

User guide: paper stock

There are hundreds of different papers to choose from when it comes to printing, each with different uses and benefits, including papers made with cotton, eucalyptus and even Elephant Poo. Papers containing metallic flecks, transparent papers, onion skin papers, parchment papers... the list is endless.

However, the vast majority of the papers that we use on a day-to-day basis fall into two main groups: coated and uncoated.

A good example to quickly feel the difference between coated and uncoated paper are postcards. On one side, the coated one, you have a glossy surface with a crisp image but it can be difficult to write on. On the other side, there's blank white space with an uncoated finish that you can easily write on. Try rubbing your fingers on the different sides of a postcard to see the difference between a coated and uncoated finish.

Uncoated paper

Uncoated paper is exactly what it sounds like – paper that has no extra coating or paper finishing and was historically the only choice until the 1860s.

As there is no coating, there is no glare on the surface since it has nothing covering the natural fibres. This makes it ideal for the majority of books or prints that have a lot of text.

For the printing of coloured images, the very absorbent nature of uncoated paper that lets the ink sink into the paper means that colour images have a more saturated and understated appearance with a smoother finish.

Another characteristic of uncoated paper is that as there is no coating, this is the most porous paper type and ink, toner and graphite are easily absorbed. This makes it the perfect choice for smudge-less writing with the widest range of pens and pencils when compared to other finishes.

Uncoated paper is traditionally used for

- photocopiers
- office and home printers
- book pages
- newsletters
- stationary
- forms
- letterheads
- memo pages
- envelopes
- any final product you need to write on

In the past uncoated paper was not used very often for marketing materials such as brochures and leaflets etc. as printed colours do not look as vivid as they do on coated paper. However, things are changing.

Increasingly people are opting for more muted, natural looking colours with a rawer paper feel by choosing uncoated paper even for prestigious publicity materials.

Uncoated paper stock examples

- **Laser Printer Paper (Laser printers and heat)** - laser printers melt a solid powder called toner onto a piece of paper. The challenge in selecting a laser printer paper comes from the high level of heat generated by the printer's fuser rollers. This is why laser printer-specific papers are highly heat-resistant. Laser printer paper is usually uncoated, since anything applied to the paper could melt in the printer, ruining the sheet and, potentially, the printer.

Laser printer paper is both used in business and home environments for day-to-day tasks such as printing documents.

- **Inkjet Printer Paper (Inkjets and Liquid)** - normally, moisture and paper don't always mix well, but inkjets work by spraying liquid onto paper. As inkjet printer paper is softer and more absorptive than laser printer paper, the liquid sinks in, spreads like a watercolour, and gives you images with slightly blurry edges.

In the past you needed to make sure to use the correct paper for each printer type, because for instance if you used inkjet printer paper in a laser printer, you were likely to produce smeared, unclear images far below your quality expectations.

However, modern printer paper (Bond paper) can be used in both Inkjets and laser printers, so they don't technically require different paper anymore.

As a rule of thumb, the paper labelled "*Inkjet*" or "*Laser*" for everyday use in home or office printers (and that you can easily write on with a pen or pencil) is most likely to be uncoated.

Traditional coated paper is not suitable for printing on home inkjet or laser printers. This is because inkjet ink is water based and just like pen ink will not dry well on the surface of the paper. Likewise, the surface of coated paper is not right for laser printer toner to stick to it.

But there are exceptions, for instance there is **Laser Photo Paper**, which is coated, and there are **special inkjet papers** that have coatings or special formulations that promote rapid drying and prevent the ink from blurring.

And to make it even more confusing, when using specialized glossy or coated laser or inkjet paper, you do need to make sure to only use the right one for your printer; for example, if you tried to print ink on a coated glossy paper for laser printing, the ink would probably smear and not adhere to the paper.

Other examples of uncoated paper are:

- **Bond paper** - This is a high quality uncoated writing paper. It was originally used for creating government bonds and instead of being made from low grade wood pulp, it is mostly made up of rag pulp.

Nowadays it is often used as a standard sheet in many laser and ink jet printers for daily use.

It's perfect for letterheads, typed reports and envelopes, although with the rise in vintage events and retro sentiments these are becoming more mainstream for music, arts and fashion advertising.

- **Laid paper** - this is a textured premium quality paper with a finely embossed textured pattern; evenly spaced lines on the reverse of the paper give it a ribbed effect, similar to hand made paper. Generally used for business and corporate stationery.
- **Wove paper** - this is another high quality paper with a uniform surface, not textured like laid paper.
- **Watermarked Paper** - often used as a sheet of choice in the professional services industry to give a feel of quality. The uncoated sheets are stamped with the desired logo or wording during the manufacturing process which can be seen when viewed in certain lights. This type of paper is commonly used as a security feature for important documents, including exam certificates.
- **Linen paper** - used for high quality stationery but with an embossed pattern that imitates the look and feel of linen cloth.
- **NCR (No Carbon Required)** - this is a specialist paper system with a coating on the surface of the paper that transfers the written image onto the paper below without the need for a carbon sheet. Many Business Documents use this paper eg. Order Pads, Invoice Pads and Receipt Books.
- **Natural paper** - this is an uncoated paper that has all of the characteristics of uncoated paper, but has not been treated to make it as white as possible. Instead, it has a natural off-white colour. Natural paper is a perfect choice for a more vintage or rustic look.
- **Recycled paper** - as the name suggests, this consists of re-used paper products. Recycled paper saves trees, and also saves more than 70% of the energy and water used in traditional paper production. It has a natural look but is still very white. It can be used for most documents including reports, memo paper and forms.

At Warwick Print we use recycled Woodland Trust Office Paper for all our standard printing orders.

Every sheet of Woodland Trust Office Paper is generated from waste material, resulting in zero CO2 emissions from fossil fuels and the excess heat from paper production is piped to a community heating project.

Woodland Trust Office Paper is produced to the most demanding environmental standards and is certified by the FSC. The Forest Stewardship Council (FSC) is an international non-profit, multi-stakeholder organization established in 1993 to promote responsible management of the world's forests.

Coated paper

Coated paper has been covered with a hardened clay material or has been created using chemical additives stopping ink from soaking into the paper. The low ink absorbency will lead to sharper images and text with

crisper detail and denser colour, helping to bring out the vividness of artwork and making design really pop off the page. When the ink soaks into uncoated paper, however, it adds a much warmer quality.

Coated paper is denser than uncoated paper which makes it more opaque but it is thinner than an uncoated sheet of the same weight. Coated paper is more durable and resistant to dirt, moisture and wear.

So, the choice of paper can make a big difference to your design and end-use handling.

Coated paper comes in a variety of finishes, spanning the range from almost non- to super-glossy. In addition, paper can be coated on one or both sides. Paper coated on one side is often used for postcards for instance.

As a general rule, coated paper is more difficult to write on, especially with pens, because until the ink dries, it is very likely to smudge; indeed, some pen inks may never dry properly on heavily coated paper.

To sum up, coated paper stock gives a very nice finish and professional look for marketing materials that are subject to repeated handling or any other kinds of prints that want to show off the colour and therefore is great for:

- brochures
- catalogues
- book covers
- flyers
- leaflets
- postcards
- (Take away) Menus
- high-spec posters
- premium Business cards
- any products requiring excellent colour rendering
- a product that you won't be writing on

Coating categories

Matt

Matte paper has a light coating that provides a boost to the contrast to images, but results in little glare, making it the opposite to gloss. The matte coating provides a smoother presentation than an uncoated sheet, and softer than the appearance of a glossy sheet. It also has a soft, textured feel to it.

Matte sheets are good for enhancing visual designs with a more subdued layout and colour set without having a lot of glare which glossy coatings suffer from. As it is in many respects closer to uncoated than gloss paper, it is the easiest of the coated papers to write on, which makes it the ideal choice for journals and calendars.

Matt coated paper is good for printing invitations, reports, flyers and leaflets.

Silk

The interim between gloss and matt, silk coated paper has a low sheen silky coating, leaving it smooth to the touch but without the shine of gloss paper.

This type of paper can be used especially for things such as magazines and catalogues. As magazines are commonly read using electric light, gloss coated paper can sometimes be difficult to read due to the glare caused by its reflectiveness. Silk coated paper avoids this but also still carries the premium feel that gloss-coated paper can possess.

It's suitable for printing brochures, photographs, manual covers, menus and high-quality direct mail.

Gloss

Gloss paper has an incredibly high shine and a smooth tactile feel, because the ink sits on the surface as it dries, which results in a higher contrast and colour gamut than other coated papers. This coating is best for bold punchy colour images where the colour needs to “pop”.

Gloss coated paper is typically used for photographic printing where a high-quality finish is needed.

Perfect for: children's books, colour inserts, photo books, recipe books

Other, less frequently used coatings:

- **Cast:** a high gloss, mirror like surface, giving a shiny appearance on one side of the paper
- **Velvet:** A soft, luxurious coating that feels amazing in the hands
- **Linen:** Lends the look of woven linen to paper for an elegant finish
- **Aqueous:** this clear coating is used to protect your printed pieces. It provides a high-gloss surface that deters dirt and fingerprints, improving the durability of postcards for instance as they go through the mail, and protects business cards as they get shuffled between clients. It also looks beautiful on brochures, catalogue covers, and stand-alone flyers too.
- **UV - UV coating,** often called liquid lamination, is a highly protective, ultra-shiny gloss coating that is applied over aqueous coating and then cured on a special machine using ultraviolet light. UV coating is not a paper type, but an additional coating added to a gloss or matte paper type to really enhance colour contrast.

Note: coated paper is not waterproof - people often assume that coated papers such as gloss are waterproof. This could not be further from the truth. Coated paper absorb water just as much as uncoated paper. The only way to make it waterproof is to encapsulate it (often confused with lamination). This is where you completely seal the front, back and edges in plastic so no water can get it. It has a 4mm or 5mm lip going all the way around to waterproof the edges.

Digital and Litho printing

As mentioned in our guide “*Printing methods*”, today’s commercial printing divide into two main categories: digital and litho printing.

Traditionally, there might have been a tendency for digital printing to favour uncoated paper, and for litho printing to use coated paper.

The potential issues about using coated paper in digital printers such as laser or inkjet printers have already been mentioned above.

For litho printers, the main issues about using uncoated paper is that unlike with coated paper the ink tends to soak in much more, giving the feel that the ink is within the paper and thereby making colours and images softer and warmer - but one of the downsides is that they take much longer to dry. This would push back production timelines considerably. In addition, there is a higher chance of images rather than looking softer and warmer look muddy or blurry.

For this reason, some printers recommended using some type of coated sheet for large solids and detailed images. The coated sheets allowed the ink to sit on top of the sheet and not get absorbed into the fibers keeping details crisp and clean.

However, modern commercial digital printers (laser and inkjet) as well as litho printing machines have the functionality to print on both uncoated and coated papers, using papers that are especially developed for that purpose, with excellent results.