

PERFECT BINDING

Tips and Tricks adhesive binding. It is not always easy to perform adhesive binding on soft cover brochures – and it is frequently a cause of complaint.

The problem is that the first and last pages are often not held effectively in place in the spine glue when they are opened. What's more, the top edge of the glue film can be seen around the notch – which is not a very pretty sight. The reasons behind this problem are many and varied – from the physical properties of the paper and glue themselves to incorrect material combinations or operating errors. But so, too, are the solutions. The most important of these are described below.

SYMMETRICAL FEED

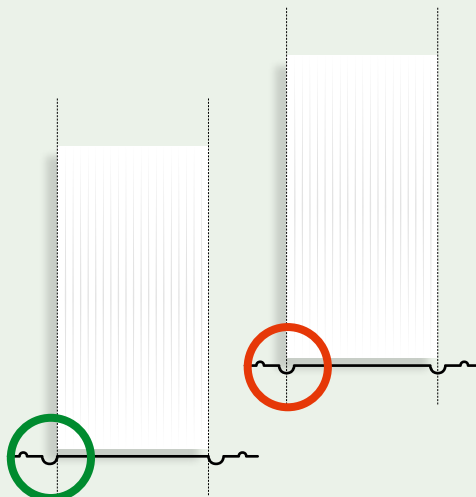
Feeding into the milling cutter must be symmetrical to prevent the book block being deformed or processed on one side only. With folded sheets where the spine side of the pile is higher, the lower guide rails at the front and back must be set accordingly to take this into account. This is the only way to ensure that the block is fed straight into the milling cutter. It has also proven beneficial to make sure that the part of the book block that hangs down outside the clamp is ideally less than 9 mm.

THE RIGHT SETTINGS

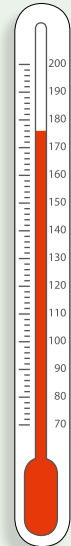
The basic settings for the upper and lateral counterblades in the main milling cutter and for the leveling and notching tools must match the settings in the operator instructions. For example, at maximum block thickness, the leveling depth should be set to approximately 0.5 mm (0.020 in). The depth of the fine notch should lie between 0.1 and 0.2 mm (0.0039 and 0.0079 in). This ensures effective roughening of the sheet edge and good glue adhesion. The use of fine notching is essential with PUR products in particular.

If the chosen clamping effect demands the use of rough or normal notching instead, the ideal spacing from notch to notch is between 6 and 8 mm (0.24 and 0.31 in). It is also important to set the brushes correctly to ensure any dust on the spine is removed effectively.

Additionally, sharp and clean milling tools must be used to prevent untidy cuts and shedding at the rear edge of the block, which can lead to uneven glue application.



TIPS & TRICKS



SPINE AND SIDE GLUING

With all hotmelts, the glue always becomes thicker in the middle of the block, causing what is known as the coat-hanger effect. Consequently, the glue is spread most thinly in the critical area at the block edges. The solution is to use controlled glue penetration to a depth of 0.1 mm (0.0039 in) to press a little glue between the individual pages and achieve strong adhesion at the block edges.

The success of this solution depends on two factors – the correct temperature of the glue and optimum settings made on the spine gluing unit. The application temperature for standard hotmelts must be at least 170 °C, preferably 175 °C (on the top edge of the roller when the doctor blade is open). The temperature of the side glue must be between 170 °C and 180 °C and the glue should be applied at a thickness no greater than 0.1 mm (0.0039 in). The aim of spine gluing is to seal the sheet edge with the first roller.

The following settings for the glue pan deliver the back pressure needed for this and these may need adjusting depending on the particular application:

Gluing roller 1

Blade opening (depending on notch depth): 0.6 to 0.7 mm (0.024 to 0.028 in)
Distance from block to gluing roller: 0.5 mm (0.020 in)

Gluing roller 2

Blade opening: 2 to 3 mm (0.079 to 0.12 in)
Distance from block to gluing roller: 1.5 mm (0.059 in)

Spinner roller

Distance from block: 0.7 mm (0.028 in)

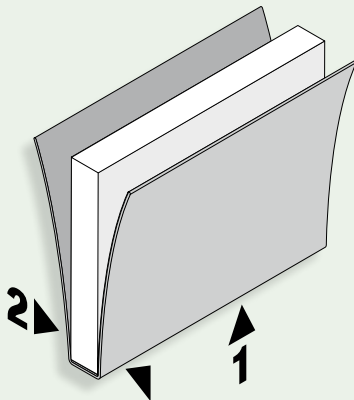
SCORING

So that the cover can be laid easily around the block edge, the scoring must be as sharp-edged as possible without breaking the board and printed surface and without any laminate that may have been applied peeling off. Position of the scoring relative to the book block is key. Many users set the score in the middle of the block edge, but this causes great stress and results in a strong lever action on the block edge. With heavy grammages in particular, it therefore makes sense to position the scoring closer to the front and reverse of the cover.

PRESSING ON

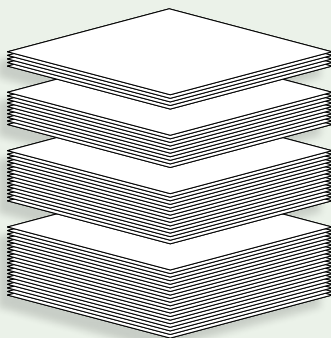
The right timing is essential when it comes to pressing on. To ensure the spine is sharp-edged and that all the content pages remain fixed in place in the spine glue, the pressing-on process must first be applied onto the spine from below before switching to the side.

On the Eurobind Pro in particular, the operator can adjust the individual drive technology to influence this specific factor. As the first and last pages are normally pushed upwards on the cover by the movement of the lateral pressing bars, the first pressing station in the Eurobind Pro is equipped with a pressing table without lateral pressing bars. This way, the spine glue has time to harden somewhat and fix the pages more securely in place on the way from the pressing table to the pressing station before the book block is fully pressed from below and from the side.



THE RIGHT MATERIAL MIX

The combination of materials plays an important role. Thin content paper (e.g. 60 gsm) combined with a thick cover (e.g. 350 gsm) plus cellophanning always leads to the problem with the first and last pages as described above. Therefore, the cover grammage, flexural strength and volume have to be taken into account. Here are a few guideline values to ensure the optimum ratio between block thickness and cover weight:



- ▶ Up to 5 mm (0.20 in): 150–180 gsm
- ▶ 6–10 mm (0.24–0.39 in): 200–220 gsm
- ▶ 11–15 mm (0.43–0.59 in): 250–270 gsm
- ▶ Over 15 mm (0.59 in): 300–350 gsm

TO PERFECTION

“My father had a rather autocratic management style. It’s important to me that all the staff can get involved with their ideas and suggestions, and that we help each other to ensure our joint success.”

JANET STEINER
OWNER AND CEO,
THORO PACKAGING, CALIFORNIA

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Three Good Reasons –
Certification to ISO 12647-2

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New Series – Production
of the Speedmaster XL 75
Anicolor gets under way