Technical specification for preparing materials for offset printing

1.GENERAL INFORMATION

This document presents technical parameters and methods of preparing materials for printing at Preston Sp. z o.o. Printing House.

The aim is to familiarize our customers with the basic technical requirements for files delivered to the printing house. It also contains information about the process of final adaptation of materials by the printing house to the conditions of sheet-fed offset printing and packaging enhancement / finishing processes.

Compliance with the guidelines presented in this document will enable the realization of the customer's expectations with regard to lead times and quality of the ordered product. Any inconsistencies in delivered graphic files (and other materials supplied to the printing house) in relation to the parameters described in this document may affect the timing of the development of digital materials for approval and tools for production. Before uploading graphic files, please ensure that they are verified both in terms of proper content and technical aspects.

2. REQUIREMENTS FOR GRAPHIC FILES DELIVERED TO THE DTP STUDIO

2.1. We accept files prepared in Adobe Software (Illustrator, Photoshop, InDesign and Acrobat).

2.2. The files should be editable, enabling our final preparation for production.

2.3. Proper graphic file formats:

2.3.1. File ready for printing and / or vector graphics: PDF, AI, EPS.

2.3.2. Photos and / or bitmap graphics: PSD, TiFF, JPG (Maximum image quality and with lossless compression).

2.3.3. Files delivered as Adobe InDesign documents need to include all linked files, related with the master INDD file.

2.4. All fonts should be converted to curves (outlined). In exceptional cases, such as ordering our DTP Studio to make corrections to texts, the fonts should be uploaded with the rest of the files. In a situation requiring corrections to the content of the texts, we must also take into account additional time needed to develop digital materials for approval and production.

2.5. Together with fonts it is also necessary to send us statement informing that the Customer holds copyright to the submitted fonts at least to the extent that allows the Contractor (Preston Sp. z o.o.) to perform the ordered corrections in the graphic file.

2.6. The minimum font size is between **5-7 points**. In the case of small texts in negative (white or bright texts located on the dark background) it is optimal to prepare the background as the color of a single separation.

2.7. Small texts and graphic elements prepared in black (from the single separation K of the CMYK) should be prepared with an overprint option.

2.8. The minimum line thickness in the positive: **0.1 mm**.

2.9. The minimum line thickness in the negative: **0.4 mm**.

2.10. Maximum ink coverage: **300%** on coated paper (**270%** on uncoated paper).

2.11. Graphic files should be prepared without traps. We add them during the process of preparing files for production in our DTP Studio.

2.12. The graphic file must contain the die-cut drawing compatible with the final production tool. It should be prepared as a vector object and on a separate layer.

2.13. Graphic files should include **2 mm** wide bleeds going past the external cut lines of the die-cut drawing. For artworks intended for corrugated packaging, the bleeds should be **5 mm** wide.

2.14. Texts and all information elements, graphics, logos, etc., should be moved away by **2 mm** from the crease and cut lines of the die-cut. In the case of projects intended for the production of corrugated cardboard this distance should be **5 mm**.

2.15. All enhancements such as hot stamping, embossing, Braille, varnishes, etc., should be prepared as separate graphic elements on independent layers and / or color channels.

2.16. Barcodes need to be prepared as vector objects.

2.17. The optimal resolution of bitmaps is **300 dpi** (minimum acceptable **260 dpi**).

2.18. Graphic files should represent the target, required colors. Any elements intended for printing as spot colors should be prepared on independent separations.

2.19. Projects prepared for printing on metallized cardboard should include clearly marked areas where base white ink should be applied and other areas where colors are intended to be printed directly on metallized surface.

2.20. Graphic files must contain only those elements that are intended for the production of a given project. **Hidden layers excluded from printing and any graphic or text elements not directly related with the project are unacceptable.** The content of the supplied files must reflect clearly what is required in the final production.

2.21. There should be no color profiles in graphic files except those that are set globally in Adobe Bridge as "Europe Prepress 3" (in the English language version) or "Europa, Druckvorstufe 3" (in the German language version) or „Ustawienia koloru dla przygotowania do druku w Europie 3" (in the Polish language version).

3. BARCODES

3.1. There are many different types of codes in the industry. 1D (one-dimensional, linear), 2D (two-dimensional, matrix), hybrid, etc. The type of code as well as proper data contained in it should be specified before the files are sent to our printing house.

3.2. Barcodes must be prepared in accordance with the specifications set by the organizations involved in the standardization of individual codes (for example, GS1 https://www.gs1.org for EAN/UPC codes, ITF-14, GS1 DataMatrix and others).

3.3. We verify 1D (one-dimensional, linear) codes in accordance with ISO/IEC 15416:2016 standard.

4. COLOR REFERENCES AND VISUAL EVALUATION

4.1. The printing process in our printing house is operating according to ISO 12647-2 (Fogra 39 / ISO coated v2) standard. The basic color reference for CMYK inks is our proof printed by the GMG ColorProof System. The proofing system works in accordance with the ISO Coated v2 (39L) / ISO 12647-7:2016 standard. All proofs printed in our printing house have a Fogra Media Wedge CMYK V3.0 control stripe, which is automatically verified by the SpectroProofer module built into the printer.

4.2. When customers send their own color references, it is required to print control proofs from the supplied graphic files. These proofs are printed according to the above-described standard which applies to every printing process at Preston Sp. z o.o. Printing House. In case of color differences between the customer's color references and the printing house's proofs the issue is discussed with the customer. Any consultations regarding color inconsistencies should be carried out before final production.

4.3. For Pantone colors we use a digital library of spot colors as color reference. In the process of measuring Pantone colors we use spectrophotometers, comparing the measured values with Pantone Certify Program dE2000 < 2.8.

4.4. When choosing Pantone colors it should be taken into account that there are versions of inks for coated surfaces (C) and their equivalents for uncoated surfaces (U). Relevant versions of color books and digital libraries of Pantone colors are available for both versions.

4.5. For visual evaluation of color references we use standard lighting characterized by parameters: D50, CRI > 93, 2000 lux.
The light is compliant with 3669:2009 standard and is periodically verified.

5. EMBOSSING OF GRAPHICS AND TEXT

Graphic elements intended to be embossed must be positioned at least **5 mm away from the creasing line or cutting line of the die-cut drawing**.

6. BRAILLE EMBOSSING

Braille texts should be written with the use of PharmaBraille fonts that conform to the Marburg Medium Braille standard described in details at https://www.pharmabraille.com.

7. HOT STAMPING TECHNOLOGY

7.1. Standard (flat) hot stamping.*

7.1.1. Minimum line thickness in positive: **0.15 mm**.
7.1.2. Minimum line thickness in negative: **0.35 mm**.
7.1.3. Minimum size of a single dot in positive: **0.5 mm**.
7.1.4. Minimum size of a single dot in negative: **0.35 mm**.

7.2. Hot stamping with embossment.*

7.2.1. Minimum line thickness in positive: **0.5 mm**.
7.2.2. Minimum line thickness in negative: **0.7 mm**.
7.2.3. Minimum size of a single dot in positive: **0.5 mm**.
7.2.4. Minimum size of a single dot in negative: **0.7 mm**.

* It is impossible to describe precisely all possible combinations regarding the minimum sizes and at the same time safe areas for the hot stamping process. For example, hot stamping of the same, especially small element may look different on paper and on cardboard. Therefore individual cases and projects require consultation and sometimes adjusting the sizes listed above.

It is also necessary to take into account the inertia occurring in the production process, which means that minor misalignments may arise in the fit of the hot stamping form in relation to the other elements of the packaging.

All this can be important at the design stage of small elements to be hot-stamped and in any situation where small shifts in hot stamping may affect the final reception of the packaging.

In case of any doubts or questions contact our DTP Studio.

Maciej Smoleń
DTP Studio Leader

m.smolen@preston.pl