

# Making The Move From Sheetfed To Reelfed Print Production



*It's no secret that we believe our groundbreaking SC ink technology is a revolution in reelfed digital print.*

*Our brilliant engineers, through innovation, have unlocked the secret to efficient, sustainable inkjet printing directly onto standard offset coated stocks. The SC inks eliminate the costly pre-processing step, whilst sharpening the quality of printed content to offset standards! It's the breakthrough moment that commercial sheetfed offset printers have been waiting for.*

*For sheetfed printers, it does require a migration in technology to web-fed digital printing – something that raises a lot of questions around the production process and the finishing.*

## What's the difference between reelfed and sheetfed printing?

As we all know, paper is manufactured in large rolls. The core difference between sheetfed and reelfed printing comes down to the way this paper is loaded into the printer.\*

In sheetfed, the paper is purchased sheeted in packs or pallets before printing. Contrastingly, reelfed printing uses a large roll which is then cut into appropriate sizing in the post press process. Confused about the difference between offset and digital printing presses?

Describing it like this makes it look like a minor difference, but as you will soon find out, printing with reelfed has some pretty major implications – all positive.

### The input side of reelfed:

1. It's cheaper: it's cheaper to purchase a reel than it is individual sheets. Why? Because the paper manufacturer avoids having to sheet it. You only have to check with your supplier to realise this can easily save around 10% in costs for standard offset coated paper – bingo!
2. It's less wasteful: a reelfed production line makes it possible to eliminate printing gaps. This helps to use the paper most efficiently and can significantly reduce waste.
3. It's easy to load: Surprisingly, feeding paper into a reelfed inkjet printer is relatively simple compared to sheetfed loading. Instead of loading a pallet of paper, you would hang the paper in a so-called unwinder – an easy-enough process. Depending on the paper weight, the length on a reel can vary somewhere between 7km equating to 11,784 A2 Sheets on 250gsm stock and a whopping 18km, equivalent to 30,303 A2 sheets at 70gsm.

Once in the printer, paper transportation is hassle-free. Unlike sheetfed, which relies on grippers and suckers, reelfed just consists of rollers and motors to control speed and paper path tension, as well as a device to keep the path precisely positioned under the printheads with sensors to monitor optimum stability.

To sum up, reelfed paper transportation is much less mechanical and more stable than sheetfed. This makes for a virtually hassle and maintenance-free process.

### The output side of reelfed:

Output happens using a rewinder or an inline finishing device. Several years ago, the majority of printing operators chose to run the finishing offline. We're now tending to see a change in behaviour, with inline becoming the preferred method as finishing technology grows ever more flexible and efficient.

More often than not, inline finishing from printed reel to finished product is a big question mark for sheetfed printers. Ultimately it's in making the decision from sheetfed to reelfed, however, that the most efficiency is gained and here's why.

• A physical collating step is completely removed, because your products are collated digitally. The easiest way to explain this is by using these examples:

- 4 Colour Book: With sheetfed offset printing, all the book signatures will need to be printed before finishing can start. The printing of a 6-signature book will mean 6 print runs on the press, using 12 x 4 plates (48 Plates in total) and producing 6 pallets of paper. After that signatures need to be folded in a first step and collated in a second step, and both are extra touch points in production.

- 4 Colour 16pp A4 Brochure: With sheet offset printing, again all the pages will need to be printed before finishing can start. The printing of a 16pp A4 Brochure using a SRA2 standard offset press will mean 4 print runs, using 8 x 4 Plates (16 Plates in total), Section 1; 8 pages print front and then turn sheet to print reverse and then Section 2: 8 pages repeating process. Within off-line finishing, both sections will need to be pre-folded before passing through a stitch and trim line.

• Producing digitally from the roll does not require plates or setup time and the signatures are collated digitally per individual copy on the fly. Within finishing the pre-collated sets will be cut to sheets, folded and stacked to complete the bookblocks. No touch points – no risk – no over-production; increased profitability

## Reelfed Speed Comparison

When it comes to reelfed the terminology is different. Sheetfed is monitored in the number of sheets per hour through the press whilst reelfed is calculated at number of metres of material per minute.

It is often difficult to quickly calculate the difference and this often makes reelfed look slow in comparison with sheetfed, however this is not the case, reelfed is often faster than sheetfed.

Now add in the benefit of in-line finishing and it is demonstrated that reelfed is superior to sheetfed in all “paginated” production.

### Productivity (duplex sheets)

|            | Speed per minute  | Speed per hour     |
|------------|-------------------|--------------------|
|            | 120 linear metres | 7200 linear metres |
| Sheet Size | Sheets per minute | Sheets per hour    |
| Size A4    | 800               | 48000              |
| Size A3    | 400               | 24000              |
| Size A2    | 200               | 12000              |

## Common myths

### x Finishing from the reel is difficult

Under the current state of reelfed automation, complexity is reduced significantly compared to a sheetfed production process. Planning and stock usage is much more efficient.

### x Webfed printing offers no product flexibility

Contrary to popular belief, in-finishing is available for different products, from books to flyers and stitched brochures.

### x Rollfed is unsuitable for lots of paper types

The workflow of reelfed makes it easy to batch jobs automatically. However, offering hundreds of paper types is commercially impracticable and this is a good opportunity to cut down on stocks and streamline a production process.

### x Loading reels is difficult

As discussed above, the process is straightforward – even more so than sheetfed loading

## Will your next press be a Truepress?

We come full circle, back to the aforementioned SC inks, which are used in the Truepress Jet 520HD+.

SC inks...

- Adhere directly onto a wide range of standard paper types, removing the need for costly pre-processing/coating.
- Maintain the integral texture and feel of coated paper. This significantly expands potential print applications to include direct mail, books, catalogues and a wide range of other commercial uses.
- Are completely dry when leaving the printer (which can operate at speeds from 120 to 150m/min)
- Offer a high colour gamut and sharpness, improved ten-fold because pigment is not lost in the absorption process

Our HD Digital inkjet printer has significantly improved the printing process whilst giving improved margin. Companies like Bluetree, Kohlhammer and Hubert & Co have chosen to invest in our continuous fed inkjet solution instead of a conventional offset press. Will you be next?