



PREPRESS · ARTWORK SUPPLY

Preparing AI-Generated Artwork for Print

How to brief AI tools so the files you send us print correctly, first time.

A guide for customers supplying artwork to
Stephens & George Print Group
Merthyr Tydfil · South Wales
www.stephensandgeorge.co.uk

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All data published here in v1.0 was as understood in September 2026 – The pace of AI development is rapid and this guide is subject to change at times when new understanding of AI technology is gleaned. Please check with our website to ensure you are using the most up to date version of this guide.

IMPORTANT

This guide assumes you are already using, or are about to use, AI tools to produce artwork. We are not discouraging that — AI is a legitimate and increasingly good way to originate creative work. What follows is simply what has to be true of the file by the time it reaches us, and how to make your AI tools deliver it. If anything here conflicts with a specification given to you by your Stephens & George account handler for a specific job, the job-specific specification wins.

1. Why we have written this guide

Stephens & George is a sheet-fed lithographic printer. Once a job reaches the press, the file you supplied has already been imposed, separated into four printing plates and locked to a schedule. Correcting a fault at that point is expensive to yourself; correcting it at artwork stage costs less.

Over the past two years the character of the faults we see has changed. Files used to arrive from design studios with occasional, predictable problems. Increasingly they arrive from AI tools — image generators, chat assistants, coding agents — and the problems are different: more systematic, more confidently presented, and much easier to miss on screen.

The five faults we see most

Fault	What it means on press	Why AI makes it worse
No bleed	Any element meant to run off the page stops at the trim line. Ordinary cutting tolerance then leaves a white sliver along the edge of every copy.	Generators produce an image at exactly the size you asked for. Nothing extends past the edge, because nothing knows there is an edge.
No TrimBox	We cannot see where you intended the page to trim. We have to guess, or come back to you — and the job stops while we wait.	Screen-oriented output routes (HTML to PDF, most scripted PDF libraries) have no concept of a trim size and set no TrimBox by default.
Fonts not embedded	The Print Engine will reject the job and it will not process. Nothing prints until you resupply the file with the fonts embedded.	Agents reference fonts by name because that works on their machine. Nothing warns them the file will be opened somewhere else.
Low image resolution	Soft, pixelated or mushy images. A 150 ppi image looks acceptable on a monitor and unacceptable on a coated sheet.	Generated images are small — often far smaller than customers assume — and AI upscalers make them look larger without adding real detail.
Elements close to the trim	Any element close to the trim may get cut off due to natural variances in the print processes.	Generators run elements right up to the page edge rather than leaving a gap to allow for print production operations.

What is different about AI-supplied artwork

Three things, and it is worth being precise about them because they change how you should prompt.

- **It looks finished.** A generated image or an agent-built PDF looks complete on screen. There is no half-finished appearance to prompt you to check. The faults are in properties you cannot see — colour space, box geometry, embedded resources — not in the picture.
- **The tool will tell you it complied.** Ask an AI agent for a print-ready PDF with bleed and crop marks and it will very often hand one back and say it has done exactly that, having done no such thing. This is not deception; the agent has no way to open its own output and inspect it.

You must therefore treat every claim of compliance as unverified until something has actually checked it. Section 7 is entirely about this.

- **Some faults cannot be repaired afterwards.** We can convert colour on your behalf. We cannot add pixels that were never captured, embed fonts we do not have, un-clip a colour that has already been burned, or invent artwork to fill a bleed that does not exist. Getting the prompt right is not a nicety — for some faults it is the only opportunity.

2. What "print-ready" actually means

"Print-ready" is not a matter of opinion. There is a stack of published standards behind it, and knowing their names is useful because you can put them into a prompt and an AI tool will generally recognise them.

The standards stack

Standard	Reference	What it governs
PDF/X-4	ISO 15930-7:2010	The PDF flavour we want. It requires a declared output intent, embedded fonts and defined page boxes, while still allowing live transparency, layers and ICC-managed colour. This is the current best practice for sheet-fed offset and is what we ask for.
PDF/X-1a	ISO 15930-1:2001 / ISO 15930-4:2003	The older, stricter flavour: CMYK and spot only, transparency flattened. Still perfectly acceptable, and safer if your tool chain is unpredictable. Ask for this if in doubt.
PDF/X-6	ISO 15930-9:2020	The PDF 2.0 generation. Not yet in general use for commercial litho. Do not ask for it unless we have told you to.
ISO 12647-2	ISO 12647-2:2013	Process control for offset lithography — the tone values, densities and colours the press is held to. You do not need to do anything with this; it is why our colour targets exist.
Fogra characterisation data	FOGRA39, FOGRA51, FOGRA52	The measured behaviour of a standard press on a standard paper. Your ICC output profile is built from one of these datasets — which one depends on whether the job is coated or uncoated.

The page boxes — the single most useful thing to understand

Almost every bleed and trim fault comes down to these three rectangles. A PDF carries them as metadata; they are invisible unless you go looking.

Box	What it is
TrimBox	The finished size of the printed page. This is where the guillotine cuts. If your file has no TrimBox, or the TrimBox is wrong, nothing downstream is reliable.
BleedBox	TrimBox plus the bleed allowance on all four sides. Artwork must actually reach the edge of this box — declaring the box is not the same as filling it.

Box	What it is
MediaBox	The sheet the PDF is drawn on. Must be at least as large as the BleedBox, and larger still if crop marks are included so the marks have somewhere to sit.
CropBox	The area a viewer displays. CropBox should equal the MediaBox on every page.

We also require that TrimBox is identical on every page, and that no page carries a rotation value.

Two ideas worth separating

Declaring bleed is not the same as having bleed. An AI agent can set a BleedBox correctly and still leave the artwork stopping dead at the trim line. The box is a claim; the artwork is the fact. Both must be right.

Compliance is not quality. A file can pass PDF/X-4 validation perfectly and still be unprintable — a 1,200-pixel image scaled across an A4 page is fully compliant and completely unusable. Preflight software checks the container. Only resolution arithmetic and your own eyes check the content.

3. The Stephens & George specification

These are the values to put into your prompts.

File and geometry

Requirement	Value	Notes
Format	PDF/X-4 (ISO 15930-7)	PDF/X-1a is also accepted. Do not send native InDesign, Illustrator, Word, Canva or PowerPoint files as final artwork.
Pages	Single pages, in order	Not reader's spreads, not imposed. We impose. One PDF for the whole document is preferred; if supplying page-per-file, follow the naming convention on our website.
Bleed	3 mm all four edges	Some cased bound covers, and any carton work, may need more. Ask if producing this kind of product.
Safe / quiet margin	4 mm inside trim	No text, page numbers, logos or essential detail closer than this to the trim edge. Allow more on the spine side of a bound job.
Crop marks	Required, offset ≥ 3 mm from trim	Offset must be at least the bleed amount so marks do not sit inside the bleed area. Registration marks and colour bars are not required.
Page boxes	TrimBox = trim size; BleedBox = trim + bleed; CropBox = MediaBox	TrimBox identical on every page. Page rotation must be zero.

Colour

Requirement	Value	Notes
Colour mode	CMYK throughout	No RGB, no LAB, no untagged colour anywhere — including in logos, swatches and placed images.
Output intent (coated)	Per our supplied preset	Our published InDesign preset is "S+G Coated Fogra 39" (ISO Coated v2).
Output intent (uncoated)	Per our supplied preset	Our published preset is "S+G Uncoated Fogra 47".
Total area coverage	Do not exceed 330% on gloss and silk paper. 280% on any uncoated paper.	Measured as an average over any 15 mm square. If you do not know the stock, build to the uncoated figure and you will be safe on both.
Small black text	100% K only	Never build small black type from four colours. It will not hold register.
Rich black	Large solids only, within the stock ink limit	A heavy K with modest C, M and Y. Never for small type, and never above the ink limit for the stock.
Registration colour	Never in artwork	The "Registration" or "All" swatch is for press marks. Using it for type or rules puts 400% ink on the sheet.
Spot colours	Only if specified on the order	Name them exactly as on the order. If the job is CMYK-only, convert all spots before supplying.

Images

Requirement	Value	Notes
Continuous-tone images	300 ppi effective	Effective means after scaling in the layout. A 300 ppi image enlarged to 200% is a 150 ppi image.
Absolute floor	Below 150 ppi is a hard fail	Below 150 ppi is a problem and we will reject this. Below 225 ppi is a warning and we will query these with you.
Line art / 1-bit	1200 ppi	Below 550 ppi we will reject. Below 800 ppi we will query.
Enlargement	Never above 100%	Place images at or below their native pixel size.
Compression	Avoid lossy JPEG at low quality	Compression artefacts that are invisible on screen become visible in flat tints and skies on a coated sheet.

Type and rules

Requirement	Value	Notes
Font embedding	100%	Every font fully embedded or subsetted. No exceptions. Converting type to outlines is an acceptable fallback but makes late corrections impossible.
Courier	Do not use	It is the classic sign of a font substitution having already happened.
Reversed-out (white) text	Minimum 8 pt	Below this, register movement fills the counters in.
Multi-colour text	Minimum 8 pt	Type built from more than one channel.
Reversed-out or multi-colour rules	Minimum 0.25 pt	Anything finer may disappear entirely.
Black text under 12 pt	Set to overprint	Prevents a white halo if register moves. Applies to rules under 2 pt as well.

4. The golden rule: two lanes, not one

If you take one thing from this guide, take this:

THE GOLDEN RULE

AI generates content. A layout application generates the print file.

Use AI to make pictures, illustrations, textures and backgrounds. Use a real layout or PDF-producing application — driven by you, or driven by an AI agent — to assemble those into a file with the correct geometry, colour and fonts. Do not expect a single tool to do both.

The reason is a hard technical limit rather than a preference. Every mainstream AI image generator — OpenAI's image models, Midjourney, Google's Gemini image models, Stable Diffusion, FLUX and the models Adobe Firefly routes to — produces the same kind of thing: a flat raster image, in RGB, at a modest pixel size, with no vector content, no spot colours, no page boxes and no fonts. None of them outputs CMYK. None of them outputs a PDF. No prompt changes that, because it is a property of what the model is, not of what you asked for.

So the workflow has two lanes

Lane	What happens in it
A Content generation	You prompt an image generator for the visual elements — photography-style images, illustrations, backgrounds, textures. Your job here is to get the largest, cleanest, most print-friendly raster you

Lane	What happens in it
	can, and to keep type out of it. Covered in Section 5.
B File assembly	You, or an AI agent working on your behalf, place those elements into a document with real page geometry, set the live type, apply the colour management and export the PDF. Your job here is to specify the geometry and colour explicitly, because nothing in the tool chain will default to it. Covered in Section 6.

Two things that must never happen in Lane A

- **Type.** Generated lettering is baked-in pixels. It cannot be spell-checked, kerned, restyled, translated or separated as 100% K, and it will not hold a clean edge at text sizes. AI text rendering has improved a great deal but it is still an acknowledged weak point across every model. Set all type in Lane B, over the image.
- **Logos.** Your logo is a vector asset with defined colours. Never let a generator draw it, redraw it, or "clean it up". Place the original vector file in Lane B.

What each route can actually produce

This matters when you are choosing how to build the file in Lane B, because the routes differ enormously in what they can be made to do.

Route	CMYK	Spot	Bleed & marks	Comment
InDesign, Illustrator or QuarkXPress, scripted by an AI agent	Yes	Yes	Yes	The most reliable route. Best practice is to have the agent drive an export preset a person has already made and checked, rather than construct export settings from scratch.
Python / ReportLab	Yes	Yes	Yes, if asked	Genuine CMYK and named separation support. Everything must be specified explicitly – the defaults are all wrong for print.
LaTeX	With setup	With setup	With packages	Embeds fonts properly. Bleed, marks and CMYK all need deliberate configuration.
HTML to PDF (headless browser)	No	No	No	Avoid for final artwork. A browser is a screen renderer with no CMYK or spot path at all. Anything it produces is RGB.
Word, PowerPoint, Canva, Google Slides	No	No	Limited	Fine for content, not for final artwork. Some can export a PDF with bleed and marks, but there is no dependable CMYK, spot or output-intent control.

5. Lane A — prompting image generators

The prompt controls the picture. It does not control the file format, the colour space or the pixel count — those are fixed by the tool. So Lane A prompting is about two separate things: choosing the right tool settings for the size you need, and steering the picture away from things that print badly.

First, the resolution arithmetic

This is where most disappointment happens, so do the sum before you generate rather than after. At 300 ppi, one millimetre is 11.81 pixels. Divide the pixel dimension by 300 and multiply by 25.4 to get the printed size in millimetres.

Generated size	Largest print size at 300 ppi	Reality check
1024 px	87 mm	Smaller than a postcard.
1536 px	130 mm	The current ceiling on OpenAI's image API. Will not fill A5.
2048 px	173 mm	Midjourney's native HD output. Still short of A5's long edge.
2560 px	217 mm	Just covers A5 with bleed.
3072 px	260 mm	Comfortable for A5, short of A4.
4096 px	347 mm	Covers A4 with bleed. Short of A3.

And the other way round — what you actually need for a full-bleed page:

Trim size	Trim (mm)	With 3 mm bleed	Pixels needed at 300 ppi
A6	105 × 148	111 × 154	1,311 × 1,819
A5	148 × 210	154 × 216	1,819 × 2,551
A4	210 × 297	216 × 303	2,551 × 3,579
A4 spread	420 × 297	426 × 303	5,031 × 3,579
A3	297 × 420	303 × 426	3,579 × 5,031

IMPORTANT

A full-bleed A4 image needs roughly 2,551 × 3,579 pixels. Most generators cannot produce that in a single pass. If your design calls for a full-page generated image, plan for it: use a tool that offers 4K output, generate at the correct aspect ratio from the start, or design so the generated image occupies part of the page rather than all of it.

On upscaling

An AI upscaler does not recover detail. It solves an inverse problem: it invents a plausible larger image that, shrunk back down, would resemble your original. That is a genuinely useful thing — but the information content of a 1,536-pixel image upscaled to 4,000 pixels is still 1,536 pixels, with 4,000 pixels of educated guesswork on top.

On a screen this is usually invisible. On a coated litho sheet at normal screen rulings, invented micro-detail reads as mush, as plastic-looking texture, or as detail that is subtly wrong — fabric weave that does not repeat correctly, foliage that is not quite foliage. Upscale if you must, but do not treat an upscaled file as equivalent to a natively large one, and always look at an upscaled image at 100% before you use it.

Where a tool offers a genuinely larger **native** output rather than an upscale, take it. That is real resolution.

What to steer the picture away from

These are the instructions worth putting in the prompt itself, because they change what the model draws.

Instruction	Why
No text, lettering, signage, numbers or logos	Generated type cannot be corrected, separated or reset. Keep the image clean and set type over it in Lane B.
Avoid very saturated neon colours	The most vivid screen colours — electric blues, neon greens, fluorescent oranges and pinks — simply do not exist in CMYK. They will be clipped on conversion and the print will look flatter than your monitor. Ask for richer, more natural colour and you will get a closer match.
Avoid large smooth gradients and wide flat tints	Both show banding and noise on press far more readily than they do on screen. Ask for texture, grain or variation instead.
Keep shadows as detailed dark tone, not solid black	AI "black" is a mixed RGB value that separates into a heavy, muddy four-colour build rather than a clean black. Detailed shadow separates better.
Leave uncluttered space around all four edges	The outer few millimetres will be trimmed. Do not let the model put the subject's face, or any critical detail, near the edge.
Generate at the final aspect ratio	Cropping afterwards throws pixels away — the one thing you cannot afford. Set the ratio to match the placed size before you generate.
Deliver as PNG or TIFF, not JPEG	JPEG re-compresses every time it is saved. Artefacts accumulate and show in flat areas.

The Lane A prompt block

Append this to whatever creative description you are writing. Fill in the bracketed values first.

PROMPT BLOCK 1 — IMAGE GENERATION

[Your creative description of the subject goes here.]

OUTPUT REQUIREMENTS

- Aspect ratio: [e.g. 3:2]. This must match the final placed proportions. I will not be cropping afterwards.
- Use the largest native resolution this tool supports. Target at least [2551] x [3579] pixels.
- Deliver as PNG or TIFF.

DO NOT INCLUDE

- No text, lettering, signage, numbers, captions or logos anywhere in the image.
- No watermarks, borders or frames.
- No fluorescent, neon or electric colours. Keep the palette to colours that exist in printed CMYK ink.

COMPOSITION FOR PRINT

- Leave the outer [15] mm of the image uncluttered. The edges will be trimmed and nothing important may sit there.
- Avoid large areas of smooth gradient and avoid wide flat areas of a single colour. Prefer subtle texture and grain.
- Keep the darkest areas as detailed dark tone with visible shadow detail, not crushed solid black.
- Keep the subject and all critical detail well inside the frame.

WHAT THIS PROMPT CANNOT DO

It cannot make the file CMYK, cannot produce vector, cannot embed a colour profile, cannot add bleed and cannot make the image larger than the tool's ceiling. Asking for any of those in the prompt will often produce a confident "done" and no change to the file. Those jobs all belong in Lane B.

Before you move to Lane B

- ☐ Opened the image at 100% and looked at it. Not at "fit to screen".
- ☐ Checked the pixel dimensions and confirmed they cover the placed size at 300 ppi, including bleed.
- ☐ Confirmed there is no generated text, lettering or signage anywhere.
- ☐ Checked hands, faces, reflections, repeated patterns and background detail for the small errors that generators make.
- ☐ Checked that nothing critical sits within 4 mm of where the trim will fall.
- ☐ Saved as PNG or TIFF, not as a re-compressed JPEG.

6. Lane B — prompting agents that build the file

This is where the five faults in Section 1 are actually fixed or created. An AI agent asked to "make a print-ready PDF" will produce something that opens, looks right, and is missing most of what makes a file printable. The defaults in every one of these tool chains are screen defaults: RGB, no bleed, no marks, fonts referenced rather than embedded, no output intent.

The remedy is not a better tool. It is a more explicit prompt. Everything below has to be stated, because none of it is assumed.

The eight things you must specify

Specify		And say it like this
1	Trim size and page count	Exact millimetres, orientation, number of pages, single pages not spreads.
2	Bleed — as a box and as artwork	State the millimetre value, state that BleedBox must be set to it, and state separately that artwork must physically extend into it. AI agents routinely do the first and not the second.
3	Page boxes	TrimBox = trim size. BleedBox = trim + bleed. CropBox = MediaBox. TrimBox identical on every page. Rotation zero.
4	Crop marks	Required, with an offset of at least the bleed amount, and MediaBox large enough to hold them.
5	Colour	CMYK throughout, named output intent, TAC ceiling, 100% K for small black text, no registration colour.
6	Fonts	All embedded or subsetted, no Courier, minimum sizes for reversed and multi-colour type.
7	Images	Minimum effective ppi after scaling, no enlargement beyond 100%, no lossy re-compression.
8	A report-back	The measured value of each of the above, as achieved in the actual output file. This is the part everyone omits and it is the part that catches the errors. See Section 7.

The Lane B prompt block

This is the long one. Fill in the bracketed values from your job specification and Section 3, then paste it whole. Do not trim it down — every clause in it exists because we have seen the fault it prevents. The [ICC PROFILE NAME] is the profile named in the Stephens & George export preset for your stock — see Section 3.

PROMPT BLOCK 2 — PRINT-READY FILE ASSEMBLY

You are producing a file for commercial sheet-fed lithographic printing. Treat everything below as a hard requirement, not a preference. If you cannot meet a requirement, say so explicitly rather than silently omitting it.

DELIVERABLE

- One PDF conforming to PDF/X-4 (ISO 15930-7).
- Trim size [210] x [297] mm, [portrait], [N] pages.
- Single pages in reading order. Not reader's spreads. Not imposed.

PAGE GEOMETRY

- Bleed [3] mm on all four edges.
- Set TrimBox to the trim size and BleedBox to trim plus bleed on all four edges.
- Separately from setting the boxes: every element intended to

run off the page must physically extend a full [3] mm past the trim line. Do not stop artwork at the trim.

- CropBox must equal MediaBox. TrimBox must be identical on every page. Page rotation must be zero.
- Keep all text and essential detail at least [4] mm inside trim.
- Include crop marks, offset at least [3] mm from trim so they do not fall inside the bleed area. Size MediaBox to accommodate them.

COLOUR

- CMYK throughout. Output intent: [ICC PROFILE NAME].
- No object, swatch, image or gradient may remain in RGB, LAB, CalRGB or any untagged colour space.
- Total area coverage must not exceed [330]% anywhere on gloss or silk stock, or [280]% anywhere on uncoated stock.
- Body text and all type below 12 pt: 100% K only. Do not build small black type from four colours.
- Rich black only for large solid areas, and within the limit above.
- Never use the Registration or All colour for artwork.
- Spot colours: [name them exactly, or write: none, convert all spot colours to CMYK].

IMAGES

- Every placed image at least 300 ppi effective resolution at its final placed size, after any scaling.
- Line art and 1-bit images at 1200 ppi.
- Do not enlarge any image beyond 100% of its native pixels.
- Do not re-compress images with lossy JPEG.

FONTS AND TYPE

- Embed every font, fully or subsetted. Reference nothing.
- Do not use Courier.
- Minimum 8 pt for reversed-out (white) or multi-colour text.
- Minimum 0.25 pt for reversed-out or multi-colour rules.
- Set black text below 12 pt, and black rules below 2 pt, to overprint.
- Never set a white object to overprint.

BEFORE YOU FINISH

Open the file you have produced and report the actual measured value for each item below. Do not restate my requirements back to me. Do not claim compliance you have not verified. Where you could not check something, write "NOT VERIFIED" against it.

1. PDF/X conformance level written into the file
2. MediaBox, TrimBox, BleedBox and CropBox for page 1, in mm
3. Whether TrimBox is identical on every page
4. The output intent ICC profile name
5. Every colour space present in the file
6. Every font, and whether embedded, subsetted or referenced
7. Effective ppi of every placed image at placed size
8. Highest total area coverage found, and where
9. Whether crop marks are present and their offset in mm
10. Any requirement above you were unable to meet

Route-specific notes

If the AI agent is scripting InDesign or Illustrator

This is the best route available to you. Add one instruction: **use an existing export preset rather than building export settings from scratch**. If we have supplied you with a Stephens & George .joboptions file, install it and tell the agent to use it by name. A preset that a person has made

and checked is far more dependable than settings an agent assembles clause by clause, and it removes a dozen opportunities for a silent mistake.

If the AI agent is writing Python

ReportLab is the sound choice — it has real CMYK colour and named separation support, so spot colours are genuinely achievable. Tell the agent explicitly to use `CMYKColor` or `PCMYKColor` and not `RGB`, and to set the page boxes rather than relying on page size alone. Everything else in the prompt block above still applies; none of it is a ReportLab default.

If the AI agent suggests HTML and a headless browser

Decline. A browser is a screen renderer. There is no CMYK path, no spot colour path and no page-box control worth the name, and the output will be RGB no matter what the agent says. It is a perfectly good way to produce a layout to look at; it is not a way to produce artwork.

If the AI agent suggests fixing it afterwards

Post-processing tools such as Ghostscript can genuinely convert colour to CMYK, embed all fonts and write PDF/X conformance. That is useful, and it is broadly what we would do at our end. But be clear about what it cannot do — see the table below — and do not use it as a reason to skip the requirements in the first place. A file built right needs no repair, and repair always costs something.

Repairable after the fact	Not repairable
Converting RGB objects to CMYK	Insufficient pixels. Converting a small image to CMYK gives a compliant file that is still too small.
Embedding fonts that are installed on the machine doing the repair	A font nobody has. There is no fix at our end — the job stops until you resupply with the font embedded, or with that text converted to outlines.
Writing PDF/X conformance and an output intent	Colour already clipped on a previous RGB-to-CMYK conversion. Burned saturation does not come back.
Setting TrimBox, BleedBox and CropBox correctly	Artwork that stops at the trim line. Bleed can only be fabricated by mirroring or stretching edge pixels — a fudge, and it fails on any image with real content running to the edge.
Adding crop and registration marks	Garbled generated lettering, and hallucinated detail in an image.
Flattening transparency	A design decision that was wrong. Nothing technical fixes that.

7. Building checks into your prompts

This section is short, and it is the most important one in the guide.

THE PRINCIPLE

An AI agent cannot see its own output. Anything it tells you about the file it just made is a prediction, not an observation — unless you have made it go and look.

Ask an agent whether the PDF it produced has 3 mm bleed and embedded fonts, and it will very often say yes. It is not lying. It is reporting what it intended to do, which in its own context is the only information available to it. The file itself is a separate artefact that nothing has opened.

So the useful prompt engineering is not in the request. It is in the verification. Three habits will catch almost everything.

Habit one — demand measured values, not confirmations

"Confirm the file has bleed" invites the answer "confirmed". "Report the BleedBox dimensions in millimetres" requires the agent to go and get a number, and a number can be wrong in a way you can see. Always ask for the value, never for the assurance.

This is why the last section of Prompt block 2 is written as a numbered list of measurements with an explicit instruction to write "NOT VERIFIED" where it could not check. Give the agent a legitimate way to admit ignorance and it will use it. Give it only a compliance question and it will comply.

Habit two — verify in a separate step

The agent that built the file is the worst auditor of it: it has already reasoned its way to believing the file is correct. Start a fresh conversation, attach the PDF, and ask a clean question.

PROMPT BLOCK 3 — INDEPENDENT VERIFICATION

Attached is a PDF intended for commercial sheet-fed lithographic printing. You did not create it. Inspect the actual file and report what is genuinely in it. Do not assume anything from the filename or from how it looks.

Report, as measured values:

1. PDF/X conformance level, if any
2. MediaBox, TrimBox, BleedBox, CropBox for every page, in mm
3. Whether TrimBox is identical on all pages, and page rotation
4. Output intent ICC profile name
5. Every colour space used, and any object still in RGB or LAB
6. Every font: name, type, and embedded / subsetted / referenced
7. Every raster image: pixel dimensions, placed size in mm, and effective ppi
8. Highest total area coverage, and the page and location
9. Whether crop marks are present, and their offset from trim
10. Whether artwork actually reaches the BleedBox edge on pages where elements are intended to bleed — check the artwork, not just the box

Then list every point where this file fails the following spec:
[paste the specification section from Prompt block 2 here]

Be adversarial. Your job is to find faults, not to reassure me.
If you cannot inspect something, say so plainly.

Habit three — check the things software cannot

Preflight software checks the container. Three faults live outside it, and only a person catches them.

- **Is the bleed real?** Open the PDF, view at 100%, and look at the edge. The BleedBox can be perfect while the artwork stops at the trim line. Preflight will not always flag it.
- **Is the resolution real?** A 4,000-pixel image that was upscaled from 1,200 pixels reports as 300 ppi and prints like 90. Only your eye at 100% tells you.
- **Is the content right?** Generated images contain plausible nonsense: six-fingered hands, architecture that does not resolve, reflections that do not match, patterns that repeat wrongly. No preflight profile in the world checks for it.

IMPORTANT

A note on provenance metadata. Some generators embed C2PA content credentials or invisible watermarks identifying an image as AI-generated. These are often stripped by ordinary file conversions, so do not rely on them as a record of what is in your artwork — and do not assume we can detect AI content on our side. Keep your own record of which assets were generated and at what size.

8. Your preflight checklist

Work through this before the file leaves your desk. Most of it takes two minutes in Acrobat. If you would rather we checked first, send us a file marked **PROOF ONLY** and we will preflight it and come back to you — that is always cheaper than finding out later.

Geometry

- ☐ Trim size matches the order exactly.
- ☐ TrimBox is set correctly and is identical on every page.
- ☐ BleedBox is trim plus 3 mm on all four edges.
- ☐ Artwork physically reaches the bleed edge — checked visually at 100%, not just assumed from the box.
- ☐ Nothing important sits within 4 mm of trim.
- ☐ Crop marks present, offset at least 3 mm, and not sitting inside the bleed.
- ☐ Single pages in order. No reader's spreads. No imposition. No page rotation.

Colour

- ☐ Everything is CMYK. Nothing left in RGB — including logos, black swatches and placed images.
- ☐ Output intent is present and is the profile specified for this job.
- ☐ Total area coverage is within the limit for the stock.
- ☐ Small black type is 100% K, not a four-colour build.

- ☐ No Registration or All colour anywhere in the artwork.
- ☐ Spot colours match the order exactly, or have been converted as instructed.

Content

- ☐ Every image is at least 300 ppi at its placed size.
- ☐ No image is enlarged beyond 100%.
- ☐ Upscaled images have been looked at on screen at 100%.
- ☐ All fonts embedded or subsetted. Courier is absent.
- ☐ Reversed-out and multi-colour type is 8 pt or larger; fine rules 0.25 pt or heavier.
- ☐ Generated images checked for hands, faces, text, reflections and repeating detail.
- ☐ The whole document has been proofread by a person. AI-drafted copy included.

WE CAN CHECK YOUR FILE

If you are unsure whether your file is ready for print, send your first file to us early and our Prepress team will carry out an initial check and advise what issue you may possibly have. It will cost you nothing and may save you a lot of heartache at a later stage in your production.

9. Troubleshooting: symptom, cause, prompt fix

If we have sent you back to this guide with a page number, this is probably the page.

Symptom	What has happened	What to change in the prompt
White line along one or more page edges	No bleed, or bleed declared but artwork stopped at trim.	State the bleed twice: once as "set BleedBox to trim plus 3 mm", and once as "artwork must physically extend 3 mm past trim". Then check visually.
We cannot tell where the page trims	No crop marks, or no TrimBox.	Require crop marks with a stated offset, and require TrimBox explicitly. Ask the agent to report both back as measured values.
We have rejected your file over fonts	Fonts referenced, not embedded. The Print Engine will reject the job and it will not process.	"Embed every font, fully or subsetted. Reference nothing. Report each font and its embedding status."
Images look soft or pixelated	Below 300 ppi at placed size, or upscaled from a small original.	Do the arithmetic in Section 5 before generating. Require the agent to report effective ppi per image. Never enlarge beyond 100%.
Colours look flat and	Out-of-gamut RGB clipped on	In Lane A, ask for natural rather than neon

Symptom	What has happened	What to change in the prompt
dull compared with the screen	conversion to CMYK.	colour. In Lane B, convert to CMYK early with the correct profile and judge the result there — not in RGB.
Small black text looks fuzzy or has coloured edges	Built from four colours instead of 100% K.	"All type below 12 pt is 100% K only. Do not build small black type from four colours."
Solids look muddy, or ink is setting off	Total area coverage over the limit for the stock.	State the TAC ceiling as a number and require the agent to report the highest value found and where.
Banding across a sky or gradient	Smooth gradient in a low bit-depth RGB source, plus a compression pass.	In Lane A, ask for texture and grain instead of smooth gradient. Save as PNG. Avoid repeated JPEG saves.
Fine rules or reversed type have disappeared	Below the minimum weight or size for litho.	State the minimums: 8 pt reversed or multi-colour type, 0.25 pt rules.
A halo has appeared around black text	Small black text knocking out instead of overprinting.	"Set black text below 12 pt and black rules below 2 pt to overprint. Never set a white object to overprint."
Lettering in an image is misspelt or garbled	The type was generated inside the image.	Regenerate with "no text, lettering, signage, numbers or logos". Set all type in the layout.
The agent said it was compliant and it was not	It reported intent, not observation.	Use Prompt block 3 in a fresh conversation. Ask for measured values, and give it permission to write "NOT VERIFIED".

10. The prompt library

Blocks 1, 2 and 3 appear in Sections 5, 6 and 7. Four more follow that cover the situations we are asked about most.

Block 4 — the short specification header

If you take nothing else from this guide, put this at the top of any conversation with an AI tool that is going to touch the artwork. It is not a substitute for Block 2, but it sets the frame.

PROMPT BLOCK 4 — SPECIFICATION HEADER

Context: this work will be printed by Stephens & George Print Group on a sheet-fed lithographic press. Final artwork must be a PDF/X-4 file, CMYK, [3] mm bleed on all edges with artwork physically extending into the bleed, crop marks offset [3] mm, TrimBox and BleedBox set correctly, all fonts embedded, all images 300 ppi at placed size, total ink coverage under [330]% on gloss or silk and [280]% on uncoated, small black text 100% K. Do not tell me a requirement is met unless you have checked the actual file. Say "NOT VERIFIED" where you have not.

Block 5 — fixing a file that came back wrong

Use this when verification has found faults. Naming the faults precisely gets a far better result than "make it print-ready".

PROMPT BLOCK 5 — TARGETED REPAIR

The attached PDF has failed preflight. Fix only the faults listed below. Do not redesign, do not reflow text, do not re-crop images and do not change anything I have not asked you to change.

FAULTS TO FIX

1. [e.g. Page 3 background stops at the trim line. Extend it a full 3 mm past trim on all four edges.]
2. [e.g. The logo is still RGB. Convert to CMYK using the output intent already in the file.]
3. [...]

CONSTRAINTS

- Do not re-compress any image.
- Do not substitute any font.
- Do not alter page geometry other than where listed above.

When you have finished, report the measured before-and-after value for each fault, and confirm that nothing else in the file changed. If a fault cannot be fixed without redesigning, say so and stop.

Block 6 — asking an agent to plan before it builds

For anything longer than a few pages, this is worth a minute. It surfaces the misunderstandings while they are still cheap.

PROMPT BLOCK 6 — PLAN FIRST

Before you build anything, write me a specification of the file you intend to produce. Do not write any code or create any file yet.

State:

- the exact tool or library you will use, and why
- the trim size, bleed, and every page box value in mm
- the colour space and output intent you will apply
- how you will embed fonts
- for each image, its pixel size, placed size and effective ppi
- how you will add crop marks
- which of my requirements you are NOT confident you can meet

That last point matters most. I would rather know now than find out at the printer. List every requirement you are unsure about.

Wait for my approval before building.

Block 7 — checking the pages before you supply them

This is the most useful check in this guide and it costs you nothing. Start a fresh conversation with an AI assistant that can read PDF files, attach the pages you are about to send us, and paste this in.

One caution. An assistant that can run code will read these values properly out of the file. One that can only look at the rendered page will guess, and a guess here is worse than no check at all. If the answers come back without numbers, or look suspiciously tidy, ask it how it obtained each value before you believe any of them.

PROMPT BLOCK 7 — CHECK MY PAGES BEFORE I SUPPLY THEM

Attached are the pages I intend to supply to my printer for commercial sheet-fed lithographic printing. You did not create these files.

Inspect the actual file. Do not infer anything from the filename, from how the pages look on screen, or from what you would expect a print file to contain. Report the measured value for each item below. Where you cannot check something, write "NOT VERIFIED" against it rather than guessing or leaving it out.

1. PDF/X conformance level written into the file
2. MediaBox, TrimBox, BleedBox and CropBox for page 1, in mm
3. Whether TrimBox is identical on every page
4. The output intent ICC profile name
5. Every colour space present in the file
6. Every font, and whether embedded, subsetted or referenced
7. Effective ppi of every placed image at placed size
8. Highest total area coverage found, and where
9. Whether crop marks are present and their offset in mm

Then check the artwork itself, not only the metadata. On every page where an element is meant to run off the edge, does the artwork actually reach the BleedBox, or does it stop at the trim line? Is any text or essential detail closer than [4] mm to the trim?

Finally, list every point where these pages fail this specification: PDF/X-4, CMYK throughout, [3] mm bleed with artwork extending into it, crop marks offset [3] mm, all fonts embedded, all images 300 ppi at placed size, total area coverage within [330]% on gloss or silk and [280]% on uncoated, small black text 100% K.

Be adversarial. Your job is to find faults, not to reassure me. For each fault, tell me which page it is on.

IMPORTANT

Passing this check is not the same as being approved for print. It tells you the file is **built** correctly. It does not tell you the **content** is right — see Section 7 for what no software can see, and work through the checklist in Section 8 for the rest.

11. Glossary

Term	Meaning
Bleed	The margin of artwork extending beyond the trim line — 3 mm at Stephens & George unless specified otherwise — so that ordinary cutting tolerance never exposes unprinted paper.
BleedBox	The PDF box marking trim plus bleed. Setting it is not the same as filling it with artwork.
CMYK	Cyan, magenta, yellow and black: the four printing inks. A much smaller range of colour than a screen can show.

Term	Meaning
Crop marks	Short lines outside the trim area showing the guillotine where to cut the finished magazine or brochure.
Effective resolution	The real pixels-per-inch of an image after it has been scaled in the layout. A 300 ppi image placed at 200% is a 150 ppi image.
Embedding	Including the font data inside the PDF so it does not depend on the font being installed anywhere else.
Gamut	The range of colours a device can reproduce. Colours outside the CMYK gamut are clipped – reproduced as the nearest printable colour – which is why vivid screen colours print flatter.
ICC profile	A file describing the colour behaviour of a device or printing condition, used to convert colour predictably between them.
Imposition	Arranging pages on the press sheet so they fall in the right order once folded. We do this – please do not.
MediaBox	The full extent of the PDF page, including room for crop marks.
Output intent	The ICC profile embedded in a PDF/X file declaring the printing condition the file is prepared for.
Overprint	Printing one ink on top of another rather than knocking a hole in it. Used for small black text so a slight register movement does not show as a white halo.
PDF/X	A family of ISO standards defining PDFs safe for print exchange. PDF/X-4 (ISO 15930-7) is current best practice for sheet-fed offset.
ppi / dpi	Pixels per inch (in an image file) and dots per inch (on an output device). In artwork discussion they are used interchangeably; 300 ppi is the working target.
Preflight	Automated inspection of a PDF against a specification before it goes to plate.
Print Engine	The system that converts your PDF into the dot pattern imaged onto the printing plates.
Registration	How accurately the four plates align. Also the name of a special swatch that prints in all inks – for marks only, never for artwork.
Rich black	A black built from all four inks to look denser than 100% K alone. For large solids only, and always within the ink limit.
Spot colour	A specific pre-mixed ink, usually a Pantone reference, printed from its own plate rather than built from CMYK.
TAC / Total area coverage	The sum of the four ink percentages in one spot on the sheet. Too high and the ink will not dry, sets off, or marks the sheet behind it.
TrimBox	The PDF box marking the finished page size. The most important box in the file.
Upscaling	Enlarging an image by generating plausible new pixels. It invents detail; it does not recover it.

12. Standards referenced

The standards below sit behind the requirements in this guide. Where a figure is a Stephens & George house requirement rather than a published standard, Section 3 is the authority for it.

Source	Used in this guide for
ISO 15930-7:2010 – PDF/X-4	The required PDF flavour, and the page box and output intent requirements.
ISO 15930-1:2001 and ISO 15930-4:2003 – PDF/X-1a	The accepted alternative flavour.
ISO 15930-9:2020 – PDF/X-6	Noted as not yet in general commercial use.
ISO 12647-2:2013	Process control for offset lithography – the basis of our colour targets.
Fogra characterisation data – FOGRA39, FOGRA47	The printing conditions behind the coated and uncoated ICC output profiles named in our export presets.
Stephens & George published PDF export presets	"S+G Coated Fogra 39" and "S+G Uncoated Fogra 47", available from our client hub.
Stephens & George house requirements	Bleed, safe margin, crop mark offset, ink limits, image resolution thresholds, minimum type and rule sizes, and overprint rules. Section 3 is the authority for all of these. They reflect what our presses and finishing equipment need, and we will hold your file to them.

Questions

If anything here is unclear, or your job needs values different from those in Section 3, contact the Prepress Department before you start generating. A five-minute conversation at the outset is worth a great deal more than a preflight report at the end.

We would rather see your file early and imperfect rather than it being wrong after you have spent lots of time preparing it.

Stephens & George Print Group

Prepress Department · Goat Mill Road, Dowlais, Merthyr Tydfil
www.stephensandgeorge.co.uk

All data published here in v1.0 was as understood in September 2026 – The pace of AI development is rapid and this guide is subject to change at times when new understanding of AI technology is gleaned. Please check with our website to ensure you are using the most up to date version of this guide.