



FORT DEARBORN COMPANY

Supplied File Specifications

Fort Dearborn Cut & Stack Label Production Facilities

Location	Phone
Bowling Green, KY	270.745.0700
Fort Worth, TX	817.625.1116
Fountain Inn, SC	864.862.1111
Niles, IL	773.774.4321
Sparks, NV	775.359.1703
 <i>Canada</i>	
Leamington, ON	519.326.2601
Montreal, QC	450.680.5000

DT 003-0, Rev. 2.6

For the most recent version of these specifications, please see our website at www.fortdearborn.com. It is the vendor's responsibility to verify they are using the latest version.



Supplied File Specifications: Table of Contents

File Transfer Methods

Mass Transit	3
CD-Rom.	3
E-mail.	3
ZIP Disk.	3

Native Supplied File Specifications

Contact Information	4
Acceptable File Formats	4
Proofs	4
Fonts	4
Type and Rules	4
Line Art	4
Bleed	4
Image Specifications	4
Copy to Trim Tolerances	4
Dies	4
UPC Specifications	4
HiColour™ Specifications	4

Offset CTP Ready File Specifications

CTP Ready File Formats	5
Proofs	5
Trapping.	5
Bleed	5
Collators.	5
UPC Specifications	5
Color Bars	5
CTP Ready Checklist	5
Color Naming Specifications	6
Process & Hexachrome Colors	6
Pantone Colors	6
FDC Special Colors	6
Extra Colors.	6
Other Colors	6
Screen Angles	6
Varnish.	6
Synthetic items	6
Common Can Size Examples	7
Lap & Dogear	7
Die Lines & Die Corner Marks.	7
Collator Marks	8
CTP Ready Checklist	9

Offset Print Information

Printing Process	10
Total Number of Colors in One Pass.	10
Coatings Available.	10
Target Density & Dot Area Characteristics	10
Colormetric Ink Data	10
Ink Down Sequence	10
Density.	10
Line Screen	10
Min / Max Printing Dot.	10

Additional Specifications for Paint Items

Bleed	11
File Naming Conventions.	11
Trapping.	11
Varnish.	11
File Collators	11

Additional Specifications for Digital Printing Items

File Prep	12
Fonts	12
Bleed	12
Images.	12
Color Naming.	12
File Format	12
Checklist Information	12
File Transfer Methods	12
Contact Information	12
Checklist	13

Acrobat Distiller Settings

Acrobat 5.0 Settings	14
Acrobat 6.0 Settings	15

Hi Colour Specifications

Hi Colour Specifications.	16
Print Characteristics 60lb.C1S.	17
Print Characteristics Synthetic.	18



FORT DEARBORN COMPANY

File Transfer Methods

File Transfer Protocol (FTP)

Due to security issues, we have upgraded our FTP and mass transit capabilities.

1. Mass Transit

Please contact your Fort Dearborn Sales Representative to request a user account for our FTP Site. If your company has a MassTransit server and you would like to create a server to server connection, please let the Sales Rep know in the request, and include your MassTransit server IP address. This must be done to ensure a secure drop-off location for the files.

CTP ready files, proofs and checklists are to be sent to FDC Elk Grove.

2. CD-Rom

When sending files on disk, please include a directory and a 100% printout of each item being supplied. If the files are supplied CTP, please add the checklist with each printout when submitting by disk.

3. E-mail

We recommend using e-mail as a last resort for transferring files. This is due to file size limitations through email servers, and (more importantly) the greater risk that file corruption can occur. This form of transfer is not recommended.

4. ZIP Disk

No longer accept.

5. Contact Information

All CTP ready files, checklists and proofs are to be sent to the attention of:

Fort Dearborn Graphics Manager

1530 Morse Avenue

Elk Grove Village, IL 60007



FORT DEARBORN COMPANY

Native Supplied File Specifications

* This is a guide for native files being processed at Fort Dearborn Fort Worth, Sparks, Bowling Green, Cleveland, Leamington, Montreal.

Contact Information

To ensure efficient processing, contact information should be supplied with each project. If you have any questions on how to send your files, please contact your Customer Service Representative.

Acceptable File Formats

1. Illustrator (**Highly recommended**)
2. QuarkXPress
3. Freehand
4. Artpro
5. Photoshop

Proofs

A full size color proof with color call-outs for each item must accompany file, along with a directory showing the disk contents (file names, file sizes, etc...).

Fonts

Printer fonts and screen fonts must accompany all files. Avoid creating outlines of fonts because text alterations cannot be made.

Type and Rules

- Reverse type – (min. requirement) 5.5 pt. bold face
- Reverse type out of more than one screened color:
7 pt. bold block type / 9 pt. roman block type
8 pt. bold serif type / 10 pt. roman serif type
- Positive type – (min. requirement) 4.5 pt. regular face
- Reverse rules out of one color – .5 pt.
- Reverse rules out of multiple colors – 1 pt.
- Positive rules – hairline (.25 pt.)

The following specifications apply to flexo jobs:

- Reverse type – (min. requirement) 5.5 pt. bold face
- Positive type – (min. requirement) 4.5 pt. bold face
- Keyline all reverse type knocking out of multiple colors
- Keyline all type knocking out of screens or process colors
- Reverse rules – 1 pt.
- Positive rules – .5 pt.

Line Art

All vector artwork should have a resolution of 2400 dpi. All paths should be completed and the maximum number of points in a single path should not exceed 8,000.

Bleed

- 1/8" bleed required on most items

Exceptions are:

- 1/4" bleed required on die cut items which are 9" x 9" or larger in both directions
- 1/4" bleed required on die cut items .625" finished size or smaller
- 1/4" bleed required on **paint items** that are 5 gallon straight cut or 5 gallon die cut. Please reference pg. 11 for Paint specifications.
- All rounded corner files require 1/8" bleed.

Image Specifications

- High Resolution CMYK images
- Images should not be scaled more than 150% of original size
- Send any Photoshop files that are layered
- High Resolution RGB images for HiColour™ files

Copy to Trim Tolerances

- All copy must be 1/8" from trim and lap, preferably 5/32". Rules, graphics and artwork must fall inside 1/8" print to cut tolerance.

Exceptions are:

- 1/4" copy to trim at head of label on **paint imprint items** to allow for gripper.

Dies

Please request die outlines and a die number in advance from your Customer Service Rep.

UPC Specifications

- Minimum Size 80%
 - Printer Compensation: -.0006" (-15 Microns) for offset
Bar Width Adjustment: -.0004" (-10 Microns) for offset
Printer Compensation: -.0006" (-15 Microns) for flexo
Bar Width Adjustment: -.0015" (-38 Microns) for flexo
 - Quiet area must be followed for printability
80%-1/16", 90%-3/32", and 100%-1/8"
 - Minimum percentage of reflectance: 31.6%
(difference between dark bars and background)
- If we are creating your UPC Codes, please supply the number system character (prefix number) along with the 10 digit UPC code.

HiColour™ Specifications

Construct with PMS colors to simplify the HiColour™ conversion process.



Offset CTP Ready File Specifications

CTP Ready File Formats

The final document size must be the bleed size of the item (and should not contain crop marks or registration). Do not include blank pages, only one label per file. When sending in files via mass transit or FTP, please notify the print facility CSR, prepress designee, and or sales within 24 hours.

- * The CTP file must be cropped to the bleed or the LABEL must be perfectly centered when submitted.
- * Backside print files must come in with the fonts even if backside has not changed.

FDC accepts the following formats (in order of preference):

1. Composite PDF
2. Composite Postscript
3. Separated PDF
4. Separated Postscript
5. Single File DCS 2.0 (Vector)

- * Please note that we no longer accept 1-bit tiffs or DCS Raster.

Proofs

A contract digital proof must be prepared from the final CTP file. Please specify if it is for color and/or content.

Trapping

All PostScript files must be trapped at .003". Copy reversing out of rich blacks and less than 6pt. must have under colors held back by .003". Black type 6 pt. or smaller should overprint, larger than 6pt. should trap .003". Black will not overprint Gold unless it is 6pt. and below. Black text and elements larger than 6pt. must be trapping .003".

Items printing on Synthetic stock require a full .003" trap.

Exceptions are:

Paint items must be trapped at .005". (See specific trapping information on page 11.)

Bleed

- 1/8" bleed required on most items

Exceptions are:

- 1/4" bleed required on die cut items which are 9" x 9" or larger in both directions
- 1/4" bleed required on die cut items .625" finished size or smaller
- 1/4" bleed required on **paint items** that are 5 gallon straight cut or 5 gallon die cut. Please reference pg. 11 for Paint specifications.
- All rounded corner files require 1/8" bleed.
- Die cut items must have the bleed extend to the die corner marks.

Collators

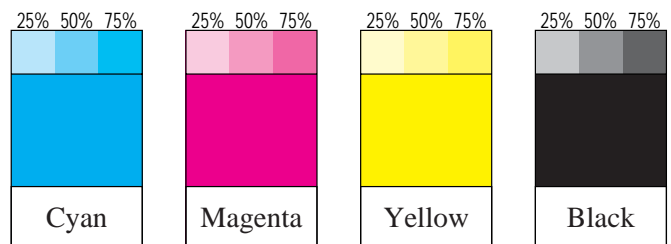
- Collators are required on all files that have a left hand or a right hand lap.
- The collator marks are to be positioned in the lap area.
- Each label must have differentiating collators.
- Jobs that are die cut or have universal laps, the collators can be left off the label unless the customer specifies placement. (See page 8).

UPC Specifications

- Minimum Size 80%
- Printer Compensation: -.0006" (-15 Microns) for offset
Bar Width Adjustment: -.0004" (-10 Microns) for offset
Printer Compensation: -.0006" (-15 Microns) for flexo
Bar Width Adjustment: -.0015" (-38 Microns) for flexo
- Quiet area must be followed for printability 80%-1/16", 90%-3/32", and 100%-1/8"
- Minimum percentage of reflectance: 31.6% (difference between dark bars and background)
- A scan verification slip must be attached to each proof submitted verifying barcode integrity.

Color Bars

FDC requires color bars on each supplied proof. The color bars should incorporate tint percentages of 25%, 50%, 75% and 100%. See example below.



CTP Ready Checklist

To ensure efficient processing, a **CTP File Checklist must be submitted with each file** (see page 9). Each checklist must be filled out completely to ensure order integrity. A job tag can be used on **each file** instead of the checklist providing the same information is provided on the job tag.

- * A job will not be processed without a completed CTP Ready Checklist or job tag.
- * Please note: when revisions are started, we can lock the existing file in our asset management system. Please call or email the Graphics Manager to handle this until revisions are released.



FORT DEARBORN COMPANY

Offset CTP Ready File Specifications

Color Naming Specifications

Special colors are any non-process (cyan, magenta, yellow, black, orange, green, violet) inks, including white ink, additional black, or spot varnish. Note that there will be an additional charge for printing files with special colors, and your Customer Service Representative must be advised of any CTP ready file using special colors prior to submittal to Fort Dearborn Company.

The following are examples of exact color names to be used on all supplied CTP files at any Fort Dearborn Company. Please follow these names EXACTLY. (Including upper and lower case LETTERS, SPACES, etc.)

Process & Hexachrome Colors

Both Process and Hexachrome colors should be named: Cyan, Magenta, Yellow, Black, Green, Orange, Violet

Pantone Colors

- All Pantone color names should end in CV. Do not use CVC or C.
- All Pantone colors that are represented by numbers only: PANTONE 185 CV
- All Pantone colors that include a color name and number: PANTONE Red 032 CV
PANTONE Reflex Blue CV
PANTONE Warm Gray 4 CV (note spelling of Gray)

FDC Special Colors

- FDC requires that Dark Blue be named: FDDkBI (Process build is 100C, 72M, 18.5K)
- FDC requires that Gold **for non paint items** be named: PANTONE 873 CV
- FDC requires that Gold **for paint items** be named: Gold (Process build is 15M, 100Y)
- FDC requires that Silver be named: PANTONE 877 CV

Extra Colors

- FDC requires that files must only contain the colors the job is printing. Please remove any unused colors and channels within the final CTP file.

Other Colors

- Die line or trim line with lap lines are required to be present on all files.
- These lines must be colored a **spot color** named "Die" and set to overprint. These are present whether it is a straight cut label or a true die cut label.
Die (Process build is **usually** 100M)
- White ink used on metallized jobs should be named: **White Ink (Process build is 50M)**
- Gloss or dull varnishes should be named: **Varnish (Process build is 50M, 100Y)**
- Additional varnishes (spot only) should be named: **2ndVarnish (Process build is 25M, 50Y)**
- Additional blacks should be named: **2ndBlack (Process build is 100K)**
- Fake Black process build is: 60M, 100Y, 100FDDkBI
- Rich Black process build is: 70C, 60M, 60Y, 100K
- Perf line should be a separate spot color set to overprint

For naming of customer-specific ink names, please call your Customer Service Representative.

*** Please note that all files must contain only the colors that are printing. If the file has no live printing artwork on any given channel, that channel must not appear in the CTP file.**

Screen Angles

FDC requires that files containing any spot colors that utilize custom angles, must be documented with the exact angle used for each spot color submitted with each file. Hi Colour files require the Green to be on the Magenta angle, Orange on the Cyan angle, and Violet on the Yellow angle.

Varnish

Every CTP file must contain a varnish. Varnish on straight cut labels flood the entire label including bleed and stop at the lap line. Varnish on die cut labels flood the entire label including the bleed. If there is a lap on a die cut label, the varnish must stop at the lap line. If there is a laser imprint box on the label, it does not get varnished and should knock out of the varnish.

Synthetic items follow the same varnish procedure unless the customer has specifically instructed the supplier to follow their custom specification.

Synthetic Items

- FDC requires that files printing on synthetic material must be developed in hi colour. Color Management can provide print data upon request.



FORT DEARBORN COMPANY

Offset CTP Ready File Specifications

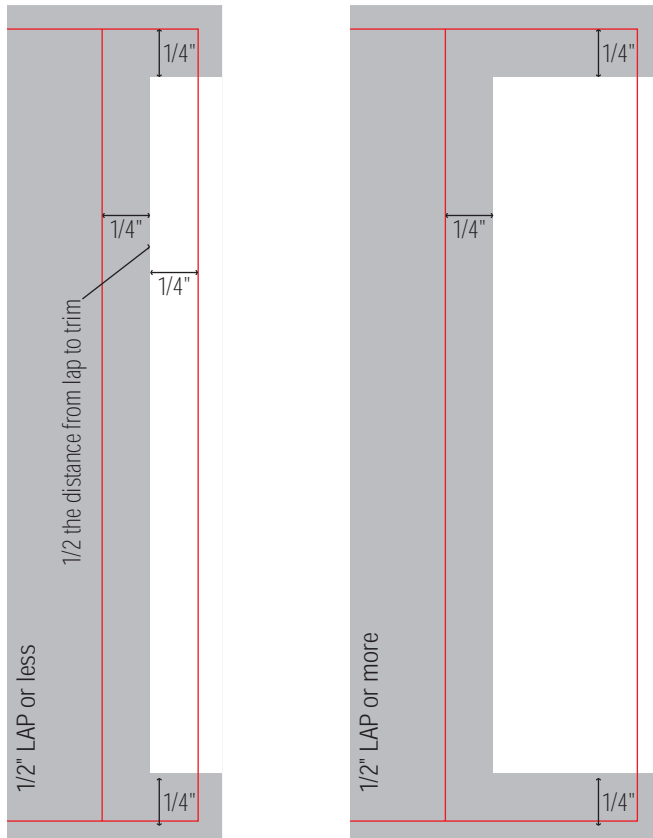
Common Can Size Examples

	Trim Size	Final Page Size with Bleed
#300	9 5/8 x 4 1/8 - 9.625 x 4.125	9 7/8 x 4 3/8 - 9.875 x 4.375
#10AA	19 5/8 x 6 5/8 - 19.625 x 6.625	19 7/8 x 6 7/8 - 19.875 x 6.875
#3TALL	13 5/8 x 6 5/8 - 13.625 x 6.625	13 7/8 x 6 7/8 - 13.875 x 6.875
#2	10 7/8 x 4 1/8 - 10.875 x 4.125	11 1/8 x 4 5/8 - 11.125 x 4.625
#2 1/2	12 7/8 x 4 3/8 - 12.875 x 4.375	13 1/8 x 4 5/8 - 13.125 x 4.625
#8 oz	8 5/8 x 2 21/32 - 8.625 x 2.65625	8 7/8 x 2 29/32 - 8.875 x 2.90625

Laps: All common can sizes listed above use 1/2" right-hand laps.

Lap & Dogear

Color and graphics must extend into the lap. However, unprinted space or dogear is required for glue application. If the lap is 1/2" or less, the dogear is half the distance from the lap to trim. If the lap is larger than 1/2", the dogear is 1/4" away from the lap. Regardless of the height of the label, the dogear always goes 1/4" away from the trim on top and bottom. Universal laps require full color into lap.



Die Lines & Corner Marks

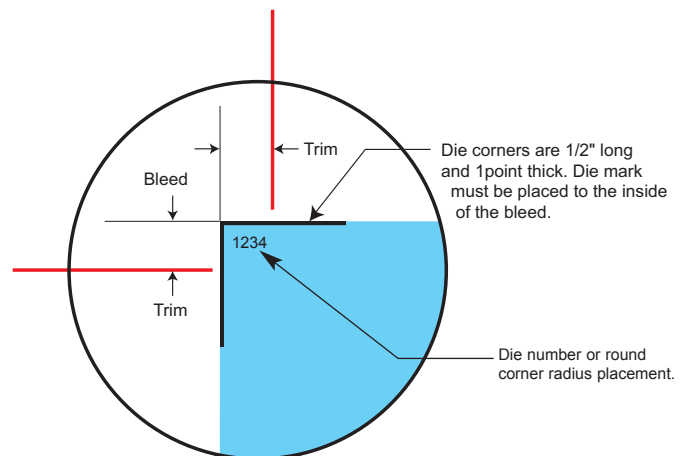
• A Die line for die cut items or trim line with lap lines for straight cut items must appear on all supplied CTP files. They are to be colored a spot color called "Die" and set to overprint.

Die corner marks and a die number should appear on all die cut jobs. They are to be colored in the darkest color and set to overprint. If the label background is dark, then the corner marks and die number are to knockout.

• Straight cut labels that have no background color should contain corner marks to help finishing.

There is one category of labels that combines both straight cut and die cut features. These labels are straight cut, but are then round cornered in the finishing department. The only radii available for this process are 1/4", 5/8", 3/4", 3/8" 1", 1 1/4" and 1 1/2". The radius should be indicated in the top left corner, 1/16" away from trim (and in all corners if there is more than one radius used on the label).

* The example below is the representation of a job containing corner marks and die number. Please note the position of the die number, die corner marks, and the bleed extending to and under the die corner marks.





FDC COLLATOR BARS SOP

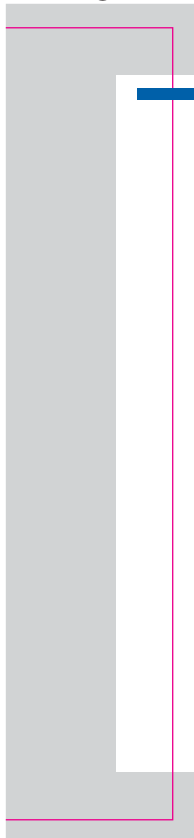
5/2004

* Please note this does not include Paint files. Collator specifications for Paint can be found on page 11.

- Collators are required on all files with a left hand or right hand lap.
- The collator marks are to be positioned within the lap area. See diagram below.
- Each label must contain different collators.
- Die cut items with no lap or jobs with a universal lap **can** have the collators positioned above or below the Nutrition Facts panel vertically extending into the trim no more than 1/64" **if approved by the customer.**
- FDC does not require collators on die cut items or items with a universal lap.

- 1.) The starting position is measured from the top of the label trim line for all sizes, positioned .312" down from the trim line.
- 2.) All bar colors are to be process. You can start with the primary colors and do variations of them as they progress.
- 3.) Collator Bars are .312" w x .0625" h, bleeding off the lap. Width and height can be adjusted for smaller size labels.
- 4.) Each label must contain a different bar or combination of bars.
- 5.) Avoid using solid colors as they may show through on white labels.

Starting Position



Possible color variations





FORT DEARBORN COMPANY

Offset CTP Ready File Specifications

CTP Ready Checklist

- Media: Mass Transit FTP
 CD Rom E-mail
 Live Job Prototype

- Straight Cut
 Die Cut Die Corner Marks
 Collators
 Trap (.003")
 Trap (.005") Applies to paint items only

Date _____

File Name _____

From _____

Vendor Contact _____

Phone _____

Brand _____

Job Title _____

Packer _____

UPC Code _____

Label Trim Size _____

Lap Size and Position _____

Names of Colors on Job _____

Allergen _____

Grain Direction _____

Coating _____

Customer Ref # _____

Backside Print _____

File Types (in order of preference):

- Composite PDF
 Composite Postscript
 Separated PDF
 Separated Postscript
 Single File DCS 2.0 (Vector)

Contract Proof Supplied

- Yes No

If not supplied within 24 hours, FDC will pull proof at customers expense.

- Fonts Embedded into Supplied File
 Colors / Color Naming
 (Follow FDC Naming Conventions)
 Appropriate Bleed
 Varnish in file set to overprint
 Die line in file set to overprint
 150 Line Screen
 Stochastic
 Synthetic
 Paper
 Metallized

This checklist is an editable pdf and may be submitted electronically.



FORT DEARBORN COMPANY

Offset Print Information

Printing Process

- Sheetfed Offset

Total Number of Colors in One Pass

- 7 colors or 6 colors plus coating/varnishes
- One color backside printing also available on same pass.

Coatings Available

- Press Varnish, Waterbase, UV (On Line and Off Line)

Tone Value Increase (TVI)

File Values	Y	M	C	K
5%	9%	9%	9%	9%
10%	15%	16%	15%	16%
20%	31%	31%	29%	32%
30%	44%	45%	43%	46%
40%	57%	59%	56%	60%
50%	68%	70%	67%	71%
60%	77%	79%	76%	80%
70%	84%	86%	83%	86%
80%	91%	91%	89%	92%
90%	95%	96%	95%	96%
95%	98%	98%	98%	98%

Density

- Maximum Density is 320%

Yellow	Magenta	Cyan	Black
1.10	1.45	1.35	1.90

Colorimetric Ink Data

- Wet Spectrophotometer readings

	L*	A*	B*	C*	h	(+/-2) Hue	(+/-2) Gray
Pro Cyan	58.27	-41.96	-42.26	59.55	225.20	19.2	15.5
Pro Black	11.03	0.11	-0.90	0.91	277.15	---	99.2
Pro Magenta	46.35	64.20	-4.05	64.33	356.39	42	20.5
Pro Yellow	83.75	0.02	93.55	93.55	89.99	5.6	12

Ink Down Sequence

- **4/C Process-**
Black–Cyan–Magenta–Yellow
- **4/C Process+spot-**
Black–Cyan–Magenta–Spot Color–Yellow
- **4/C Process+Metallic-**
Metallic–Black–Cyan–Magenta–Yellow
- **Hi Colour-**
Violet–Black–Green–Orange–Cyan–Magenta–Yellow
- **Synthetic(Hi Colour)-**
Violet–Black–Green–Orange–Cyan–Magenta–Yellow

Color Measurement

- X-Rite Spectrophotometer (paper substrates)
- Sphere Spectrophotometer (metallized substrates if not using opaque white under color bar).

Line Screen

- 150 Line Screen

* Please reference the Hi Colour Specifications on Pages 16-18 of this guide for Hi Colour specifics.

Min / Max Printing Dot

- Minimum printing dot is 1%
- Maximum printing dot is 99%



FORT DEARBORN COMPANY

Additional Specifications for Paint Items

Bleed

- Straight Cut Labels
All straight cut labels require a 1/8" bleed except 5 gallon straight cut which require a 1/4" bleed
- Rounded Corner Labels
Rounded Corner labels require a 1/4" bleed
- Die Cut Labels
All die cut labels require a 1/4" bleed

File Naming Conventions

The file is named with the customer acronym (customer specific acronym and style of imprint names, will be supplied by your FDC Sales Representative), product code (SKU#), Size and _CTP.ps.

Example – Blanks: FDC XX000000_CTP.ps

Size Chart

Size	Size Code
Gallon	01
2 Gallon	02
Quart	04
5 Gallon	05
5 Gallon DOT	05DOT
Pint	08
Half Pint	16
Half Gallon	14

Trapping

All CTP files must be trapped at .005". Copy reversing out of rich blacks and less than 6pt. must have under colors held back by .005". Black type 6 pt. or smaller should overprint, larger than 6pt. should trap .005". Black will not overprint Gold unless it is 6pt. and below. Black text and elements larger than 6pt. must be trapping .005".

- Valspar logo should be a straight knock out
- For metallized files, the transparent gold should kiss fit to any white

Varnish

All CTP files must contain a varnish. Die cut items require an overall varnish excluding the lap area if there is a lap present. Straight cut labels require a varnish overall stopping at the lap line.

File Collators

Paint labels that print at Fort Dearborn facilities (except die cut jobs) must have collator bars added to the lap area, to assist in label identification.

Note that base collator bars are solid black, and imprint bars are 50% black. If there is no Black plate in your document, change the collator bars to the darkest color used.

Collator numbers must be randomly chosen, but not repeat within the same line. Also enough space must be left between bars for ease of viewing on packaged items. The collator bars must bleed off lap and extend no more than a 1/8" into the lap.

Blank Collators



Imprint Collators





FORT DEARBORN COMPANY

Additional Specifications for Digital Items

File Prep

- File must be built to 100% final size.
- If the file is a line extension, it must be built to existing die line.
- Label must be centered on the page.

Fonts

- Do not use subset fonts.
- All fonts must be converted to outlines or embedded within the file before saving to a pdf.

Bleed

- File must have 1/8" bleed.
- File must have 1/8" copy to trim tolerance.

Images

- All images must be in CMYK mode at a minimum of 300 dpi, placed at 100% or smaller.

Color Naming

- **White Ink** is to be used when printing on clear film or metallized paper. Please color 50% Magenta for viewing and leave as a spot color.
- **Varnish** is to be supplied **only** if the Varnish is not overall. The Varnish should be colored 50% Magenta, 100% Yellow for viewing and left as a spot color.
- Spot colors are to be named **EXACTLY** as they appear in the Pantone Book.

File Format

- All files are to be submitted as Composite pdf files.
- * **Note: For shrink sleeve labels, the distortion values must be built into the file.**

Checklist

- All files submitted must have a completely filled out checklist found on page 13 for each item.

File Transfer Methods

- FDC Mass Transit.
- * **Please contact the FDC Help Desk at 847-427-5211 to have an account set up.**
- CD Rom.
- Your FTP site.
- E-mail.

Contact Information

- For shrink sleeve and distortion information, please contact the Flexible R&D Team at 847-357-2300.
- For general Digital information, please contact 847-357-2300 and ask to speak with a Digital representative.



FORT DEARBORN COMPANY

Additional Specifications for Digital Items

FORT DEARBORN DIGITAL PRINTING FILE CHECKLIST

Date _____

File Name _____

Your Company Name _____

Contact at Company _____

Phone _____

Customer Name _____

Brand _____

Job title _____

UPC Code _____

Job Trim Size _____ X _____

Lap Size / Position _____

RHL LHL Universal

Names of Colors on Job

Cyan Magenta Yellow Black

Orange Green Violet White

Pantone _____ Pantone _____

Pantone _____ Pantone _____

Pantone _____ Pantone _____

Pantone _____ Pantone _____

(NOTE: Spot colors must be named EXACTLY as listed in the Pantone Book)

File Delivery Method

FDC Mass Transit E-Mail

CD Rom Your FTP site

Address of your site

Password for your site

Job Type:

Die Cut

Cut/Stack

Sleeve

Substrate:

PS paper PS Clear

Paper Metallized Paper

PVC Film PETG Film

All images are in CMYK color mode, minimum 300dpi, placed at 100% or smaller

Build file to existing die size if this is a line extension.

Center label on page

Do not subset fonts

Convert all fonts to outlines or embed all fonts before saving as a pdf file

Include 1/8" bleeds where necessary

If design is to be printed on clear film or metallized paper, a white plate is required. (Name this plate **White Ink** and color it 50% Magenta for viewing.)

If the design requires varnish, a plate must be supplied ONLY if the varnish is NOT overall. (Name this plate **Varnish** and color it 50%Magenta, 100%yellow for viewing.)

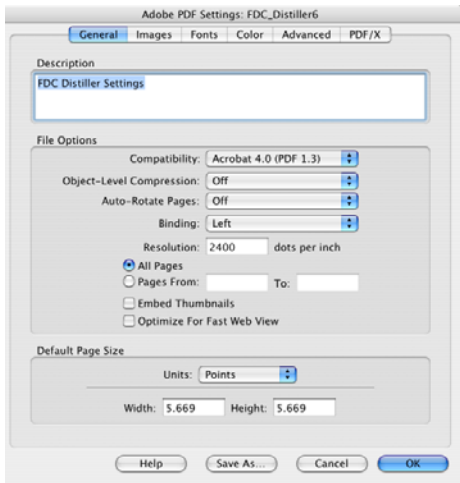
Save the file in Composite pdf format (NOTE: for shrink sleeve labels, the distortion values must be built into the file.**)

**Contact the Flexible R&D Technicians for this information @847/357-2300

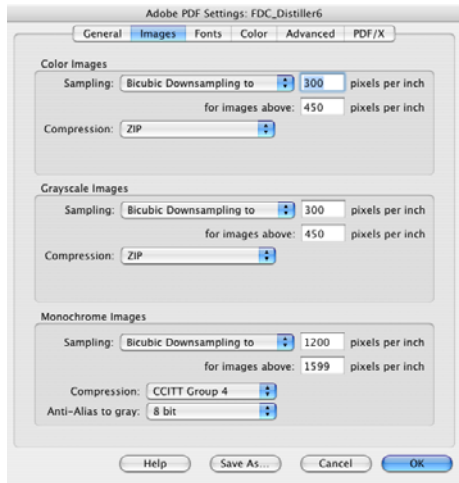
Please visit our website www.fortdearborn.com to view our complete Supplied CTP File Specification Guide and tips on PDF Distiller Option Settings.



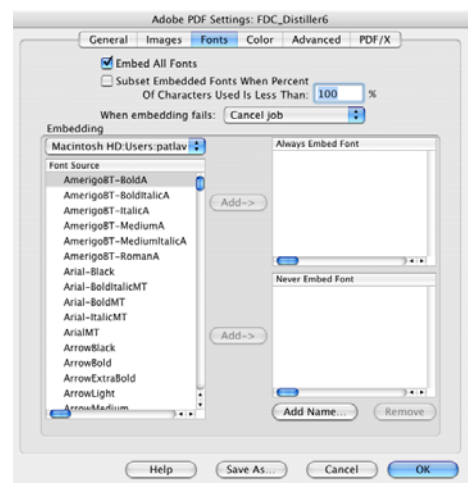
Acrobat Distiller 6.0 Settings



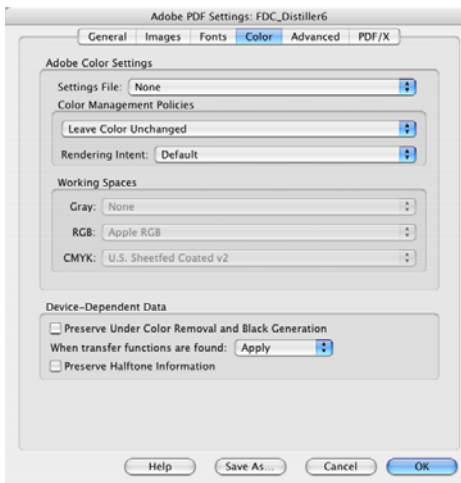
#1



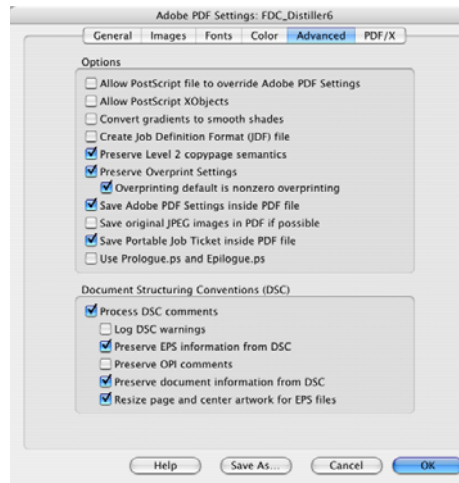
#2



#3



#4



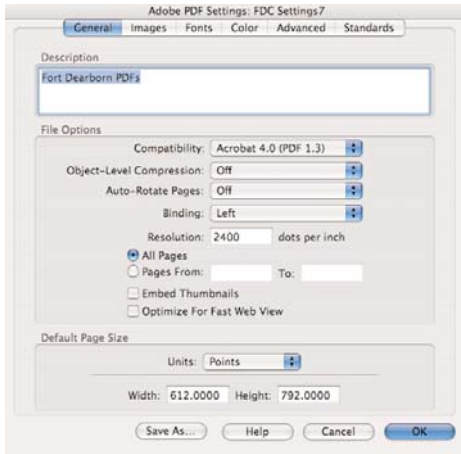
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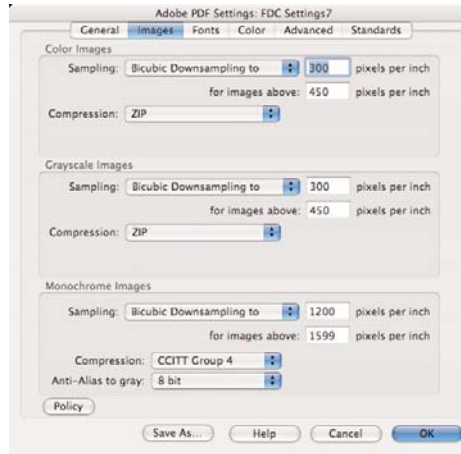
#6



Acrobat Distiller 7.0 Settings



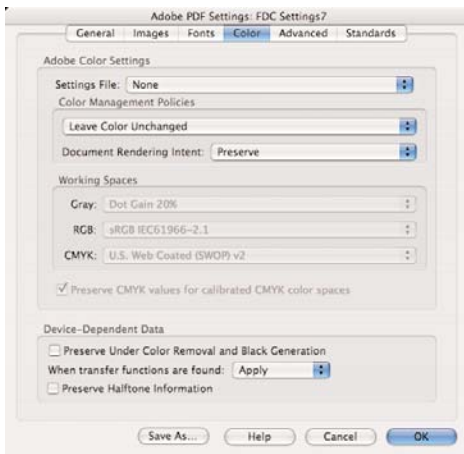
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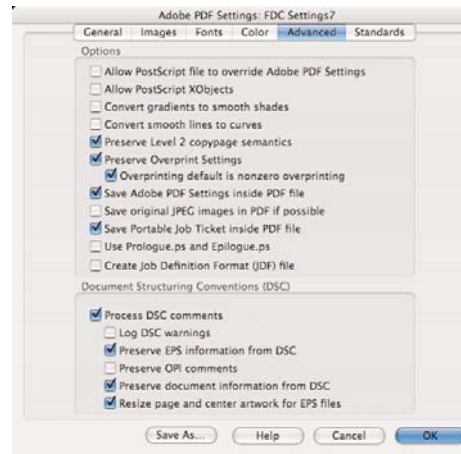
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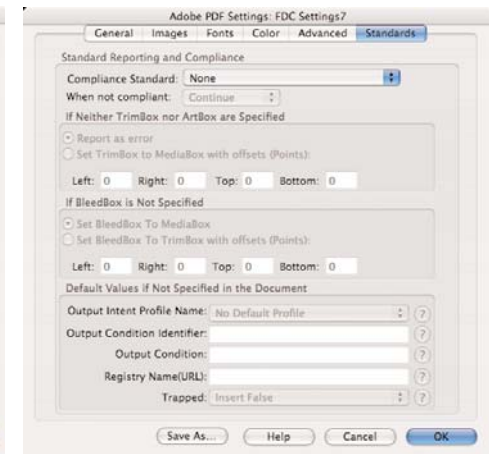
#3



#4



#5



#6



FORT DEARBORN COMPANY

HiColour Specifications

HiColour™ Specifications

Fort Dearborn's HiColour system delivers up to 85% of PMS colors, producing a wider gamut of color than traditional 4-color process. The fluorescence-free inks combined with high definition stochastic screening produces realistic looking images, making them ideally suited for the needs of the packaging industry.

HiColour Guidelines

The HiColour system includes Cyan, Magenta, Yellow, Black, Orange, Green and Violet.

- Use CMYK colors before introducing Orange, Green and/or Violet (*refer to a Solid to Process Color Guide*)
- Graphic images/photos will be enhanced from the high definition stochastic screening, thus eliminating the need to add Orange and Green (*utilize Orange and Green in graphic images/photos only when required by the Customer*).
- Parameters for using Violet:
 - Use Violet only to eliminate a special color
 - Violet is to be used in logos/line art only and not in graphic/photo images
 - When using Violet, try to eliminate Orange and Green to keep the job to a 6-color job

Instrument configuration : X-Rite 528 Spectrodensitometer
Status Filter T , Absolute , LAB , CMC 2:1:1 , D50/10 , 0/45 , Preucil
1/11/05



HiColour™ Specifications: 60 # C1S

Substrate 60# c1s

Screening Creo Staccato 2nd order 20 micron

Angles C&O same angle M&G same angle Y&V same angle

Ink Rotation Violet, Black, Green, Orange, Cyan, Magenta, Yellow

Densities

Target Density	CYAN	MAGENTA	YELLOW	BLACK	ORANGE	GREEN	VIOLET
(+-.05)	1.65	1.65	1.10	1.90	1.65	1.55	1.56

Hue/Grey

	CYAN	MAGENTA	YELLOW	BLACK	ORANGE	GREEN	VIOLET
Hue Error	18.1%	41.4%	5.4%	48.6%	52.7%	42.2%	80.0%
Grey Error	14.1%	19.4%	11.5%	99.7%	8.2%	25.1%	36.8%

Ink Colormetric

	CYAN	MAGENTA	YELLOW	BLACK	ORANGE	GREEN	VIOLET
L*	54.35	44.48	84.22	11.01	64.64	56.36	26.59
a*	-43.34	66.39	-0.19	0.25	50.84	-69.74	28.86
b*	-45.01	-1.59	94.13	-0.36	82.41	33.29	-59.94

TVI (Tone Value Increase) Dot Area

File Value	CYAN	MAGENTA	YELLOW	BLACK	ORANGE	GREEN	VIOLET
5%	9%	10%	9%	7%	9%	9%	9%
10%	19%	21%	19%	13%	20%	19%	20%
20%	34%	36%	35%	26%	39%	32%	39%
30%	50%	52%	51%	43%	56%	50%	56%
40%	64%	66%	63%	54%	69%	63%	69%
50%	74%	78%	74%	68%	79%	73%	79%
60%	82%	86%	83%	80%	86%	81%	86%
70%	88%	93%	90%	89%	90%	88%	90%
80%	94%	97%	96%	95%	94%	94%	94%
90%	97%	98%	98%	98%	96%	97%	96%
95%	99%	99%	99%	99%	99%	99%	99%

Instrument configuration : X-Rite 528 Spectrodensitometer
Status Filter T , Absolute , LAB , CMC 2:1:1 , D50/10 , 0/45 , Preucil
1/11/05





HiColour™ Specifications: Synthetic

Substrate Synthetic (Clear, White)

Screening Creo Staccato 2nd order 20 micron

Angles C&O same angle M&G same angle Y&V same angle

Ink Rotation Clear Synthetic: Reverse Printed (2 hits of White)
Violet, Black, Green, Orange, Cyan, Magenta, Yellow, White, White

White Synthetic: Surface printed
Violet, Black, Green, Orange, Cyan, Magenta, Yellow

Violet can be used if it eliminates a spot color.
White dot gain 50%+20=70%

Densities

Target Density (+-.05)	CYAN	MAGENTA	YELLOW	BLACK	ORANGE	GREEN	VIOLET
	1.40	1.40	1.06	1.50	1.40	1.30	1.70

Density for White is reflective 0.15 - 0.16.

Hue/Grey

	CYAN	MAGENTA	YELLOW	BLACK	ORANGE	GREEN	VIOLET
Hue Error	18.4%	43.1%	5.1%	37.0%	55.2%	49.5%	77.0%
Grey Error	16.0%	21.0%	9.9%	98.2%	5.9%	27.6%	37.3%

Ink Colormetric

	CYAN	MAGENTA	YELLOW	BLACK	ORANGE	GREEN	VIOLET
L*	52.71	43.46	85.72	13.08	65.72	54.11	27.19
a*	-42.77	65.85	-0.03	-0.97	54.28	-71.48	29.17
b*	-44.58	-0.33	97.20	0.51	84.28	37.94	-58.83

TVI (Tone Value Increase) Dot Area

File Value	CYAN	MAGENTA	YELLOW	BLACK	ORANGE	GREEN	VIOLET
5%	10%	10%	11%	11%	11%	10%	11%
10%	20%	20%	20%	21%	20%	19%	21%
20%	35%	36%	35%	36%	36%	32%	36%
30%	47%	49%	48%	50%	48%	45%	50%
40%	58%	60%	59%	62%	60%	55%	62%
50%	70%	71%	70%	73%	70%	70%	73%
60%	79%	81%	77%	84%	80%	79%	84%
70%	88%	89%	85%	91%	87%	87%	91%
80%	94%	95%	92%	96%	94%	96%	96%
90%	98%	98%	95%	98%	98%	98%	98%
95%	99%	99%	98%	99%	99%	99%	99%

Dot gain for White is 50% + 20 = 70%.

Instrument configuration : X-Rite 528 Spectrodensitometer
Status Filter T , Absolute , LAB , CMC 2:1:1 , D50/10 , 0/45 , Preucil
1/11/05