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Kitchener Operations

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specification guide  
for folding carton graphics  
+ file transfer



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# INTRODUCTION

PaperWorks Kitchener is a full-service folding carton facility and is a certified member of IDEAlliance’s G7 Master Qualified Printer Program.

IDEAlliance’s G7 certification provides our clients with the strengthened assurance that their brands’ unique colors will be delivered with increased accuracy and consistency.

The Master Qualified Printer Program presents qualified standards which enhance color matching across multiple devices.

In attaining certification, PaperWorks Kitchener’s printing presses and proofing systems have been calibrated to ensure that repeatable, consistent color and images from proof to press, and from press to press are achieved.

Our printing quality and consistency are directly related to the quality of the prepress activities and materials provided to us.

The standardization of our printing process and the matching of prepress to our specifications is critical.

Each of our prepress suppliers will receive a copy of these specifications and training can be provided to explain the importance of measured standardization to our process.

PaperWorks Kitchener reserves the right to reject any files or proofs that do not match attached specifications. Such files may result in additional charges.

We at PaperWorks Kitchener strongly encourage our graphics suppliers to involve our prepress personnel in the graphic design process as early as possible. Our personnel can provide additional insight to the graphic designer for possible manufacturing savings and improved product consistency.



# PaperWorks Kitchener FAST FACTS SUMMARY

## MECHANICAL SPECIFICATIONS

Trapping	Metric	Imperial
Regular trap:	0.13 mm	0.005"
Trap for metallic inks:	0.065 mm	0.002"
Minimum Line Widths	Points	Imperial
Positive lines:	0.36	0.005"
Negative (reverse) lines:	0.36	0.005"
Minimum Font Sizes	Points/Metric	Imperial
Minimum thickness (positive):	4.875 pts. / 1.719mm	0.0677"
Minimum thickness (negative):	6.85 pts. / 2.417mm	0.095"
Total Area Coverage (TAC)	Total dot percentages in any spot of four color file 280%	

UPC Specifications	Details
Minimum size:	80% (no maximum size)
Truncation:	to be used at the discretion of the art providers
Color:	use darkest single spot ink or preferred black
Bar width reduction:	1.667 mil (0.042 mm / 0.002")
Orientation:	UPC can be printed using any orientation for litho
Quiet zone:	6.35 mm / 0.25"
Standard:	Refer to ANSI document Bar Code Quality Guidelines X3.182
Black Support	Details
Large black areas:	<b>Ultra Rich Black</b> (40% C, 35% M, 20% Y, 100% K)
Smaller black areas:	<b>Rich Black</b> (30% C, 100% K)

## STRUCTURAL SPECIFICATIONS

Bleed	Metric	Imperial
Must follow bleed path of BBX dieline	3.2 mm	0.125984"
Type Safety	Metric	Imperial
Minimum amount from crease and trim:	2 mm	0.079"

Crease Rollover	Metric	Imperial
600um caliper paperboard or less:	0.6 mm	0.03125"
over 600um caliper paperboard:	0.8 mm	0.03125"

## OTHER

File Formats
*Preferred Adobe Illustrator native with all supporting elements (high resolution images, layered PSD files and fonts)
Press ready PDF
Other formats Esko Normalized PDF, PackEdge, Art Pro
FTP (File Transfer Protocol)
<a href="https://kitftp.paperwrks.com/dropbox/incoming">https://kitftp.paperwrks.com/dropbox/incoming</a>
(Limit of 1.5 GB per upload)
Contact Information
KITPrepressIntegrationTeam@paperwrks.com
120 Trillium Drive Kitchener, Ontario, Canada N2E 2C4 519-576-2480

Color & Proofing	
Acceptable Proofs:	
<ul style="list-style-type: none"> <li>• Calibrated inkjet proof profiled to PaperWorks Kitchener ICC profile</li> <li>• Calibrated inkjet proof profiled to G7 GRACol standard</li> <li>• Kodak Approval or Fuji Final Proof laminated to proper substrate using G7 GRACol guidelines.</li> </ul>	
Ink Drawdowns:	
PaperWorks Kitchener ink room produces drawdowns for special and Pantone colors.	
Maximum Colors Allowed:	6 colors total 4 color process plus 2 spots
Resolution:	2400 dpi
Screening:	See screening details on page 7

## MECHANICAL SPECIFICATIONS

### SPOT/SPECIAL COLORS

Name each spot color according to Illustrator's or Esko's "Ink Book" names. For example, "PANTONE Red 032 C". Every spot color will print as a different separation, so make sure that there are no colors unnecessarily specified as spots, to avoid confusion and extra charges. If you have custom colors, make sure they're set to Color Type: Process Color.

### FONTS

All vector screen fonts & PostScript fonts need to be supplied compressed unless converted to outline.

### LINKED FILES

Supply all supporting files and links used in your graphic files. The preferred file format is layered .psd files with no embedded link files supplied.

### TRAPPING

Traps should be 0.13 mm / 0.005". Traps for metallic inks should be 0.065 mm / 0.002" due to their unique printing characteristics. If you do not have the ability to trap files, they will be trapped at PaperWorks Kitchener before output.

### TYPE THICKNESS

Font Selection: Small type and fine serifs should not be used for reverse type whenever possible.  
Minimum Thickness: 0.102 mm / 0.004" at the thinnest part of a character or rule.

- Positive Type: 4.875 pts.
- Negative Type: 6.85 pts.

### UNIVERSAL PRODUCT CODE (UPC) and OTHER BAR CODES:

- Size: 100%
- Color: Must be printed in the darkest solid color.
- Bar Width Reduction: 1.667 mil (0.042 mm / 0.002").
- "Quiet Zones" measuring 6.35 mm / 0.25" on both sides of the barcode are required.
- Barcode Standard: Refer to ANSI document Bar Code Print Quality Guidelines X3.182 for additional technical specifications.

## STRUCTURAL SPECIFICATIONS

### GRAPHICS COMPOSITION TO CUTTING DIE

Graphics must be composed to PaperWorks Kitchener cutting-die CAD drawing. This is required in order to ensure proper panel registration and bleeds for the graphics. CAD files will be sent by PaperWorks Kitchener upon request. The die file must come from PaperWorks Kitchener CAD system to ensure that the graphics will layout (i.e., step and repeat) properly. All descriptor text on original dieline must remain on file, and the artwork must adhere to bleed pattern, and utilize a separate (overprinting) spot dieline color. This can be placed on a separate layer if required.

### DIELINE GEOMETRY

- **Image Bleeds** must follow the bleed path indicated on the BBX supplied dieline file, which is 3.2 mm / 0.125984" past the knife cut around the outside edges of carton, and 6.35mm / 0.25" over the score on glue flaps.
- **Glue Areas** must be free of any ink or coating.
- **Wax or Varnish Free Area** must be free of any coating and must be identified on digital dieline as such.
- **Rollover Allowance:** Make sure that the dominant panels (principle display panels) on the carton have a rollover allowance to compensate for the width of the fold, and any minor dieline shift, especially on multi-up runs. The rollover allowance should be 0.6 mm / 0.03125" for any cartons that use up to 600um caliper paperboard, and 0.8 mm / 0.03125" for any carton using over 600um cal. paperboard.
- **Type Safety** needs to have a clearance of 2 mm from the edge of the dieline must be adhered to.

### PROCESS CONTROL TARGETS

- Process control targets must be included for every color in the file and should be incorporated into the final product (i.e. on inside tuck flap of a carton).
- Type of control patches: Inclusion of these control targets is imperative. However, the position and order of the targets is at the discretion of the graphic designer.
- Dot Gain Targets: 5 mm square using 25%, 50% and 75% and 100% of all colors in the job.
- CMY Gray Balance Targets:
  - Block 1: 25 Cyan, 19 Magenta, 19 Yellow
  - Block 2: 50 Cyan, 40 Magenta, 40 Yellow
  - Block 3: 75 Cyan, 66 Magenta, 66 Yellow
  - Block 4: 100 Cyan, 100 Magenta, 100 Yellow

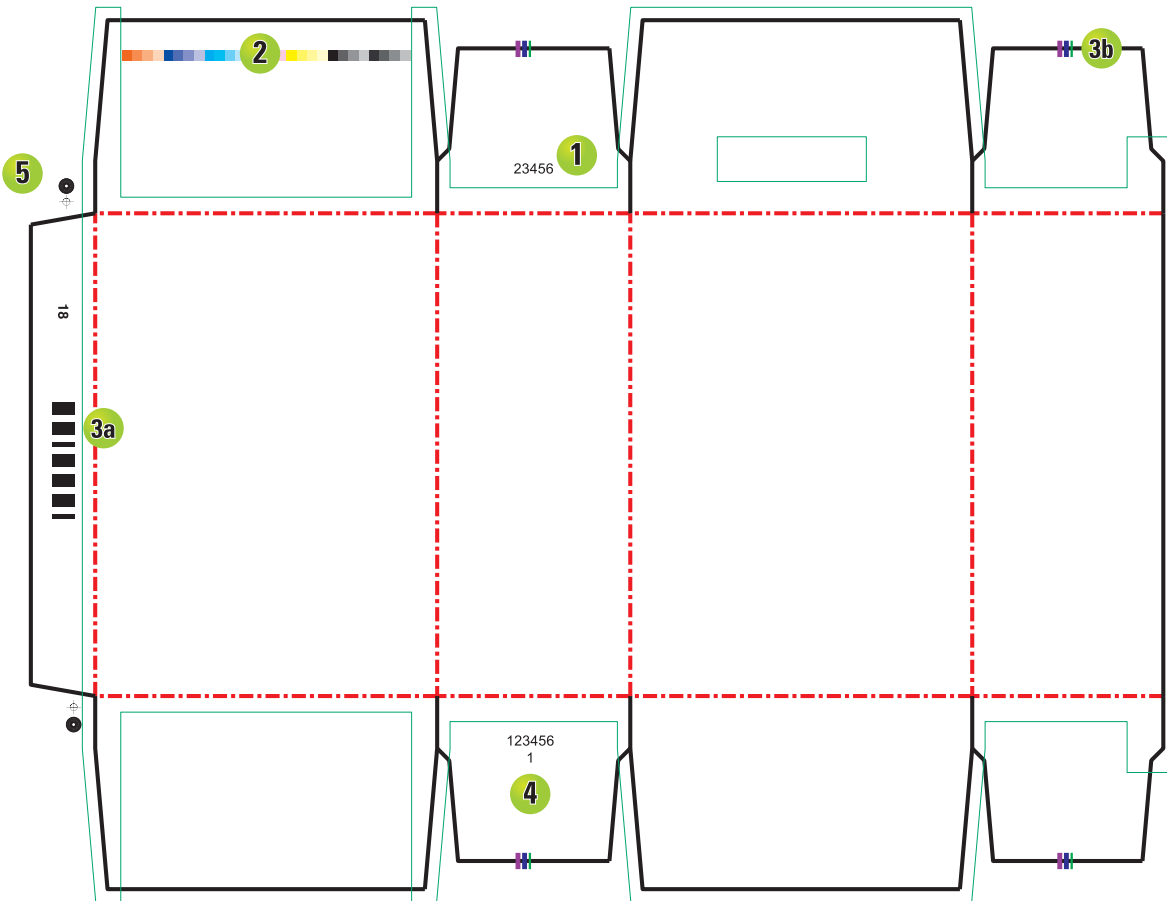
These will be used to verify the accuracy of data transfer and/or interpretation.

Refer to Standard Marks diagram on page 6.

# COLOR SPECIFICATIONS

## STANDARD MARKS

GSSE Carton Style (similar marks are required for other carton styles)



- 1** **Boehmer Box Internal Code:** 5 digit numerical code provided by Boehmer Box to print in black or next darkest colour for internal product identification.
- 2** **Densitometer Spots:** Each patch represents a colour separation used in the supplied file including colour percentages and grey balance as outlined below. Patch size to be supplied (5mmX5mm, .197”X.197”). Densitometer spots will be applied internally if not in file supplied.

100%	75%	50%	25%	100%	75%	50%	25%	100%	75%	50%	25%	100%	75%	50%	25%	100%	75%	50%	25%	100%	75%	50%	25%	100C	100M	100Y	100C	75C	50C	25C	100M	100Y	100M	66M	40M	18M	100Y	66Y	40Y	18Y
Spot1				Spot2				Cyan				Magenta				Yellow				Black				Grey Balance																
- 3** **Mixed Detection:** (A) Code is placed on the glue flap internally during file preparation. (B) Notch codes positioned to identify mix when packing.
- 4** **Imposition Marks:** Minor flap to be dedicated for internal imposition marks, including the die station number and unique print run identification.
- 5** **Registration Marks:** Registration marks and slur targets applied during internal imposition.

# COLOR SPECIFICATIONS

## SCREENING

At PaperWorks Kitchener we offer High Definition Hybrid Screening optimized for our Wide Gamut Color System and printing substrates. This screening captures the products images with the highest detail, contrast and color, making them “pop” off the cartons. We also offer a FM (Frequency Modulated) and Traditional A.M Screening to match legacy work. PaperWorks Kitchener does not accept 1 bitt tiffs as all the screening and press compensation curves are applied in-house.

## TYPES OF PROOFS

At PaperWorks Kitchener we can provide an ICC profile (and CGATS data) of our printing process in order to achieve predictable and consistent color between our supplier’s proofing systems and the final printing process. Below is the types of proofs we accept in order of preference.

1. A calibrated inkjet proof profiled and verified to the PaperWorks Kitchener ICC profile (available from PaperWorks Kitchener website). See Proof Verification Procedure below.
2. A calibrated inkjet proof profiled and correlated to G7 GraCol.
3. Other types of Proofing systems such as Kodak Approval and Fuji FinalProof laminated to the proper substrate or paperboard and using G7 GraCol guidelines for cmyk solids (Lab values) and neutral density aimpoints for cmy (25, 19, 19) (50,40,40)and (75,66,66)
4. All other types of proofings systems must be approved by the PaperWorks Kitchener Digital Services Department.

## VERIFICATION PROCEDURE

Below are the steps in order to verify your proofing process with our printing process.

1. Download the PaperWorks Kitchener ICC profile and proof verification pdf and install the profile into your calibrated proofing system.
2. Output the proof verification pdf using the PaperWorks Kitchener profile. Ensure your proofing system is properly calibrated.
3. Fill in the proofing profile you used and other relative information into the allotted space on the proof.
4. Send the Proof to: 

PaperWorks Kitchener  
120 Trillium Drive  
Kitchener, Ontario, Canada  
N2E 2C4  
Attention: Prepress Department Color Manager
5. We will measure and visually compare your digital proof and inform you how it compares to our printing system. (Note that spot and pantone colors are only simulations on the proof and actual ink drawdowns are used at the press for final color.)



Proof Verification Chart

## COLOR SPECIFICATIONS

### SPECIFICATIONS FOR SUPPLIED DIGITAL PROOFS

The purpose of this section is to establish proofing specifications that will ensure that the customer will have an accurate representation of how PaperWorks Kitchener will reproduce the supplied graphics. Proofs that do not follow these specifications will not yield an accurate color target. Many proofing devices provide outputs that are not easily obtainable using the lithographic process, so bear in mind that the proof we supply to you shows a reasonable expectation of the results that will be obtained on press, rather than just average color.

As a G7 Master Printer, we use the G7 proof-to-press process, which utilizes the latest technologies and methodologies.

Proofer calibration has been optimized for ICC color management, CTP and the latest digital proofers on the market. G7 is the basis for the latest SWOP and GRACOL specifications as well as our press profile.

We will supply an ICC profile (cmyk) targeted to our printing processes on recycled paperboard (CCNB).

Note: For spot or special colors, we provide ink drawdowns (on the specific substrate) which are attached to the final approved digital proofs.

This ICC profile can be incorporated into many existing calibrated proofing systems.

Please contact us for the latest ICC profile, text data and densitometer/color control/dot gain marks.

### INK DRAWDOWNS

PaperWorks Kitchener will provide four ink drawdowns, produced by our inkroom, on the specified substrate with the coating to be used for spot and Pantone colors. As part of our business practice, customers are asked to approve the drawdowns by signing the approval sticker on the back of the drawdowns. Please return three signed ink drawdowns back to PaperWorks Kitchener.

It is important to keep in mind that our in-house ink manufacturer uses the latest instrumentation and measuring technology to achieve the best possible match but generally there is a slight visual difference between the color on a recycled paperboard versus a bright white glossy pantone guide.

Whenever possible for spot and pantone simulations we use Extended Color Gamut System to reduce the number of inks on a job.

For custom ink colors such as a previously printed carton or sample swatch, we can take a LAB reading and create an ink drawdown from it. These would then follow the same procedure as mentioned above.

### HIGH DEFINITION EXTENDED COLOR GAMUT SYSTEM

PaperWorks Kitchener offers a range of High Definition and Extended Color Gamut services. This means we can optimize the type of screening and the amount of colors that can be reproduced with one ink set to achieve the most vibrant, colorful and detailed (High Definition) images in the industry.

#### Additional advantages:

- a. Reduced spot and Pantone colors
- b. Fewer printing inks and press units required
- c. Reduced graphic costs because of fewer inks needed as well as consolidating more products on the same sheet
- d. Even the cmyk color product images “Jump off the page” with detail and vibrancy.



## FILE FORMATS

Preferred file formats are: Adobe Illustrator, PDF (press ready)

Acceptable file formats are: Art Pro, PackEdge, Esko Normalized PDF

All graphics files must comply with the PaperWorks Kitchener Specification Guide (see previous page) and be submitted as outlined in this section.

- Files should be submitted as Adobe Illustrator native with all supporting material i.e. hi-res images and fonts. PaperWorks Kitchener constantly upgrades to use the newest versions of software. Please ensure that if any transparency effects are used, the “Document Raster Effects Settings” are set to High – 300 ppi for best results.
- Other forms of press-ready files may be acceptable – please contact PaperWorks Kitchener for confirmation prior to sending files.

## FILE SUBMISSION

Upload compressed files via this link: <https://kitftp.paperwrks.com/dropbox/incoming>

**Note:** There is a limit of 1000 MB per upload; if the file you need to send us exceeds this, please contact a Customer Service representative.

## CONTACT INFORMATION

Please contact your Customer Service or Sales Representative who will relay your question to the appropriate individuals in order to have the most comprehensive information.

You may also email: [KITPrepressIntegrationTeam@paperwrks.com](mailto:KITPrepressIntegrationTeam@paperwrks.com)



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[paperworksindustries.com](http://paperworksindustries.com)