

A guide to creating PDF files for printing

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### Introduction

File preparation for press is often not thought about in great depth by those not used to the trade, until the last moment when the project finally comes to printed. All of a sudden a whole host of technical jargon and requirements are thrust upon you, when you have the least amount of time to spare before that inevitable book-launch.

Hence the aim of this guide - to teach you a few technical requirements and aid you in preparing print-ready PDF files that P2D can use first time.

#### **Service Expectations**

Files supplied to P2D are checked ("preflighted") when they arrive at our prepress department for the technical requirements of commercial printing, and "Fit For Purpose" checked against the job brief - i.e. does the artwork match the order's size, and are the cover dimensions correct for the expected size of book? etc. It should be noted that files supplied to us are expected to have already been proof-read – P2D do not check for spelling and grammar. It is more cost-effective for any typographical amendments to have been affected before hand.

#### What is a PDF and Why use it?

The most reliable and accurate method to transfer files between your system, through prepress and imposition schemes (where several pages are printed on one larger sheet of paper), and thence on to the press is to use a portable file format -the industry standard PDF.

PDF (portable Document Format) "locks" the words and images in place on the page and when set up correctly ensures that everything needed for printing is contained (or embedded) within the one file, so regardless of computer platform or printing press, the end printed result is the same.

Unlike supplying a Word file, for example - Word files do not transfer well between systems, as they rely on the individual computer's fonts and printer settings, which vary from computer to computer.

PDF's can be made from any program, because it is based on printer code - imagine sending a document to your

desktop printer - the data that goes down the cable to the printer gets captured to a file that can then be released to another printer miles away - that's the essence of PDF.

In fact one method of creating a PDF is to print a document to a "PDF printer", which actually saves a file to disk instead of sending the data to a printer. Nowadays programs can simply "save as" PDF, but the internal process is the same.

#### Choosing a program to use to create your PDF

There are many page layout and desktop publishing programs that are capable of creating a PDF, and different programs are good at doing different things.

QuarkXpress and InDesign are the de-facto industry standard page layout programs, if you are serious about designing lots of titles, one of these would be well worth the investment in money and the time to learn the complexities of them. With these programs you can get very professional effects and results that mainstream publishers output. Other programs are also available, that may produce results suitable for your project with less of a price tag.

Any program that can print to printer can be used to create a PDF -

If you can't save-as or export to PDF, you can always print to PDF by using a PDF printer - remember that's a virtual printer that saves the file to PDF. Free ones like Nitro and CutePDF are available on-line, while Acrobat Professional is the industry-standard PDF creating and reading program.

As long as the resulting PDF meets the specifications outlined in this booklet, the creating program is less important.

#### **Components of a Book**

There are a variety of different book styles that can be produced, each having different components that each require a separate PDF with which to print from.

#### Saddle-stitched Booklets

have a set of inner pages and often an outer (thicker) cover, folded in half with two staples in the spine to keep it all together. The folded booklet is then trimmed flush to the specified size.

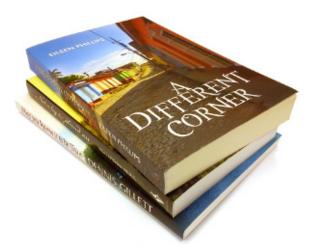
Components: Cover, Text



#### Paperback (Limp) Books

have a "book block" (set of pages often printed on a white light weight paper) and a card cover (usually printed in colour) glued to the spine ("bound"), and trimmed flush to the specified size.

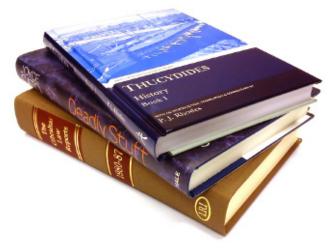
Components: Cover, Text.



#### Hardback (Cased) Books

have the book block bound on the spine with front and back endpapers (which can be plain heavyweight paper, coloured or printed), and trimmed to the specified size. This trimmed bookblock is then "cased-in" – the hard cover (or "case") is glued to the front and back endpapers (not the spine) and overhangs the bookblock by about 3mm. The case can be either finished in cloth or a printed papercase ("PPC"). A cloth cover can have a "blocking" applied (lettering or simple graphics stamp embossed usually in gold or silver). A dust-jacket can also be wrapped around the finished book.

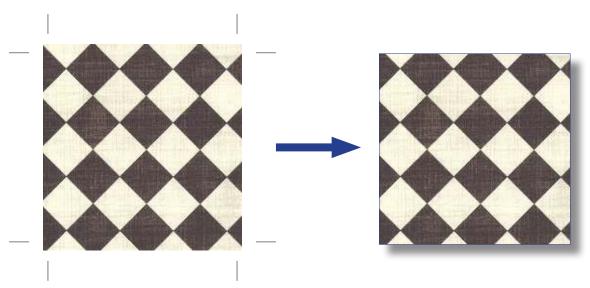
Components: Text, Printed Endpapers, PPC, Jacket, Brass



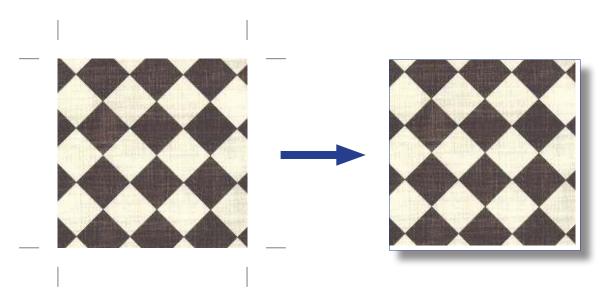
#### **Bleed**

Bleed is a fundamental requirement of printing, yet is often overlooked as it is not obvious to the end reader that it is required.

Bleed is extra print that goes beyond the finished page size, and is only required when the print is to fall-off the finished page. Book pages are printed on larger sheets of paper, then trimmed to exact size. Bleed is necessary due to the variation of the relative position of the print on the sheet, which can occur at various stages in the production - such as printing, folding and trimming. Therefore, given a little extra image (typically 3mm), the final trimmed product will always appear printed to the very edge.



The image on the above artwork is set 3mm beyond the finished page size (i.e. it bleeds correctly). Therefore the image, once printed and trimmed to final size always goes to the edge of the page, even when variation occurs in position through production processes.



The image on the above artwork is set to stop at the edge of the finished page size. (i.e. it doesn't bleed correctly). When production variations effect the print position, white may show at some of the edges once trimmed to final size.

#### **Image Resolution**

Here's a collection of images at different resolutions for you to evaluate their quality. An image's resolution can be found using Photoshop: Image Menu -> Image Size. For colour/monochrome photographs, 300dpi is the optimum resolution to use. For 1-bit images (e.g. scanned text / logos) 600-1200dpi is best.

















Remember that by enlarging or reducing the image, it's resolution is also affected. For example, a fair 200dpi image doubled in size will reduce it's resolution to a poor 100dpi.



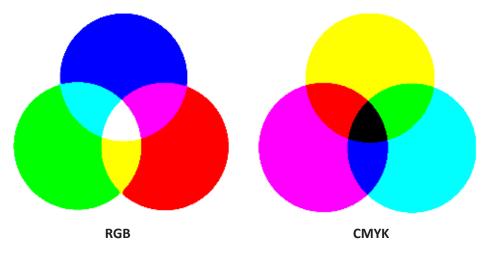




#### Colour

Computer monitors emit colour as RGB (red, green, blue) light. Although all colours of the visible spectrum can be produced by merging red, green and blue light, monitors are capable of displaying only a limited gamut (i.e., range) of the visible spectrum.

Whereas monitors emit light, inked paper absorbs or reflects specific wavelengths. Cyan, magenta and yellow pigments serve as filters, subtracting varying degrees of red, green and blue from white light to produce a selective gamut of colours. Like monitors, printing inks also produce a colour gamut that is only a subset of the visible spectrum, and the colour range is not the same for both, and is wider on RGB than CMYK. To add to this the CMYK model is also subject to the ambient lighting conditions - e.g. a printed page viewed in sunlight will appear differently to that in incandescent light. Consequently, the same art displayed on a computer monitor may not match to that printed in a publication. Because printing processes use CMYK (cyan, magenta, yellow, black) inks, digital art must be converted from the RGB (Red Green Blue) colour for displaying on a monitor to CMYK colour for print, at some point in the design/print process.



If your page layout software is capable of CMYK workflow, use CMYK based colours, and convert source images to CMYK (e.g. using Photoshop) before placing into your page layout program. For best colour conversion use a FOGRA colour profile if available.

Where this is not possible, we can accept RGB images, but please note that RGB will be converted to CMYK on the press, and the colour conversion may not be as good as the method described above. Most digital devices (such as digital cameras) tag the RGB image with a source colour profile, which makes the RGB conversion more accurate.

#### **Spot Colours**

If printing Offset Litho method, you can increase the range of colours by adding one or more spot colours from a Pantone colour swatchbook.

Digital printing only uses the CMYK primaries, so any spot colours used are converted on the press to CMYK. However using spot colours on a digital product can be a more accurate way of colour matching - Pantone to CMYK conversion will be a closer match than trying to matching a colour on a RGB monitor screen.



## Outputting PDF

Before generating a PDF file for the text element of your book, here's a number of tips to make the book look more professional and process with less likelihood of problems:

- Ensure the document page size matches the size of the book. The only exception to this is if your document requires bleed and the program you are using doesn't support it (e.g.) MS Word in this instance the document page size should be set to 6mm bigger than required (remembering that 3mm will be trimmed off each edge);
- Make use of the text justification settings e.g. centre headings (don't keep pressing space until it looks centred!), while *fully justified* aligns the text to both left and right margins;
- Use tabulation (or the Tab key) on contents, indexes and tables to keep lists in line;
- Use page numbering. It's conventional not to have a page number on the title pages, and use roman numerals for the preliminary pages, starting the first chapter as page one on a right-hand (facing) page.
- Use good quality images (300dpi is optimum, anything below 150dpi will start to look pixellated in print) remember that an image scaled up to twice the size will half it's resolution.
- Ensure that all fonts used in the document are available to your computer (otherwise the font will not embed into the PDF)

Most modern programs can save or export to PDF. Below are the generic settings to employ on professional-grade software:

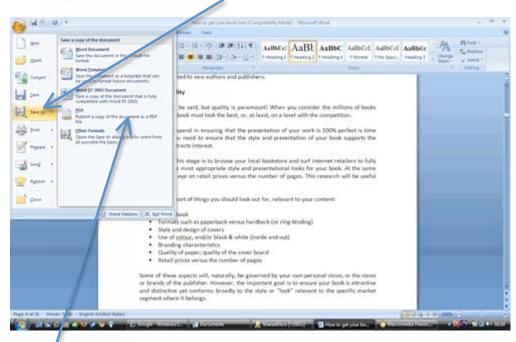
- Composite Output (e.g. all colours on one page, not separated)
- Fonts: All embedded or subset
- Bleed 3mm
- Trim marks: on, offset: 5mm
- Include Blank pages
- Do Not enable reader's spreads
- Image compression: Colour & Greyscale: 300dpi, mono/bitmap: 1200dpi.

If available, using "PDF/a" standard will ensure fonts are embedded.

#### **Creating PDF from Microsoft Word 2007:**

To be able to create a print ready PDF in Word 2007 you will need to check whether you have the add on to do this already installed on your PC.

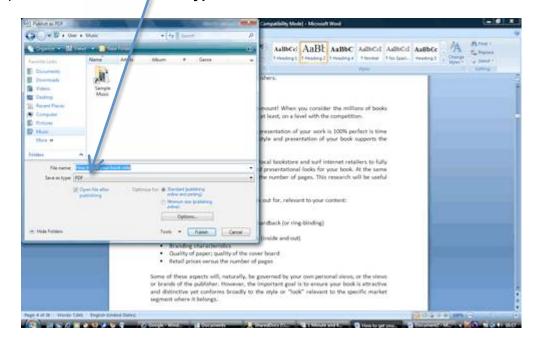
To check go to the Office button in Word 2007 (top left hand corner) and click on it so that it drops down. Hover your mouse over the **Save As** options.



If you don't see PDF listed as one of the options then you will need to download and install the **Microsoft Save as PDF** add on from the Microsoft website at:

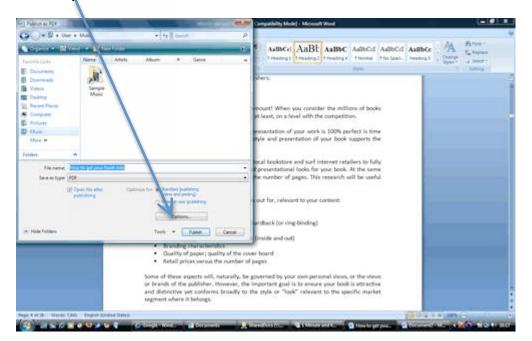
http://www.microsoft.com/downloads/details.aspx?FamilyId=F1FC413C-6D89-4F15-991B-63B07BA5F2E5&displaylang=en

Open the document that you want to save as a PDF and then go the Office button and click on it so that it drops down. Choose **Save as type** PDF.

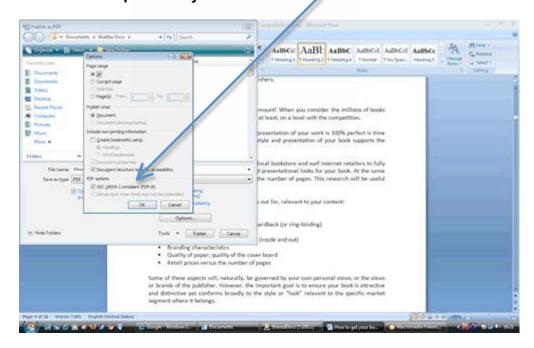


1

Before you press the Publish button check that **Standard** is selected in **Optimise for** and then click on the **Options** button.



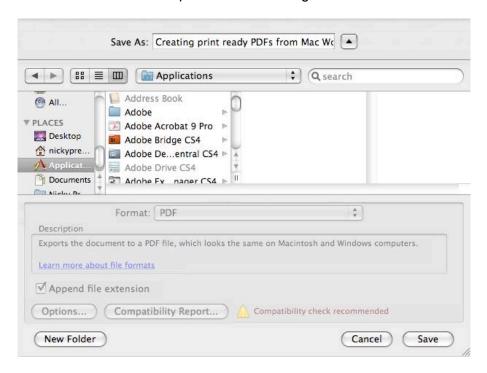
When the Options window pops up make sure that you tick ISO 19005-1 compliant (PDF/A) under PDF options. It is essential that this is selected otherwise the fonts will not be embedded in the PDF and it will not be print ready.



#### **Creating PDF from Microsoft Word 2008 for Mac:**

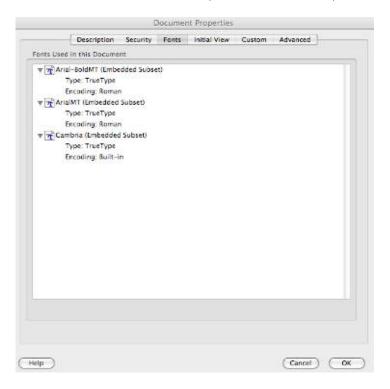
It is very easy to create print ready PDFs for text only books using Mac Word 2008.

When you are ready to create your PDF then simply go to File / Save As... and choose PDF from the drop down list to the right of the Format box.



And that is all there is to it!

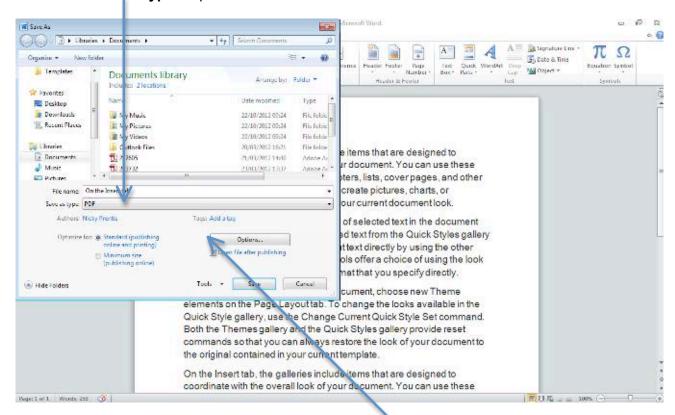
Once you have created the PDF then do a quick check just to make sure that fonts are all embedded. Open the PDF file and go to File / Properties and then the Fonts tab and make sure the words (Embedded Subset) are to the right of the font names.



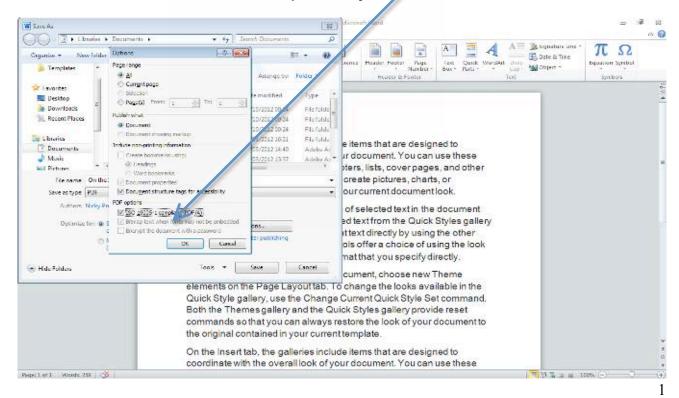
#### **Creating PDF from Microsoft Word 2010:**

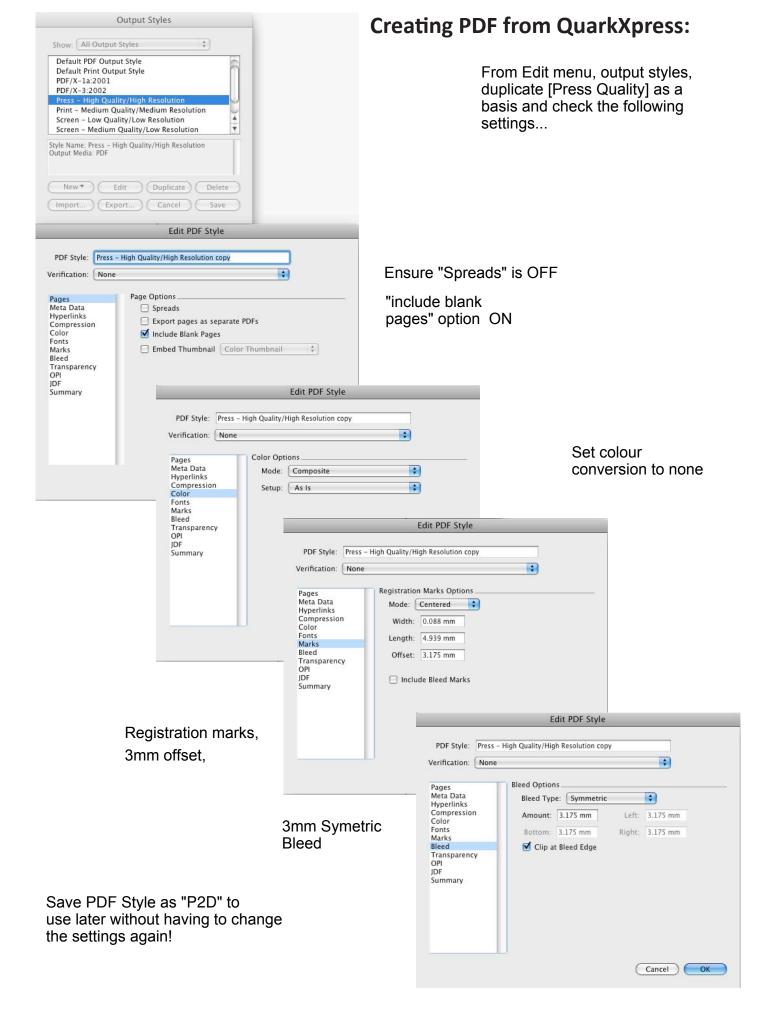
Creating print ready PDF files in Word 2010 is very straightforward.

When you are ready to make your Word document into a print ready PDF then go to File then Save As and let **Save as type** drop down and then choose **PDF**.

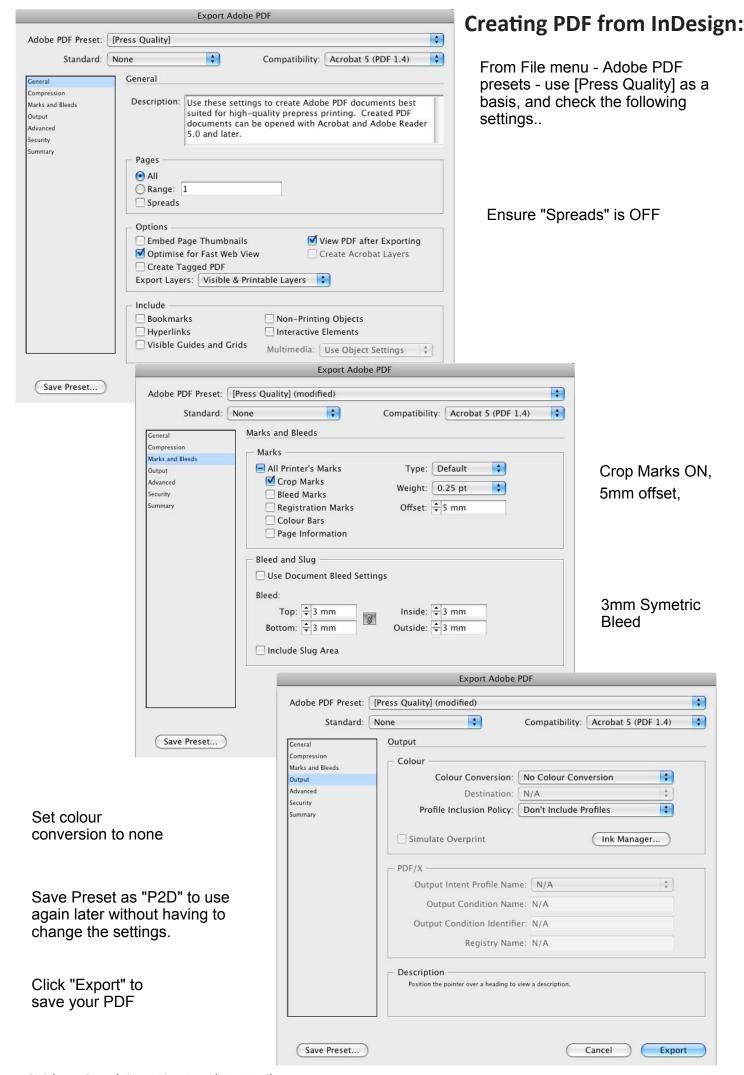


Before you click Save click on the button that says **Options** and **tick ISO 19005-1 compliant** (**PDF/A**) under PDF options. It is essential that this is selected otherwise the fonts will not be embedded in the PDF and it will not be print ready.





Now to save your document as a PDF, File menu - Export - Layout as PDF, and choose your "P2D" PDF style in the PDF style dropdown

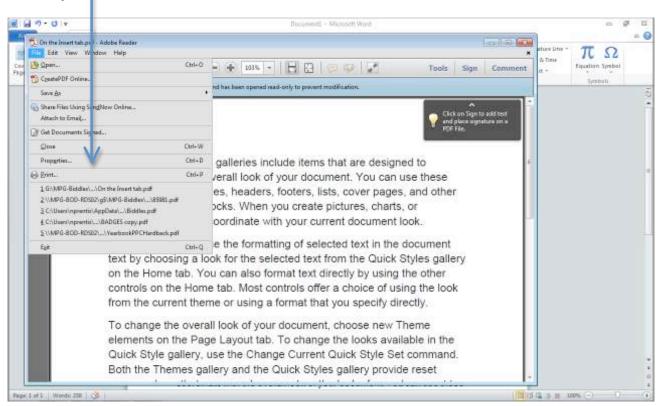


#### Checking the created PDF...

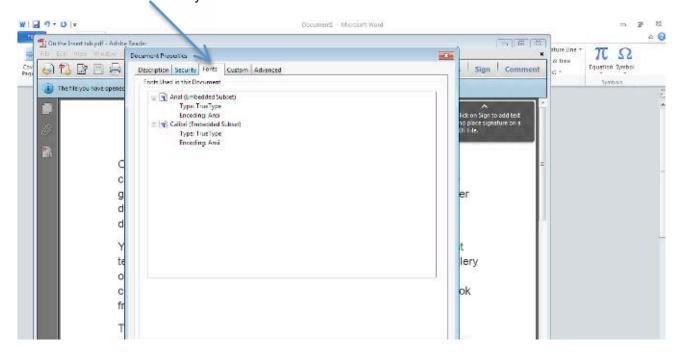
After outputting to PDF, open the PDF in Acrobat Reader and perform the following checks:

- All pages have output.
- Text and images generally appear as they should print.
- Pages appear in the order they should print: to help you visualise as a book, use facing pages (with cover page) in the View/Page Layout menu.
- Fonts are embedded:

To check that the fonts are embedded then open your PDF in Acrobat Reader and choose **File** and **Properties** 



Then choose the Fonts tab: you should see embedded or embedded subset in brackets beside each font.



## Creating Cover Layouts

"Don't judge a book by it's cover" - yet a well designed cover of a book can be crucial to it's success. Therefore it may be well worth considering getting a professional designer to do the work for you. If you do decide to prepare the artwork yourself, read on.

The outer cover, be it a paperback, hardback jacket, or printed paper case, is printed separately from the text block, and is joined to it at binding stage. It is also quite likely to be printed on a different press, therefore needs to be supplied as a separate single PDF file. Imagine opening the book and turn it cover face up so you see the back cover, spine and front cover from left to right facing you. That's roughly how the PDF should look that is supplied for printing. Your customer service representative will provide you with a tailored flat plan, with all the measurements required to produce cover artwork specific to your book – the specific paper used on your book and the number of pages in it will be used to calculate the width of the spine. The following pages walk you though examples of each of the flat plans and the design requirements for a professional looking finish.

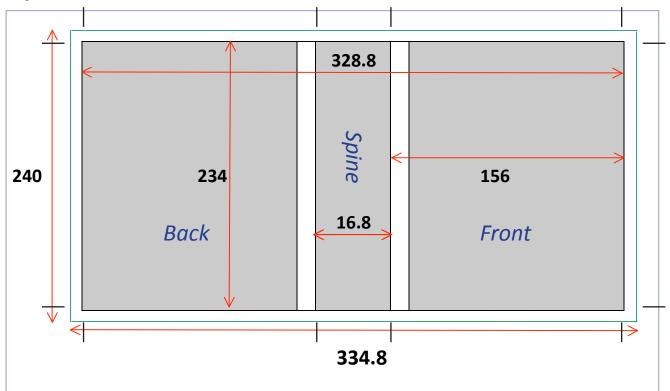
If you're using a professional Desktop Publishing program to design your cover (such as Quark or InDesign), you should set the document size to the size of the cover as indicated on the flat-plan *excluding* bleed - as the bleed will be allowed for on output. Remember though to extend any bleeding objects beyond the pasteboard by at least 3mm. The program can automatically add trim marks when output to PDF.

If you're using a program that doesn't allow for bleed on PDF output (such as Word or Photoshop), set the document size to the overall size of the cover as indicated on the flat-plan *including* bleed. Remember that 3mm will be trimmed off each edge, so keep any objects that shouldn't bleed well away from the edges.

Set guides (if available) to key points of the artwork (such as the spine - as indicated on the flat-plans) to aid getting the right dimensions while assembling the artwork.

is kept clear of any print on the inside of the cover

#### Paperback Cover Artworkinimum of 3mm bleed on all four sides

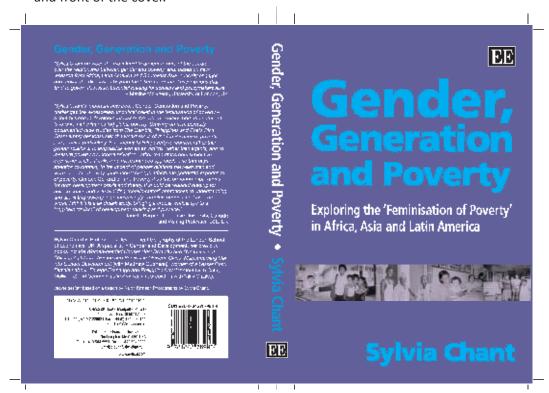


In this example, the trim page size of the book is 156mm width by 234mm height. The spine width 16.8mm, therefore the visible width ("excluding bleed") = 156+156+16.8=328.8mm

With 3mm bleed either side, the overall width of the artwork ("including bleed") is then = 334.8mm

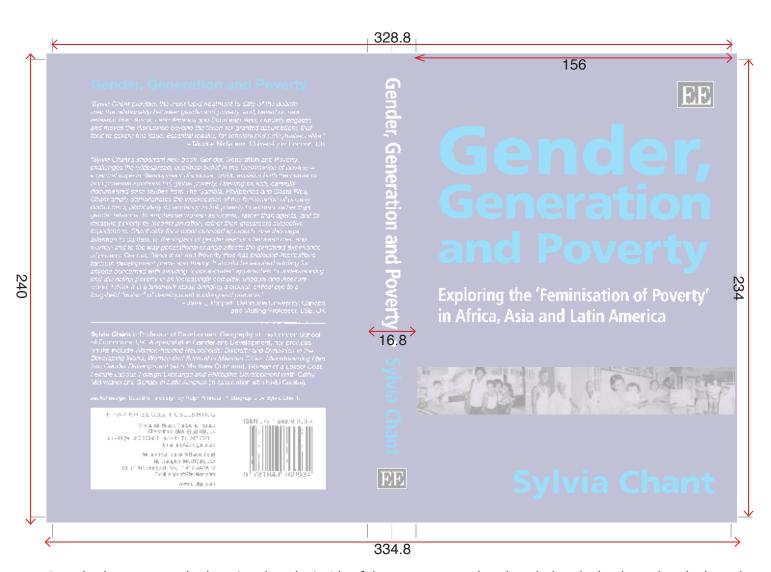
The visible height ("excluding bleed") = 234mm. With 3mm bleed top and bottom, the overall height of the artwork ("including bleed") is then = 240mm.

NOTE that because paper is a natural product, and is affected by atmospheric conditions, the actual spine bulk can vary slightly. Therefore a good design will take this into consideration by, for example, not having a spine a different colour to the front and back, but to take the design around at least one side of the spine. That way, any fluctuation in spine width goes unnoticed on the final bound book. Such as the example below - the spine background extends to the back and front of the cover.

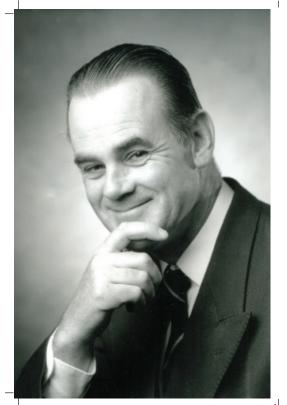


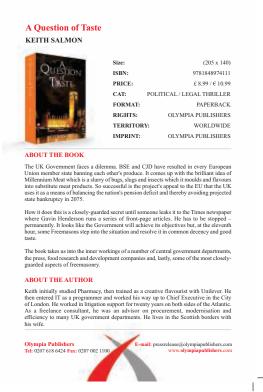
Also notice the trim marks identifying the final trim size, and that the backgrounds and images extend beyond for the bleed. All the readable text is a good distance from the edge so that it's not in danger of being trimmed off in production. Marks have also been added showing the limits of the spine. This allows us to double-check the artwork against the specification.

Bindir

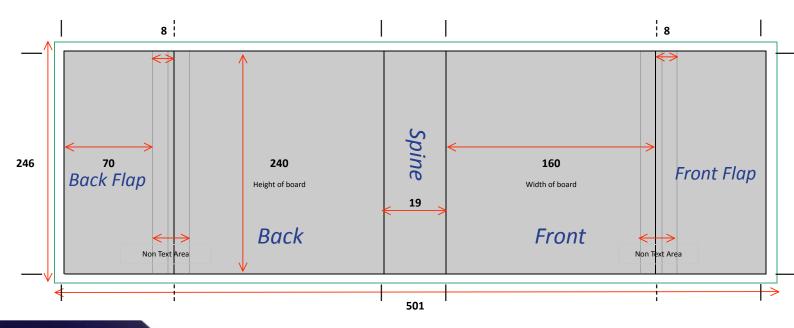


Paperback covers can also be printed on the inside of the cover - remember though that the book needs to be bound to the inside of the cover, so a white area with no print needs to be allowed for in the spine and 4mm either side of it for the "side-glue" (a bead of glue that is run up the inside and holds the cover closed onto the book block). In our example of a book with 16.8mm spine, the total white area width is then 16.8+4+4=24.8mm





#### **Dust Jacket Artwork:**



In this example, the trim page size of the book is 156mm width by 234mm height. On a case bound book, the case overhangs the internal pages by 3mm top, bottom and foredge ←, therefore the dust jacket's visible height ("excluding bleed") should be 234mm + 3mm overhang top + 3mm overhang bottom = 240mm.

With 3mm bleed top and bottom, the overall height of the artwork ("including bleed") is then 246mm.

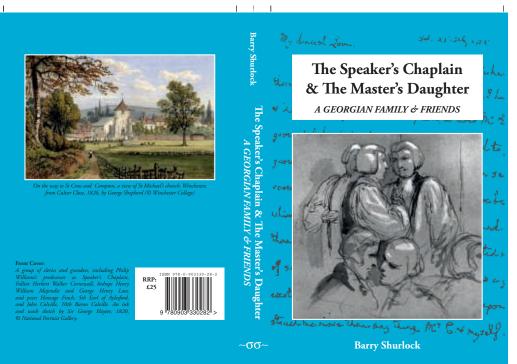
The "width of board" on the flat-plan also includes an extra millimetre to allow for the thickness of the board, before the artwork of the flaps start, however any background can be extended beyond this by 3mm if it's to be seen when the book is closed. Remember that the case boards overhang the text by 3mm, therefore the front width is 156+3+1 = 160mm. So that no text is visible on the flap when the book is closed, an 8mm non-text area is recommended between flap and front/back. Flaps can vary in size, but should be in proportion to the book, between 60mm and 100mm

Again, the spine width may vary slightly (see previous page), so a good design will take this into consideration both at the spine and between front/back and flaps, such as the example below:

The Speaker's Chaplain & The Master's Daughter can be read alongside its sources, which are available to readers online. It makes a significant contribution to social history and women's studies in the Georgian period, not only in its core locus of Winchester and the county of Hampshire, bur elsewhere - in London, Canterbury, Oxford, Cambridge, and more widely in Cambridgeshire, Lincolnshire and Suffolk.

BARRY SHURLOCK lives in Winchester

BARKY SHURLOCK lives in Winchester and has a strong interest in the eighteenth century. He went up to Christ's College, Cambridge, from Price's School, Fareham. This book represents several years' work on material held in the archives of Winchester College, the oldest continuously active school in Fenland.



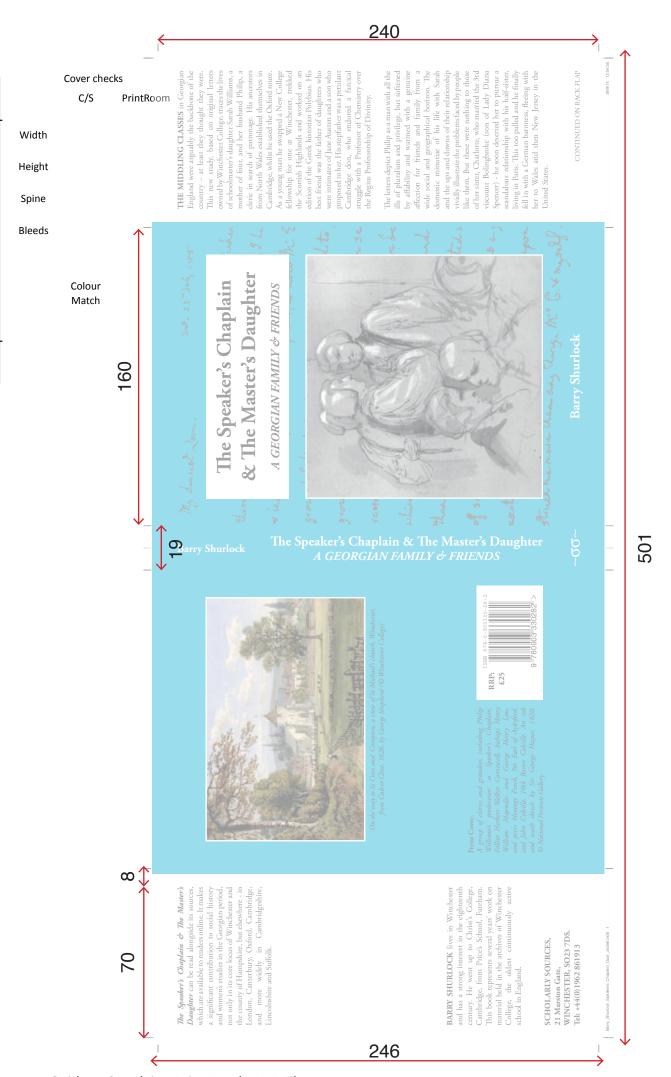
THE MIDDLING CLASSES in Geo THE MIDDLING CLASSES in Georgian England were arguably the backbone of the country – at least they thought they were. This new study, based on original letters owned by Winchester College, traces the lives of schoolmaster's daughter Sarah Williams, a mother of four, and her husband Philip, a cleric in search of patronage. His ancestors from North Wales established themselves in Cambridge, whilst he used the Oxford route. Cambridge, whilst he used the Oxford route. As a young man he swapped a New College fellowship for one at Winchester, trekked the Scottish Highlands and worked on an edition of the Greek historian Polybius. His best friend was the father of daughters who were intimates of Jane Austen and a son who proposed to her. His stepfather was a petulant Cambridge don, who endured a farrical struggle with a Professor of Chemistry over the Regius Professorship of Divinity.

The letters depict Philip as a man with all the ills of pluralism and privilege, but softened by affability and warmed with a genuine affection for friends and family from a affection for friends and family from a wide social and geographical horizon. The domestic minutiae of his life with Sarah and the ups and downs of their relationship vividly illustrate the problems faced by people like them. But these were nothing to those of her sister, Charlotte, who married the 3rd viscount Bolingbroke (son of Lady Diana Spencer) - he soon descreted her to pursue a scandalous relationship with his half-sister, living in Pariz. This too palled and he finally living in Paris. This too palled and he finally fell in with a German baroness, fleeing with her to Wales and then New Jersey in the United States.

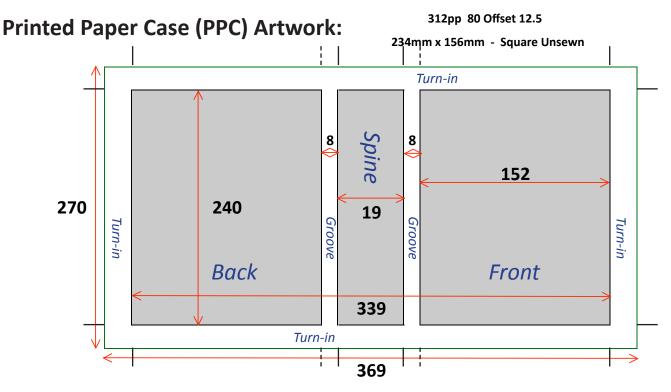
CONTINUED ON BACK FLA

College, the old school in England.

SCHOLARLY SOURCES,



#### PPC for CASEBOUND

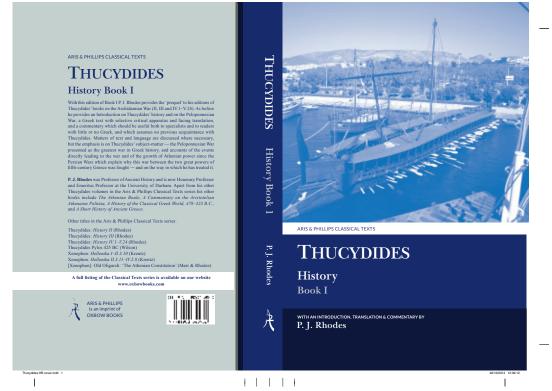


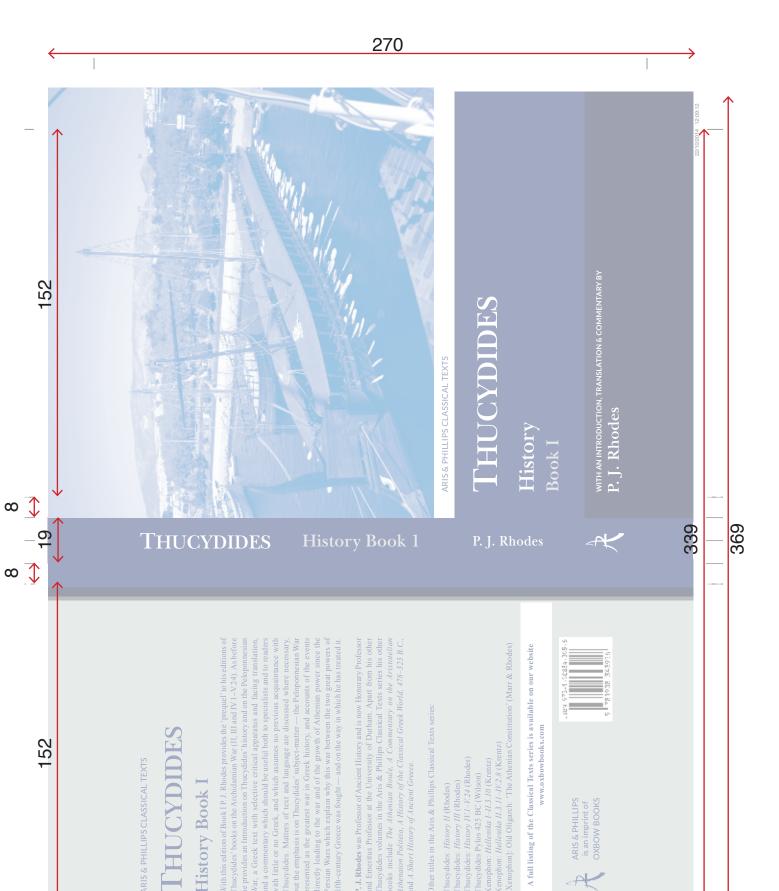
On a PPC book, the cover is printed on paper and then wrapped around and glued to hard board to make a "case". The case is then glued ("cased-in") to the book block by it's endpapers. Remember that the case overhangs the book block by 3mm top, bottom and foredge, hence the visible height will be 6mm bigger than the trim-size of the book.

Any background should extend into the 15mm turn-ins (the area which is folded over the boards and stuck down behind the endpapers) - there shouldn't be any readable text here however, as it will be obscured by the edges of the boards and the endpapers.

The 8mm grooves→ either side of the spine are where the book hinges open, and also shouldn't contain text. Some designs extend the spine background into the grooves, making a feature of them, others extend the front/back background into them. The example, left, does both - different back and front.

Again, the spine width may vary slightly (see previous pages), so a good design will take this into consideration both at the spine and at the edges of the board dimensions, where backgrounds should extend into the turn-ins so the normal manufacturing fluctuations in position are not apparent on the final product.





#### **Brass (Blocking) Artwork:**

In order to add a silver, gold (or other basic colour) wording or design to a cloth case, it is necessary to create a "brass" - a slab of metal with the design embossed which is then used to stamp the design into the case. In order for us to do this, the artwork needs to be supplied as black only. Simple graphics can be used that are not too intricate and must also be black only at 1200dpi. Images can be converted using Photoshop:

- 1. Image Menu -> Image Size -> Resolution: 1200dpi; Resample image (Bicubic smoother if possible); OK.
- 2. Image menu -> Adjustments -> Threshold adjust the slider to best represent the image.
- 3. Image menu -> Mode -> Greyscale.
- 4. Image menu -> Mode -> Bitmap; Method: 50% Threshold.

The spine, front and back elements should be supplied separately, and the size of the artwork should be as follows:

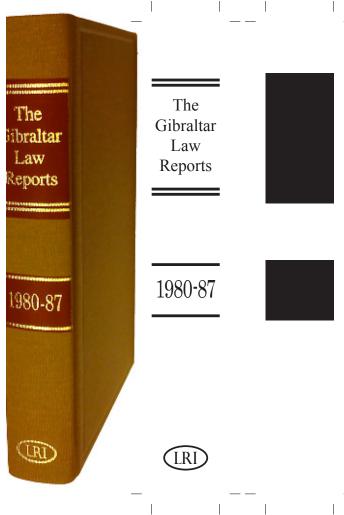
All Heights = Height of the trim size + 6mm

Spine Width = As obtained from us.

Front/Back width = Width of trim size minus 4mm.

Remember trim size is the size of the internal book block.

Multiple colours can be used on the same case. Each colour should be supplied as a separate file. For example, gold lettering can be overlaid on a block of red colour (called a crusher panel) such as the example shown. Blind embossing can also be achieved using similar blocking artwork where no colour is applied. This gives the effect of the design pressed into the case.

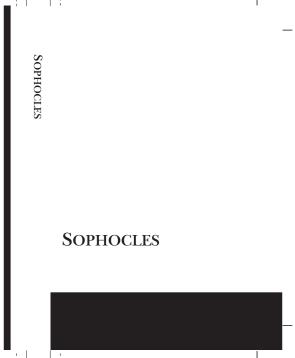


#### **Spot UV Artwork:**

Matt laminated covers can have areas of gloss varnish applied called a Spot UV. Artwork for this should be supplied as black only in the areas that require the varnish (see above for conversion of images to black only). In order to get the exact position of the varnish correct, it is advised that the cover artwork is copied and amended by changing objects

to black that should have the varnish applied, and anything else removed.

 The example, left, is the previous PPC sample that has had this treatment.



# Additional Components

#### **Plate Sections**

This is where a book is to have a separate section or sections printed, perhaps in colour or on a different (usually glossy) paper stock. Plate sections should be supplied in the same fashion as the main text, but as a separate file or files, (remember to allow for bleeds). The position of the section within the book may need to be considered, depending upon the exact manufacturing method of the book - speak to your customer service representative for details. Often, the main text of a book is printed in sections (e.g. 16 pages to view). Each section is folded to single pages to view, and several sections collated to make up the book. When a book is produced like this, a plate section can be inserted between the main sections, but not inside them, for example between the 16th and 17th pages, 32nd and 33rd pages, 48th and 49th pages and so on.

#### **Printed endpapers**

The front endpapers can be printed on pages 2, 3 and 4, and the back endpapers on pages 1, 2, and 3. The side that cannot be printed on is glued to the case. Pages 2 and 3 should be supplied as a spread, at the height of the trim page size of your book and twice it's width. Pages 1&4 should have a 4mm white mask down the bind edge to allow for gluing onto the book block.

