DESIGN GUIDEBOOK

PREPARE YOUR FILES FOR THE PANDA PRINTING PROCESS!

panda
game manufacturing

DESIGN GUIDEBOOK

Hello game designers, publishers, graphic designers, artists, illustrators, layout specialists, and everyone else who creates board games!

You are holding in your hand the 2019 version of the Panda Design Guidebook. In addition to being an industry leading guide for setting up print files, this year brings some exciting changes and updates, including a streamlined file requirements list and easy to use checklists for each print component type. New at the Panda website are in depth articles, tutorials, and a slew of tools to help you create perfect files, all available at www.pandagm.com.

Within these pages you will discover the secrets to producing files perfectly crafted for the Panda Game Manufacturing printing process. This guidebook is the tool you'll need to get through the design verification process and into the production phase of manufacturing. We look forward to being your partner as you create great board games.

Sincerely,
The Panda Team

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Throughout this guide, look for the callout boxes below pointing out tips, downloadable content available and warnings

PANDA TIP

DOWNLOADABLE CONTENT AVAILABLE

WARNING

DESIGN VERIFICATION PROCESS

Design verification process: In our quest to produce the highest quality board games possible, all projects must pass through the design verification process. The design verification process for files printed on paper consists of the client uploading pdf files followed by the checking of those files by a member of the Panda prepress team. A prepress report will be generated highlighting the issues that must be addressed before the files can be moved to the production phase. Several rounds of file uploading, checking, and prepress reports may happen before the files are cleared to go to production.

Want to make the process faster? Besides following all of the great tips in this guidebook, you can check your files before uploading them to Panda! Available on the Panda website is the Panda Preflight Profile. After downloading this profile and installing it in Adobe Acrobat,you can use this profile to check your print files for some of the most common issues that need to be corrected, including:

- Low resolution images
- RGB images
- Spot color inks

To check your files before uploading them, the Panda Preflight Profile is available for download from the tools page at pandagm.com/tools

Also new in this guidebook: The basic list of file requirements that apply to all print materials has been condensed to just five items, detailed on the next page. Depending on the type of component (box, cards, rulebooks, etc), there may be additional requirements. Each component's page will have an easy to reference checklist summary in the sidebar.

Example of a checklist for easy reference.

☑ checklist: **rulebook**

The BASIC FIVE:
- ❏ format: PDF
- ❏ CMYK color mode
- ❏ 3mm bleed and 3+ mm margins*
- ❏ images at 300+ppi
- ❏ text: pure black

Specific to rulebooks:
- ❏ *larger margin size if 28+ pages
- ❏ total pagecount equals a multiple of 4
- ❏ no two page spreads in uploaded PDF

FILE PREPARATION AT A GLANCE

Included within these pages are the instructions needed to ensure that your files are set to Panda printing standards. Following these guidelines will reduce the time it takes for your project to go through the design verification phase before mass production.

We strongly urge those unfamiliar with Panda's standards to read this guidebook in its entirety. While it is important to follow all of these best practices, there are five basic requirements for all files submitted to Panda for print.

The BASIC FIVE:

1. All files submitted as PDFs

2. All files in CMYK color format

3. Images at a resolution of 300ppi or above

4. All files have 3mm of bleed and at least 3mm of margin

5. Black text should be pure black (C:0% M:0% Y:0% K:100%) and set to overprint

Make sure your illustrator is familiar with technical specifications in this guidebook. This will prevent difficult to resolve issues from cropping up later in your process.

Adobe software is a popular choice when creating print files. Using the right piece of software for the right task can make file preparation easier.

Use InDesign for final layout (especially text placement) and PDF generation.

Use Illustrator for the development of vector illustrations.

Use Photoshop for the development of raster illustrations. Panda strongly advises you to not use Photoshop for the creation of your final PDFs. Please use Adobe InDesign (preferred) or Adobe Illustrator instead. If you must use Photoshop, please plan for additional time for prepress checks and revisions.

BASIC FILE REQUIREMENTS

1. All files must be submitted as PDFs: Creating a PDF is pretty easy these days. When saving your PDF, keep in mind:

- Your PDF should be compatible with Acrobat 7 (PDF 1.6) or higher.
- Your PDF should use the color profile FOGRA 39 (ISO12647-2) to match our factory's color calibration.
- It is not necessary to include trim marks, registration mark, or color bars.

To make things even easier, Panda has a PDF Export profile available for Adobe products that will set the items above, and do a couple other neat tricks, such as convert RGB images to CMYK when the file is exported. You can find that profile at www.pandagm.com/tools

> For easy export of files to PDF, use the Panda Export Profile and instructions on how to use it, available for download from the tools page at pandagm.com/tools

2. All files to be in CMYK color format: Large scale commercial printing uses an offset printing process, most commonly consisting of the use of CMYK plates (Cyan, Magenta, Yellow, Black). All files must be submitted in CMYK color format. **Do not use RGB** colorspace for your files. RGB is a format for onscreen images. For more information on the CMYK printing process see pages 8-9.

3. Images should be at a resolution of 300ppi or above: The print industry standard is to have all images at 300+ ppi. Using lower resolution images runs the risk of your images appearing blurry or pixelated.

BASIC FILE REQUIREMENTS

4. All files to have 3mm of bleed, and at least 3mm of margin: Bleed and margin issues are a common problem found during prepress checks, but they are easy to avoid!

Bleed is a printing term that refers to the artwork that goes beyond the edge of the dieline (or trim line) for your component. Artwork and background colors should extend at least to the edge of the bleed line. Maintaining the recommended bleed will ensure that unprinted edges do not appear on your components.

All files require at least 3mm of bleed on each side; some components may require more.

Margin is the area between the main content and the edge of a page. Most printed components have a trim tolerance of +/-1mm. Keeping your margin free of text or images means that your content won't be unintentionally cut off and the final product won't appear off-center. Please keep pertinent artwork and all text within the margin line.

Using a larger than required margin for text on print components prevents a component from appearing crowded.

5. Black text should be pure black (C:0% M:0% Y:0% K:100%), not rich black, and text should be set to overprint: The reason we ask that all text be in Pure Black is that our eyes are trained to notice extremely small variations when deciphering text. For this reason, we strongly recommend using a single color plate when designing text for print as the smallest misalignment of the printing plates may cause typefaces with thin strokes to appear slightly blurry. Pure black is the best of those four colors to use for type as it is the easiest to read.
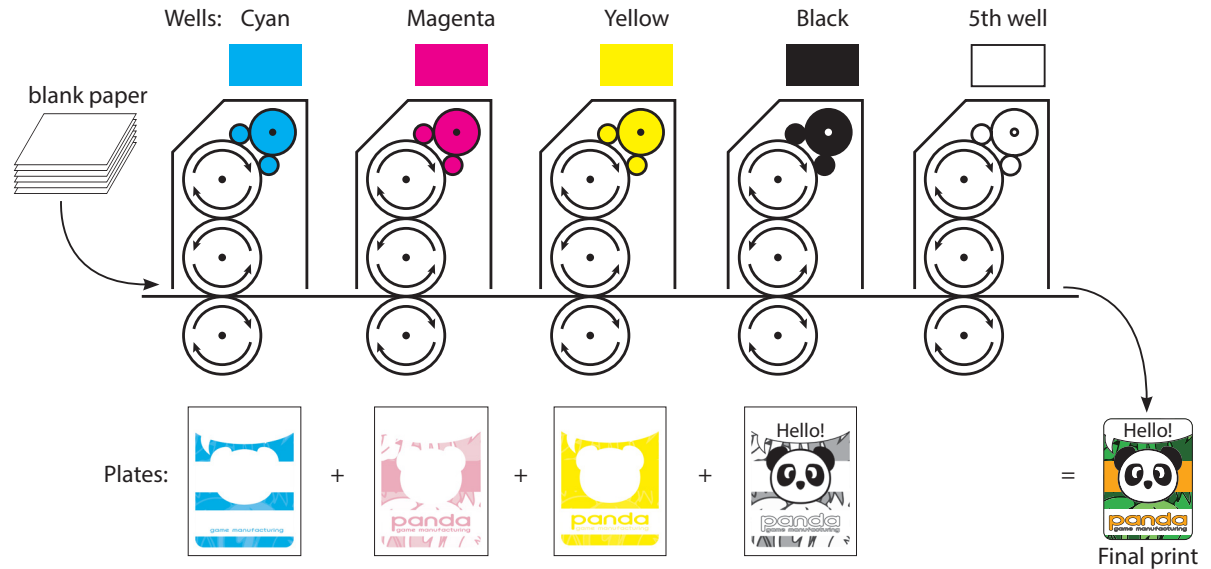

margin line
dieline (or trim line)
bleed line

Card sample, with margin, dieline (or trim line) and bleed line overlaid. All of the content is within the margin line and there is 3mm between the margin line and the trim line. The background extends an additional 3mm to the bleed line.

OFFSET PRINTING

Offset printing: Panda uses offset printing, which is a common large scale commercial printing process. By combining just four colors of ink, cyan, magenta, yellow, and black (CMYK), millions of hues can be achieved. Offset printing produces colors accurately, is fast, and can handle extremely large print runs.

Printing wells: An offset printing press has "wells" that hold the four ink colors: cyan, magenta, yellow, and black (CMYK). A fifth well can hold a spot color, metallic ink, or even another well of black ink.

The process: When preparing for offset printing, the print file is separated into its individual CMYK colors. Each different color for the final image is applied to a metal plate. The plates are loaded into the press where an inked image is transferred (offset) from the metal plate to a rubber mat, and then onto the printed surface. Individual sheets are run through the press at the speed of a thousand of sheets an hour.

Cyan

Magenta

Yellow

Black (K)

Shown above are the four common ink colors used in offset printing. Additional unique inks (PANTONE spot colors) may also be used in special situations.
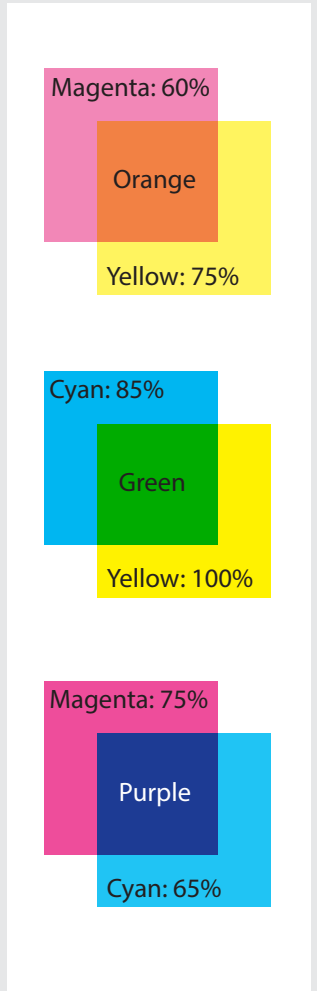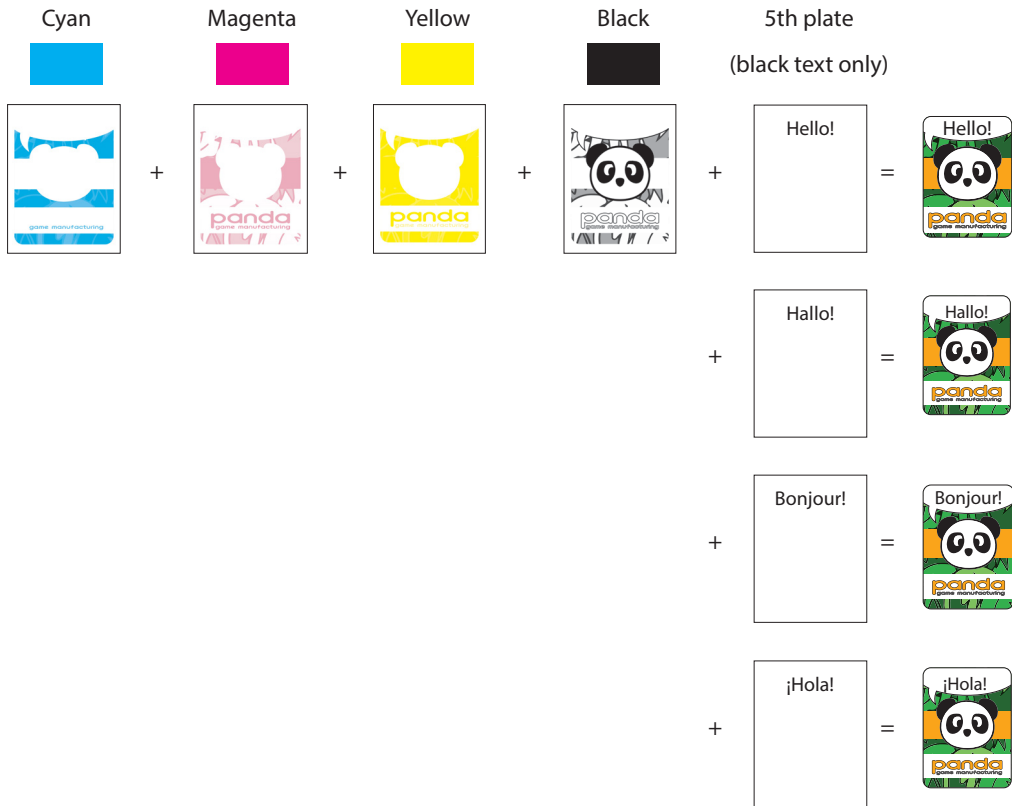
FIFTH PLATE REPLACEMENT

5th plate replacement: As shown by the graphic below, all text has been removed from the K (black) plate. For each language, a new plate can be created with only the text from that language on it. By swapping out the 5th plate, multiple languages can be printed more economically, as the original CMYK plates do not have to be changed.

When creating files for black text replacement, please note that some translations between languages may take up to 30% more space and that only black text can be replaced, not other colored text.

Cyan	Magenta	Yellow	Black	5th plate
				(black text only)

Magenta: 60%

Orange

Yellow: 75%

Cyan: 85%

Green

Yellow: 100%

Magenta: 75%

Purple

Cyan: 65%

Millions of different hues can be achieved by combining various intensities of two, three or all four CMYK inks.

Top and Bottom box templates generated with the Panda Template Generator.

✅ checklist: **box**

The BASIC FIVE:
- ❏ format: PDF
- ❏ CMYK color mode
- ❏ 18mm bleed* and 3+ mm margins
- ❏ images at 300+ppi
- ❏ black text: pure black

Specific to box:
- ❏ will components fit?
- ❏ 18mm bleed for both top and bottom
- ❏ upload dieline file
- ❏ box markings, p12
- ❏ safety markings, p13

TWO PIECE GAME BOX

You only get one chance to make a first impression, and with tabletop games, the first impression starts with the box. The best way to start building your box is with the Panda Template Generator found at: pandagm.com/tools/

Make sure your components fit: The box should be at least 15mm larger in each dimension than your largest component to make sure that each component can be easily removed. The box also needs to be large enough to contain all of the components together. Your contact at Panda can help you determine the best box size for your game.

> *Example: If your game box is 150mm x 200mm, the maximum size of any the components inside the box would be 135mm x 185mm. This size would apply to game boards when folded, rules booklets or sheets, punchboards, cardboard mats, etc.*
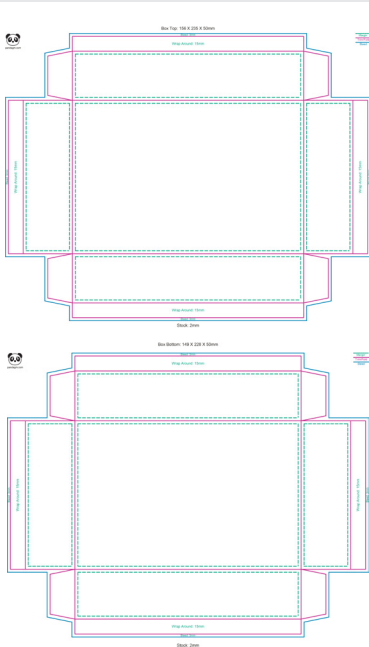
18mm of Bleed: All box files (top and bottom) must have 18mm of bleed on each side. This is 3mm of standard bleed, plus 15mm of wrap that goes around to the inside of the box to create a clean, smooth edge.

Dieline file: Please save and upload your dielines as a separate PDF, or as a separate layer in your art file. Dielines can not be part of the regular art file layers, they need to be separate so a diecut mold can be created.

Box and safety markings: Please see pages 12-13.

To ensure that you have proper dielines, bleeds, and margins on your box, use Panda's Template Generator: pandagm.com/tools/

TUCK BOX AND FOIL PACKS

Tuck boxes: If your game consists of only cards, or if you need a smaller box within the main gamebox to hold pieces or components, the best container may be a lighter, one-piece tuck box. Just like the two piece box, you can generate custom templates for a tuck box with the Panda Template Generator found at: pandagm.com/tools/
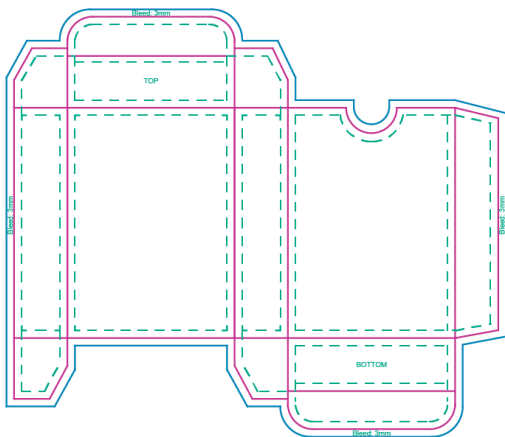
    Bleed and margin: All tuck box files must have 3mm of bleed and 3mm of margin.

    Box and safety markings: Please see pages 12-13.

Tuck Box: 91 X 66 X 21mm | Card Size: 88 X 63mm

Margin
Trim/Fold
Bleed

Contains: 54 Cards | Card Material: 310gsm Ivory Core | Card Thickness: 0.33mm

Foil packs: For something even smaller like a booster pack, foil can be your best option. A foil pack can be stand alone packaging for retail purchase or hold cards to be revealed during a legacy game.

BOX MARKINGS

Box Markings: When designing your game's box you must consider its markings. Although not required, games often have the number of players, the playing time, and the age range shown. See below for required markings.

Marking required for all games:

A. **Made in China:** The country of origin is required for customs. Panda's factories are located in China.

B. **Publisher name and address:** A point of contact is required for clients to reach you. Note that this information can instead be placed in the rulebook or any accompanying documentation.

C. **Recommended age range:** Add a recommended age range to your box. This will determine if your game is considered a toy or not. (See next page for more details)

D. **UPC/EAN13:** While not required, it is strongly recommend to use a UPC/EAN13. Once your game hits the distribution chain, a UPC will make handling your game a lot easier for all parties involved.

E. **Lot Number:** The lot number is required to identify a production run in the unlikely event where a product is recalled. **Panda automatically puts a small lot number and Panda icon next to the UPC.** Leave at least 5mm of space to the right of your UPC for this mark. If you have your own lot number, please inform your project manager.

The UPC must be in pure black, (C: 0%, Y: 0%, M: 0%, K: 100%). Please leave at least 5mm of space for the Panda lot number (example shown here on the right side of the UPC). Panda will automatically add the lot number to your game.

Box bottom example showing publisher name and address, player count, game length, age range, made in China mark, UPC, and lot number.

SAFETY MARKINGS

Toy vs. not a toy? Ask yourself:	1. Is my board game considered a toy? See the definitions below, and then follow the required labeling for toys if your game is a toy. 2. Is my board game not a toy? This is for games recommended for players 14 and up. Please see the recommended labeling for games that are not toys.	
Market	European Union (EN-71)	USA (ASTM F963)
Definition of a toy:	*Any product designed or intended, whether or not exclusively, for use in play, by children under 14 years of age.*	*Any object designed, manufactured, or marketed as a plaything for children under 14 years of age.*
Required labeling for toys:	**CE Marking:** The CE logo certifies that the content of the game matches the EN71 standards. **Warning - Age Range:** This can be indicated in one of three ways: • *Warning:* • *Warning. Not suitable for children under 36 months.* • *Warning. Not suitable for children under three years.* **Hazard:** A text must indicate what kind of hazard is present in the game. The hazard most board games present is a choking hazard with small pieces. The recommended text is: *Choking Hazard - Small parts.*	**Warning Text:** ⚠ **WARNING**: CHOKING HAZARD - Small parts. Not for children under 3 years.
Testing	While rare, for games 13 years and younger you may be asked by customs or your distributor to provide test results that certify that your toy passed the EN71/ASTM F963 tests. Panda can provide safety testing through a third party testing facility. Note that it is still your responsibility, as the publisher, to make sure your game is tested according to the standards of the territories where your game will be sold. Please contact your Project Manager for more details.	
Recommended labeling for games that are not toys	If your game is for persons aged 14 years and up, no safety markings are required. Do not place a CE mark on your box. If you wish to include markings we recommend : **THIS PRODUCT IS NOT A TOY.** **NOT RECOMMENDED FOR PERSONS 13 YEARS OF AGE OR YOUNGER**. No additional safety markings are required.	

The CE logo certifies that the content of the game matches the EN71 standards. This logo should appear in black or white and with a minimum height of 5mm. Its shape must not be altered in any way.

EN-71 Warning - age range symbol must appear with a minimum height of 10mm.

ASTM F963 (US market) Warning: Choking Hazard. The symbol must include the exclamation point inside the triangle, and the height of that triangle must be taller than the word "Warning". Please ask your prepress specialist for more details.

GAME BOARD

Your game board is the centerpiece of the tabletop gaming experience. Though laying out a flat board may seem simple, it can be troublesome if the margins and bleeds are not set properly. You can generate a custom template for your game board at pandagm.com/tools/

Bleed: As with the game box, the board requires 18mm of total bleed to wrap around the edges. This covers and protects the edge of the game board which in turn lengthens its life.

Double Sided: Printing a custom back for your game board adds minimal cost and is an enormous opportunity. If you are designing a double-sided game board, the back side needs to be 3mm smaller on all four sides than the front. This is because the back sheet is mounted on top of the wrapped edges from the front side of the game board. Don't forget the standard 3mm bleed!

Example: If your game board is 200mm x 400mm, then the trimmed size for the back would be 194mm x 394mm. Including bleed, the final file size would be 200mm x 400mm.

Maximum Size: Should you have high ambitions for a giant game board, please note that the current maximum size for Panda manufactured game boards is 700mm x 1000mm. For playing surfaces larger than 700mm x 1000mm, consider using two game boards placed side by side. If you need a larger board, ask your project manager about a printed vinyl game board.

To ensure that you have proper dimensions, fold lines, bleed, and margins on your box, use Panda's Template Generator: pandagm.com/tools/

✅ checklist: **game board**

The BASIC FIVE:
- ❏ format: PDF
- ❏ CMYK color mode
- ❏ 3-18mm bleed* and 3+ mm margins
- ❏ images at 300+ppi
- ❏ black text: pure black

Specific to game board:
- ❏ 18mm bleed for front side
- ❏ double sided board? 3mm smaller every direction, 3mm bleed
- ❏ max size 700mm x 1000mm
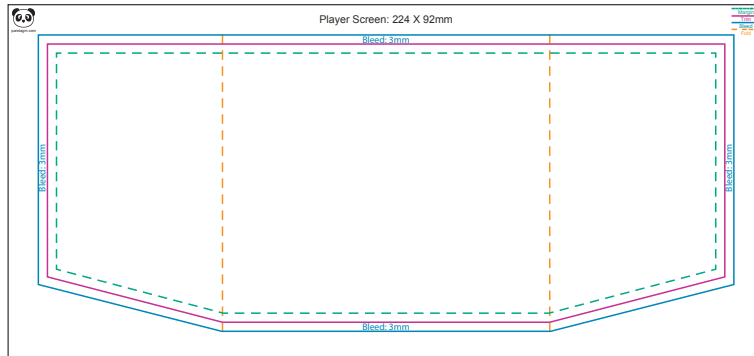
CARDBOARD MATS AND SCREENS

In addition to the main, folded game board, sometimes a game may require smaller boards. These may be used for individual player boards, token storage areas, scoring boards, or any number of purposes. These non-folded boards are known as cardboard mats, and they do not have wrapped edges. If your game requires a cardboard mat, designing for squared corners will be the most efficient. Special shapes will require a diecut mold which will incur additional costs.

Bleed and Margin: All cardboard mat files must have 3mm of bleed and 3mm of margin.

Sometimes we need to hide our goods from the enemy! This is where a player screen, also known as a cardboard screen, may come in handy. Angled edges beyond the fold can make these stand up better.

Bleed and Margin: All player screen files must have 3mm of bleed and 3mm of margin.

Dieline File: Player screens require an uploaded dieline file indicating trim and fold lines. If you need a template, contact us. Upload your dielines as a separate PDF, or as a separate layer in your pdf file. Dielines can not be part of the regular art file layers.

Example of a player screen template

☑ checklist: **cardbaord mats**

The BASIC FIVE:
- ❏ format: PDF
- ❏ CMYK color mode
- ❏ 3mm bleed and 3+ mm margins
- ❏ images at 300+ppi
- ❏ black text: pure black"

☑ checklist: **player screens**

The BASIC FIVE:
- ❏ format: PDF
- ❏ CMYK color mode
- ❏ 3mm bleed and 3+ mm margins
- ❏ images at 300+ppi
- ❏ black text: pure black

Specific to player screens:
- ❏ dieline as separate file or on spot layer

BOOKLETS AND PAPER SHEETS

Booklets, or rulebooks, are usually saddle stitched *(bound with staples)*. Paper Sheets are single sheets that can be folded to your specifications. Paper pads are also available.

Bleed and Margin: All rulebook and paper sheet files must have 3mm of bleed. For rulebooks, margin sizes vary depending on the number of pages:
- **1-28 pages:** Use the standard 3mm margin.
- **32-64 pages:** Increase the margin to 5mm.
- **68+ pages:** Inquire about different binding methods and templates.

Number of Pages: The total page count must be a multiple of four. *(Rule sheets can be single or double sided.)*

File setup: Submit these as multi-page PDFs with only one page of the booklet on each page of the PDF. **Do not use two page spreads.** The production team will layout the booklet for print with the proper pagination.

Binding Types: Saddle stitch binding is by far the most common for boardgame rulebooks. Please contact a Panda for templates for perfect, spiral, and casewrap bindings.
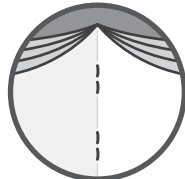

Saddle stitch binding (most common form of rulebook binding)

Perfect binding

Spiral binding

Casewrap (hard cover) binding

Using a larger than required margin on the gutter of your rulebook will ensure that your content near the fold is easily visible.

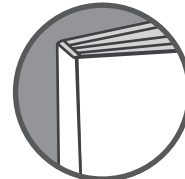✅ checklist: **rulebook**

The BASIC FIVE:
- ❏ format: PDF
- ❏ CMYK color mode
- ❏ 3mm bleed and 3+ mm margins*
- ❏ images at 300+ppi
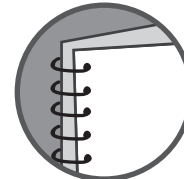- ❏ text: pure black

Specific to rulebooks:
- ❏ *larger margin size if 28+ pages
- ❏ total pagecount equals a multiple of 4
- ❏ no two page spreads in uploaded PDF

CARDS

Cards are often an integral part of tabletop games. Panda offers a wide variety of standard card sizes to suit your game's unique needs.

Bleed and margin: All cards must have 3mm of bleed and 3mm of margin. Please extend the background artwork to or past the bleed line, and keep pertinent artwork and all text within the margin line.
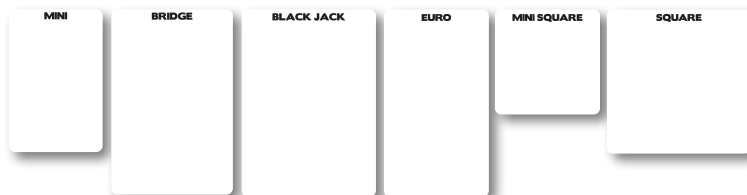
File format: When submitting cards, upload the file as a multi-page PDF with the card back as the last page. If you have multiple card backs, upload a file for the card fronts, and a second file for the card backs.

Example: Deck A has 54 cards with a single back. The PDF for Deck A will be 55 pages in length, with the 55th page being the card back for the preceding 54 cards.

Example: Deck B has 54 cards with multiple backs. There will be two PDFs for Deck B, one with the card fronts, and a second file with the card backs. Please be descriptive in naming your file.
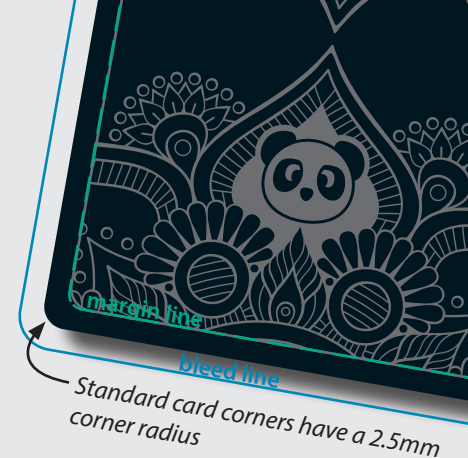
Border black: For a deep, consistent black that will be easier to color match between print runs and expansions consider using a color formula of **(C:40% M:0% Y:0% K:100%)**.

Common card sizes:

44mm x 67mm (mini) 84 / sheet
57mm x 87mm (bridge) 60 / sheet
63mm x 88mm (blackjack) 54 / sheet
59mm x 91mm (euro) 45 / sheet
51mm x 51mm (mini square) 110 / sheet
70mm x 70mm (square) 56 / sheet

Panda has many more standard card sizes; for a complete list, go to pandagm.com/tools and select the template generator.

Standard card corners have a 2.5mm corner radius

checklist: **cards**

The BASIC FIVE:
- ❏ format: PDF
- ❏ CMYK color mode
- ❏ 3mm bleed and 3+ mm margins
- ❏ images at 300+ppi
- ❏ black text: pure black

Specific to cards:
- ❏ upload card decks as a single file
- ❏ follow file format
- ❏ black borders? use "border black"

PUNCHBOARD

A punchboard is an incredible versatile component that can be utilized to create a multitude of items such as tokens, tiles, trackers, and dials. It can be single layer, dual layer, or even fit together to create a constructible cardboard component.

As a result the punchboard is one of the most difficult print components to create. In addition to following all of the regular rules relating to any print piece, great care has to in planning the token layout, and paying attention to special dieline, bleed, and margin requirements.

Punchboard size: To comfortably fit in the box, the size of the punchboard should be at least 15mm smaller in each dimension than the box top.

Example: a 200mm x 250mm box can hold a punchboard of 185mm x 235mm.

Individual Token Sizing: The smallest token size Panda can produce is approximately 8mm x 8mm, and the smallest edge in any unique shape must be at least 3mm long.

Note: Due to the physics of the punching process, the front side of the tokens will have a slightly rounded edge.

Label and number your punchboards. This is particularly important if you have multiple punchboards with the same dieline and similar art so that they don't get mixed up during the production process. You can label them outside the whole board dieline as that portion will be discarded during final assembly and packaging.

checklist: **punchboard**

The BASIC FIVE:
- ❏ format: PDF
- ❏ CMYK color mode
- ❏ 3mm bleed and 3+ mm margins
- ❏ images at 300+ppi
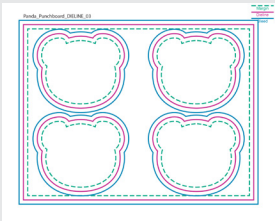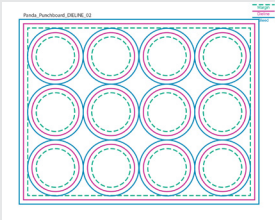- ❏ black text: pure black

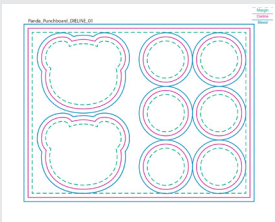Specific to punchboards:
- ❏ fit in box?
- ❏ individual token size
- ❏ label punchboard
- ❏ spacing, 6mm between tokens
- ❏ whole board dieline
- ❏ dieline as separate file or on spot layer

> **!** **REMEMBER TO SAVE YOUR DIELINE TEMPLATE AS A SEPARATE PDF FILE THAT CONTAINS NO ARTWORK.** Optionally, you may save the dieline as a separate layer within the art file; name the layer "dielines - do not print"

PUNCHBOARD (CONT.)

The arrangement of tokens on a punchboard can be tricky. Special care has to be taken proper spacing between the tokens in addition to bleed and margin rules.

Token spacing: There should always be 6mm minimum between any dielines, either token to token, or token to whole board dieline. Each individual punch out (token) on the punchboards should have 3mm of bleed outside its dieline and 3mm of margin between the dieline and any non-background art including text and border lines.

Whole board dieline: The entire board must also include a "whole board" dieline; this dieline also requires 3mm bleed and 3mm margin. The whole board dieline will match the size of the punchboard as specified on the contract.

Dieline file: Please save and upload your dielines as a separate PDF, or as a separate layer in your art file. Dielines can not be part of the regular art file layers, they need to be separate so a diecut mold can be created.

whole board dieline

Diecut mold made from dieline file

Panda_Punchboard_DIELINE_01

minimum 6mm between die-lines

Margin
Dieline
Bleed

place non-background art including text and border lines between margins

6mm

6mm

6mm

6mm

token margin line

token bleed line

token dieline

whole board dieline

whole board bleed line
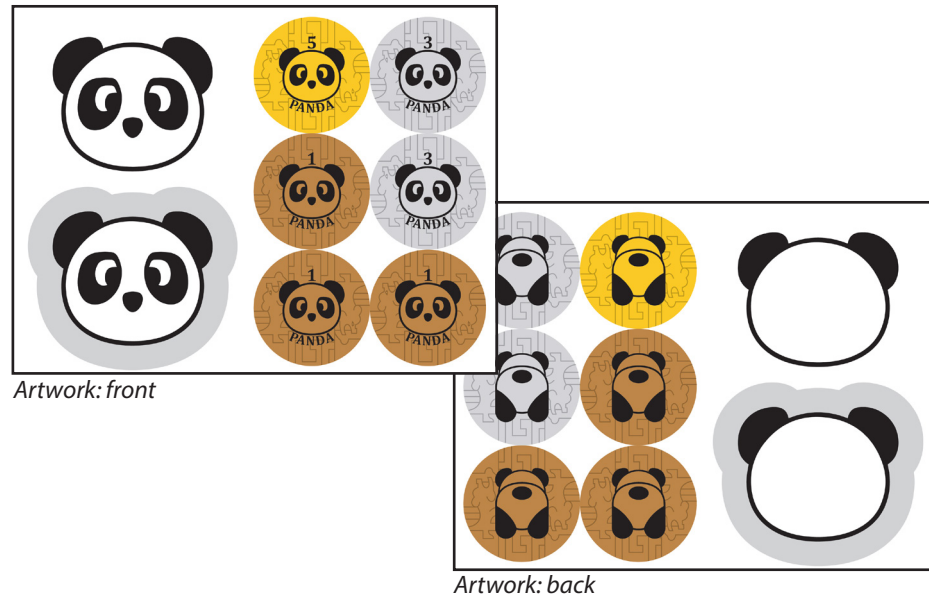
Punchboard overlaid on an artwork file

Example: If you need four panda tokens and twelve coins, it is more efficient (and less expensive) to create a single dieline template to be used twice instead of two separate templates.

Multiple punchboards: When designing punchboards, it's best to think about efficiency. As there is an added cost for each diecut mold, you will want to lay out your punchboard in such a way that the same dieline template can be used for multiple punchboards. (see example at left).

Back side layout: Make sure that the layout of the back sheet of the punchboard artwork is a mirror image of the front of the punchboard.
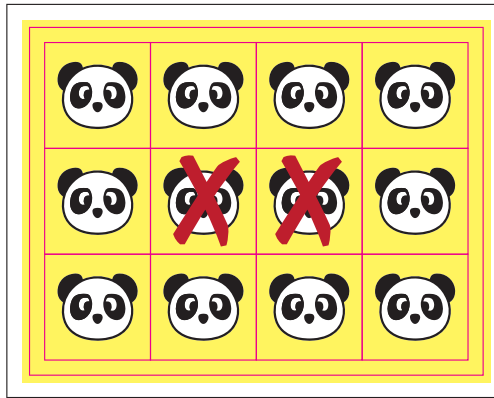

Artwork: front

Artwork: back

PUNCHBOARD (CONT.)

Shared dielines: If you're running out of space on your punchboard, some tokens could share a dieline. Straight edge triangles, rectangles, and hexagons work best for this. However, there are some restrictions for this method.

Each token must have at least one edge that touches a portion of the punchboard that is discarded after the tokens are punched out. As there is no bleed between tokens that share a dieline, they must have identical content in their margins.
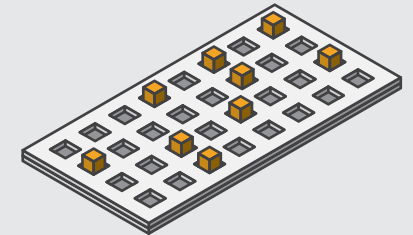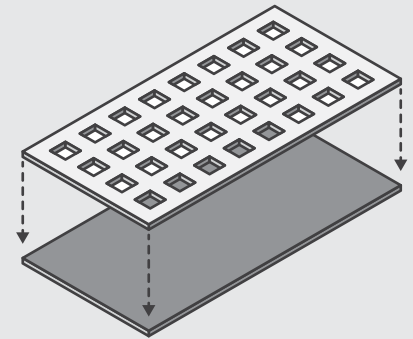

✔ *In the above example, the 12 tokens are in two groups of six. Each token has at least one edge that touches the discarded punch board.*

✘ *In this example, the two center tokens do not share an edge with the discarded punchboard. This dieline pattern would not be allowed.*
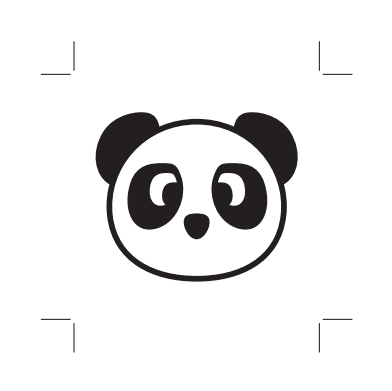
Double layered punchboards: In some games, a double layer punchboard is a great solution. This type of punchboard is actually two layers of punchboard glued together. The top layer will have areas punched out that can hold cubes, discs, meeples, or other components in a certain spot on that board. Please take extra care to ensure that any images on the bottom layer line up correctly with the punched out portions of the top layer.
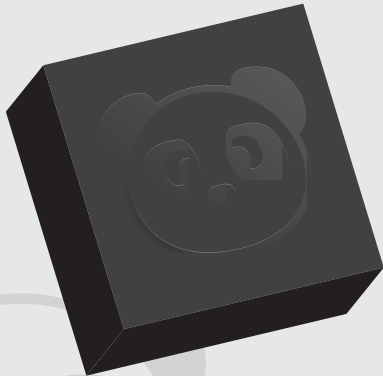

A double layered punchboard is a great solution to hold cubes and other small pieces in place.

Submitted box artwork

Vector file showing special effect area

Final box with effect

STICKERS AND SPECIAL EFFECTS

Sticker Sheets: Sticker sheets are available from Panda for your game. Sticker sheets are "kiss cut," meaning that the sheets that the stickers are on will be cut through the sticker part of sheet that has the artwork, but not through the backing paper. The stickers can then be peeled away and applied.

Layout: Sticker sheets are designed and laid out in a similar manner as punchboards, with the exception that the sticker sheet bleed and margin is 1.5mm instead of 3mm. If a template is required, Panda can provide one for simple shapes such as squares and circles. Sticker sheets can also have shared dielines for the individual stickers.

Box Stickers: Panda can also apply a sticker to the exterior of your game. This can come in handy if you have a special Kickstarter version.

Spot UV or Foil Stamping: To be extra fancy, Panda can add special printing effects such as Spot UV and Foil Stamping on many printed components.

Format: Similar to dielines, please upload a separate PDF with the special effect areas indicated in pure black (K: 100%) or pure Magenta (M: 100%). The rest of the file should be either white or transparent.

GLOSSARY OF COMMON TERMS

Black, Border
Border black is the name of the CMYK color Panda suggests for black borders on cards. This border black color is very consistent and more easily matched between print runs. The color formula for border black is: C: 40%, M: 0%, Y: 0%, K: 100%.

Black, Pure
Pure black is the name of the CMYK color Panda prefers for black text, icons, and the UPC symbol. The color formula for pure black is: C: 0%, M: 0%, Y: 0%, K: 100%.

Black, Rich
Rich black should be avoided for text, small icons, and the UPC label. Rich black's color formula is generally any combination of CMYK that looks like black.

Bleed
Bleed is the zone outside of the trim/cut area. It is art that is printed beyond the trim line so that it can be cut off. This prevents unprinted white edges showing up on printed components.

Color, CMYK
The CMYK color model *(process color, four color)* is a subtractive color model used in color printing, and is also used to describe the printing process itself. CMYK refers to the four inks used in color printing: cyan, magenta, yellow, and key *(black)*.

Color, RGB
The RGB color model is an additive color model in which red, green, and blue are added together in various ways to reproduce a broad array of colors. The name of the model comes from the initials of the three additive primary colors. Not all colors in the RGB colorspace can be reproduced in CMYK.

PPI
PPI stands for Pixels Per Inch, and pertains to the resolution of an image. It is a metric that measures how much visual data is contained within a graphic. All images within files submitted to Panda must be at least 300 ppi, the industry printing standard

Dielines
A dieline is a vector graphic used to convey to a machinist how to create a punch out. It can also be used by graphic designers to assist in the proper layout of a document that will be diecut.

Margin - *(a.k.a. Inner Bleed / Safe Zone)*
Margin is the zone between the trim/cut area and the content/art. The margin prevents the art from being trimmed off of the document and the eye from tracking drift. In some instances, the margin is the border.

Overprint
Overprinting refers to the process of printing one color on top of another in reprographics. Overprinting allows the printer to create crisp text and avoid visual drift.
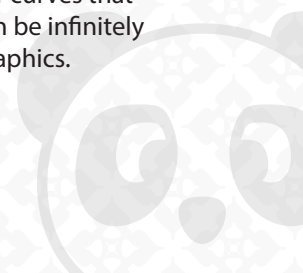
Raster
An image or text made of individual pixels *(not vector format)*. Raster graphics can be shrunk but not enlarged. Photoshop is a program that generates raster graphics.

Trim Size - The trim size is the final size of your component after the bleed has been trimmed off.

Vector
Vector graphics use mathematical formulas to describe shapes in computer graphics. Vector graphics are based on Bézier curves that allow the user to shape the graphic. Vector graphics can be infinitely scaled. Illustrator is a program that generates vector graphics.