

1.3 General Description

The *Vacuum Laminator* is a system working completely automatic, used for laminating a dry-film resist being sensitive to ultraviolet light on either two sides or one side of panels or parts for chemical milling. The film is laminated on the panel under controlled temperature and pressure conditions. At all four sides a border being parallel to the edges remains unlaminated. The border width can be freely selected.

The panels run horizontally through the laminator. They trigger the work process and are controlled and monitored by a microprocessor with a programmable memory.

The *Vacuum Laminator* typically consists of:

- Input zone with aligning station
- Pre-heating zone (4 roller pairs)
- Laminating zone (fixing roller and laminating roller)
- Output zone with cooling zone
- Control cabinet

The control cabinet is located directly next to the machine. The conveyor speed can be adjusted at the Lauer display from 0.2 to 6 m/min. and is monitored by a digital display included. The machine accepts boards between 0.2 and 4 mm thick.

With one single working width the *Vacuum Laminator* can be completely integrated in all lines made by *Schmid*. It is especially suited for installation into an integrated dry-film resist processing line. It can be loaded and unloaded manually or automatically by all handlings systems produced by Gebr. SCHMID (*Vacumat*).

The rigid basic frame of the machine and the stable conveyor drive allow use under the most extreme conditions.

The panel is transported from the processing machine to the *Laminator* and is heated up to the necessary processing temperature. The film is separated from the mylar foil above and below by a roller pair. The foil which has not yet been detached is wound up on the bottom roller. It is also possible to laminate only one side of the panel. In this case, switch off either the upper or bottom aggregate.

Working Method:

The laminating process consists of an extensive number of mechanical, pneumatical and electrical single steps.

To simplify the process, we divide it into the following steps:

1. The board runs in over the conveyor.
2. The board is automatically put in the centre of the conveyor.
3. The board is heated up by the pre-heating rollers
4. The front edge of the resist is fixed on the board by a vacuum fixing roller.
5. The laminating rollers laminate the resist on the board in consideration of the selected resist-free board edges.
6. The knife-slide cuts off the resist and the rest of the resist is laminated.
7. The laminated board runs out of the machine over the conveyor.

The machine is available in both working directions. The following working width can be offered:

- 650 mm

