared on a separate layer as a line (outline) with a width of 0.2 mm (not as an object) described in an additional color (spot) and printed, with a name indicating the use of individual elements, such as cutting, creasing, perforation

## 5. HOT-STAMPING

- It must be prepared as a vector object and be given a special color (100%) with a name that clearly defines the type of enhancement.
- The spacing between hot-stamping elements must not be less than 0.35 mm.
- The finest elements of hot-stamping can not be thinner than 0.3mm (on different raw materials this value may be higher).
- The finest elements of hot-stamping in counterstamping cannot be thinner than 1mm.

## 6. EMBOSSING

- It must be prepared as a vector object and be given a special color (100%) with a name that clearly defines the type of enhancement.
- The spacing between embossing elements should not be less than 0.5 mm.
- The finest embossing elements should not be thinner than three times the thickness of the paper (not less than 0.5 mm).
- The finest embossing elements in the counterfoil should not be thinner than 1 mm.

## 7. UV VARNISH

- It should be prepared as a vector object and be given a special color (100%) with a name that clearly defines the type of enhancement.
- The finest elements should not be thinner than 0.4 mm.
- Spacing between elements should not be less than 0.5 mm.
- In the case of folded/bigoted work, where uv varnish is used in areas of breakage, cracking, delamination and separation from the substrate may occur. In addition, this phenomenon is influenced by the ink coating used in the project, the grammage and the type of substrate.
- If in the project there is a refinement such as: uv 3d varnish, glitter, and in the further processing is planned creasing/breaking/cutting/cutting, then in these places the project must include the selection of the above-mentioned refinements. This is due to the properties of this type of enhancement, i.e. low elasticity and lack of resistance, which causes cracking, delamination and detachment from the substrate during creasing/folding/cutting..

## 8. COLD-STAMPING

- It should be placed on a separate layer as a vector object and be given a special color (100%) with a name unambiguously specifying the type of enhancement.
- The spacing between elements should not be less than 0.15 mm.
- The finest elements should not be thinner than 0.14 mm.
- The spacing between elements in the counterfoil should not be less than 0.2mm.
- The finest elements in the counter should not be thinner than 0.2mm.
- In order to avoid noticeable inaccuracy of color matching, we recommend adding trapping, i.e. overlapping of colors, e.g. by adding an outline with an overprint attribute for special colors. The recommended size of the overprint is 0.05 mm.

## 9. WHITE SUBPRINTING

- It should be placed on the topmost layer as a vector object and be given a special color called White with the overprint attribute enabled.
- Objects overprinted in white should have an overprint of at least 0.05 mm.
- For the overprint we recommend a solid fill of 100% white, but it is possible to make tonal transitions in the range of 0%-100%.

## 10. PRINTING OF SPECIAL PANTONE COLORS

- If additional colors are used in the work, such information should be included.
- In order to avoid a noticeable inaccuracy of color matching, we recommend adding floods, i.e. overlapping colors, e.g. by adding an outline with an overprint attribute for special colors. The recommended size of the overprint is 0.05 mm.

## 11. COMMON MISTAKES

- Inconsistent order parameters with the design: Example catalog 16 pp. contains 12 pp.
- Failure to maintain safe margins.
- Mismatched artwork with folding/big lines.
- Incorrect enhancement marking.
- Unplaced text.
- Failure to specify the order of pages when it does not follow from the design or file structure (folded flyers).
- Unflattened special effects of graphic programs.
- Incorrect resolution of bitmaps.
- Lack of bleeds.

- Fine text composed of all components.
- Excessively high overcoloring.
- Too fine components for enhancements.
- Too many curves in the object.
- Use of colors outside the CMYK palette.
- Use of overprint attribute for „white“ coloru

## 12. PROOF

- Proof is a digital print that helps the printer evaluate colors while printing on the printing press.
- Proofs made by printers are controlled by certification according to ISO 12647-2:2007.
- Permissible deviations from reference values are as follows:
  - $\Delta E$  for substrate color  $< 3.0$
  - $\Delta E$  average  $< 3.0$
  - $\Delta E$  maximum for primary colors (CMYK)  $< 5.0$
  - $\Delta E$  maximum  $< 6.0$
  - $\Delta H$  maximum for primary colors (CMYK)  $< 2.5$
  - $\Delta H$  average for gray balance fields  $< 1.5$
- Conditions for performing the measurement:
  - white primer,
  - illuminant D50,
  - no UV filter,
  - no polarizing filter,
  - measured absolute value without taking into account the color of the substrate.
- The proof may differ from the target print by the difference of the printing technologies used and the whiteness of the raw material.

## 13. ADDITIONAL INFORMATION

- If the printing is accepted by the customer, the proof material becomes the printing sheet accepted and signed by the customer.
- The proof may not be a sheet printed elsewhere than at Mellow Printing House, nor the customer's finished product or proof.
- Prints enhanced with UV varnish or foiled may change their color from contract prints.
- The printing house does not take responsibility for the correct preparation of print forms from files generated directly or indirectly using CorelDraw.
- The printing house does not take responsibility for files that have been accepted by the customer. Acceptance of files is a binding approval for printing
- The Printing House reserves the right to change printing technology from offset printing (KBA RA76) to digital printing (KM-1e).
- A value of  $\Delta E < 5$  is considered to achieve the standard
- Permissible deviation between overlay prints  $\Delta E \leq 3$
- The maximum color matching deviation is 2 raster lines.

## 14. CTP EXPOSURE SETTINGS

The printer uses the following settings:

- for elliptical raster:

Exposure resolution: 2400 dpi

Raster line: 200 lpi (for printing on uncoated raw materials 150 lpi)

Raster angles: C-15° M-75° Y-0° K-45°

Classic AM raster, elliptical shape

## 15. DELIVERY OF MATERIALS TO THE PRINTING HOUSE

Digital materials can be provided by the Internet network, through an FTP server. Data allowing access to the server, login and password are provided by the staff of the Commercial Department. Materials can also be delivered on the most popular digital data carriers, formatted on PC systems (CD-ROM, DVD, Flash USB).



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