

Features and Advantages of the IBIS Smart-binder System

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1.) **A True 24/7 Production System**

With **100 systems installed world-wide**, the Smart-binder has repeatedly proven itself to be a true 24/7 reliable, heavy-duty production system and is the most commonly used finishing system for high-speed digital web printers .

Many SB systems run continuously in 3-shift operation over many years and produce millions of booklets every month. No other digital saddle-stitcher has a comparable track record.

2.) **Integrated Sheet and Book Tracking**

The Smart-binder was designed from the start to incorporate sophisticated **data tracking** for personalized booklets. The Smart-binder's integrated system of sensors and software permits 100% accurate tracking of each sheet and booklet (competitive systems use 3rd-party tracking systems). Incomplete booklets are automatically rejected. Separately-fed covers may be checked to ensure matching with inside sheets.

A detailed log file is created as the machine runs from which individual booklet data can be extracted. This is critical in production environments where HIPAA regulations apply.

3.) **Second-to-none Book Quality**

The Smart-binder processes and **folds each sheet individually** (instead of in batches as with competitive systems) which ensures optimum possible book fold quality and lay-flat even when making books up to 10mm thick. The Smart-binder trimmer cuts all three edges for an optimum finish and a unique, patented device minimises book corener tearing when trimming maximum thickness.

4.) **Bind-on-demand for personalization or short job runs**

Because the Smart-binder was designed to finishing digitally printed sheets, it incorporates the unique ability to **vary book thickness on-the -run** without any adjustment needed. The trimmer uses gravity-registration to allow is to process books with a constantly changing thickness. In combination with integrated sheet and book tracking this makes the Smart-binder a true bind-on-demand system.

5.) **Different Configurations and Finishing Methods:**

The Smart-binder offers the greatest variety of possible **system configurations**. The SB-2 is for wire saddle-stitching only. The SB-3 provides also ISG cold gluing. The SB-4 and SB-5 systems offer both saddle-stitching and fully-automated In-line perfect binding.

Every Smart-binder system may be configured to operate either in-line with the printer, near line from a roll unwinder/sheeter or off-line from a sheet pile feeder. It is also possible to configure an SB system to operate both in-line and off-line.

6.) **Enhanced Production Speeds:**

The new Smart-binder 'Plus' can process booklets at speeds up to **7,000 booklets per hour** (14,000 in 2-up mode), making it the fastest such machine on the market. It can handle printer and unwinder web speeds up to 600 feet-per-minute.

7.) **Unique ISG cold-glue binding**

Smart-binder models SB-3, SB-4 and SB-5 include IBIS unique and patented **ISG cold glue binding option** (which applies a line of cold glue dots to the fold on each sheet). Cold-glued books are stronger and lay flatter compared with wire-stapled books. Quick changeover is available between stapling and gluing. See appendix A attached for more details and full list of benefits.

8.) **Customization:**

The SB can be customized for a large **variety of applications**. We have connected with envelope inserters, stackers, folders, in-line booklet drills, knife folders, amongst many other options. Additional modules can be added directly to the Smart-binder, including sheet pile feeders, cover and insert feeders, in-line cover gate-folding, pile loading trolleys, trimmer center-knife, card and reply envelope tipping, dynamic sheet perforation (see below), hole punching and much more.

IBIS specialize in creating **customized systems** to meet each individual customer's needs. This may require adapting and interfacing modules from other vendors and/or designing unique equipment solutions. We have many hundreds of man years experience in putting together 'tailored' finishing systems.

9.) **Dynamic Perforation (sheet tear-out) :**

The optional **DMP-100** Dynamic Perforation Module can be integrated into the Smart-binder system in order to perforate any sheet in the booklet based upon barcode input.

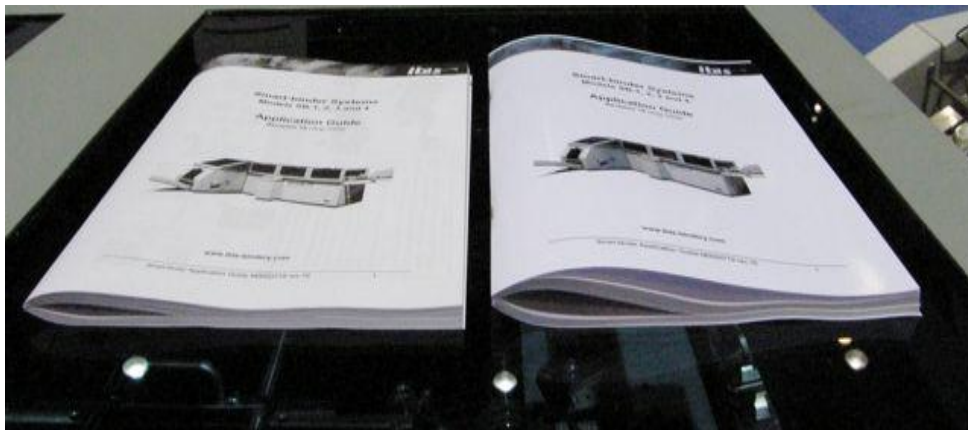
10.) **Ease of use and maintenance:**

The machine is **easy to operate**, has good access and visibility of the paper path, and is easy and economical to maintain.

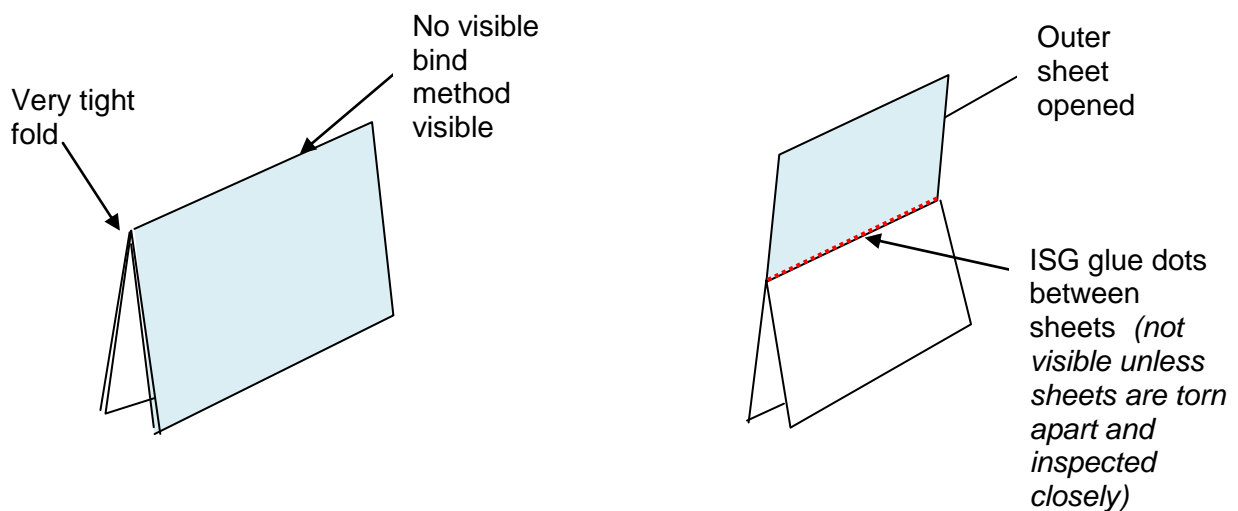
Appendix A

ISG-100 cold gluing

IBIS's unique 'ISG cold-gluing' produces a "stitchless" book which has better lay-flat qualities than a wire-stitched booklet. The photo below illustrates the difference in appearance between a booklet made with ISG cold-glue (on the left) and a conventionally stitched booklet.

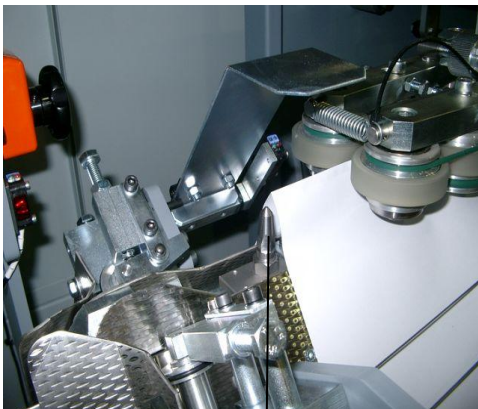


The ISG cold-glue 'nozzle' applies a row of cold-glue 'dots' (or a continuous glue line) to the inside of each folded sheet as it passes through the Smart-binder folder. Sheets are then collected on top of each other (on the saddle) and pressed together tightly when they reach the stitching station (the stitching heads are inhibited when cold gluing, or replaced with a pressing 'anvil').



The many advantages of ISG cold gluing over conventional wire stapling include: -

- ISG glue gives **higher page pull strength** on the outer and inner sheets
- *Note that the paper bond strength when using ISG gluing is linked to the integrity of the paper surface. Higher strength results from more absorbent papers. Certain toners may weaken the bond strength if applied to the same area as the ISG glue (the sheet fold).*
- **ISG gluing results in a tighter fold**, particularly on thicker books. This is because wire stapling tends to 'open up' the book and the moisture in the cold glue softens the paper fibers and helps give a tighter 'set' to the fold.
- ISG gluing allows the **number of pages in the book to be changed** between minimum and maximum on-the-run without any adjustment (wire stitching requires stitch head pressure adjustments)
- ISG gluing allows the **book format size to be changed** without adjustment (wire stitch heads may have to be moved to a different position when changing book lengths).
- The ISG cold-glue is a **"maintenance-free"** system, which is easy to operate than wire stitch heads.
- Cold-glued books can be **recycled** more easily than books containing wire staples.
- Glue binding avoids any **child safety** (finger damage) issues relating to the edges of wire staples.
- Glued books can sometimes be **mailed directly**, unlike wire-stapled books.
- ISG cold glue costs approximately the same in consumable **material costs** (on a 'per book' basis) as wire stitches (and much less than hot-melt EVA adhesives used for conventional 'perfect-binding').



ISG Cold-Glue Application Nozzle on the Smart-binder

**Thick-book cross-section comparisons:
Wire-stitching vs. ISG cold-gluing**

