

In a bind

A radically new binding method has just hit the market in the form of the Vortex doublebind machine. But, in order to appreciate the significance of this new concept, it is necessary for a short overview of the two existing mainstream binding methods, Smyth Sewing & Perfect Binding

Smyth Sewing

This is possibly the oldest, but still a very effective method of binding signatures together. Its disadvantages are mainly the high unit cost of a book, as well as the specialised, expensive equipment. Signatures are firstly sewn together in one process, thereafter the book block needs to be Perfect Bound on a Perfect Binder in order to draw the cover onto the book. It is time consuming and is mainly farmed out to trade binders as few printers have inhouse sewing facilities.

Perfect Binding

High outputs are achieved but, as we all know, the pages tends to snap shut because of the rigid spine – a definite frustration to the end user. The Vortex doublebind machines and the Polyurethane Reactive glue (PUR) equipped binding machine manufacturers foresee that Perfect Binding will



rapidly phase out when more and more customers will undoubtedly start insisting on layflat bound books. PUR glue binding is, in essence, still Perfect Binding, only using better glue, without the notching. This method is highly

efficient and durable. Its greatest advantage is the fact that a book lies flat when opened. The Spine is not at all rigid as is the case where a standard Perfect Binder is being used.

PUR glue does however have its own limitations and shortcomings – it is aggressive, toxic and needs special care and handling and is an expensive system if you choose the sealed nozzle glue applicator. Also, full curing can take up to 20 hours. Opting for an open glue pot is also not a wise choice, but it is a less expensive option. PUR glues gets activated the moment the glue is exposed to the atmosphere which allows the user a three to four hour production window after which production must be stopped, and the glue pot thoroughly cleaned with special solvents. Opting for an expensive sealed unit is a decision that has to be taken with great consideration as you cannot simply switch the binder on and off at will, careful planning is involved. Once the glue slug is opened, the clock begins to tick, you have to have enough work for the amount



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of glue, and you will have to throw away the glue-slug after a few days, moisture will always be able to enter the closed unit.

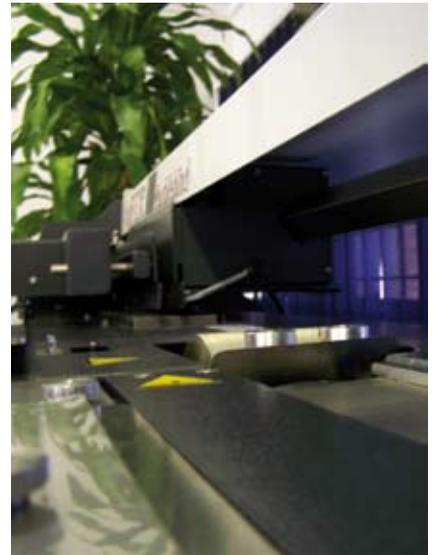
The new Vortex Doublebind machine is a highly affordable option and is now available on the market, at a fraction of the cost of a PUR equipped machine. Sybcrom Binding & Finishing Systems have designed and patented this new super strong and highly flexible type of binding, and refuses to even connect it to the term, Perfect Binding. The word doublebind is now a new technical term and the designers of this concept achieved a means of adhering a micro thin layer of specialized EVA-based hotmelt glue onto both sides of each individual sheet of paper in a book block.

The word Vortex vaguely refers to the methodology being applied to separate each individual sheet of paper in order to fix the glue onto the sides of every sheet of paper wherein ionization plays a pivotal role. Perfect Binding are in totality dependent on the "preparation" of the spine prior to the gluing

process by means of notch-cutting and scraping devices fixed onto a spindle - a dusty, noisy and often dangerous action – problem is, the better the notching, the more rigid the spine!

The Vortex machines are not dependent on any roughening of the paper edges, simply due to the fact that a much larger surface is coated with the glue fixed onto the sides of every sheet of paper. The kinetic pull-force is dynamically different – Perfect Binding only fixes the glue onto the very edges of the paper allowing individual sheets of paper the potential to pull out. By not notching into the spine area, and applying a micro thin layer of glue onto the sides of the sheets and onto the spine of a book, it results in a book having spine flexibility producing the layflat effect.

PUR, like the vortex, specifies that approximately 28% of the glue thickness of that of a Perfect Bound book is needed, mainly for cover adhesion. The excess glue is used to fix the cover onto the spine area. The end result is that



books bound by means of the Vortex method, are totally flexible and lie flat and totally relaxed. The end user can read the book without forcing it open all the time and the people at Syncrom believe that the paper will probably fail before the actual binding does.

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