



Press Laminating

Plastics
Technologies
in Motion.

Press laminating processes are mainly used for materials which are not suitable for vacuum laminating such as fabrics, foam-backed materials or non-elastic cover materials such as leather or alcantara. The processing of these high-quality covering materials for vehicle interiors without a negative effect on the quality of grain, soft-touch or colour makes high demands on tool and system technology. FRIMO is the world-wide leader of system technology for the laminating of leather.

Tooling and machinery from one single source

FRIMO tool and machinery concepts stretch from single-station machinery up to inline machines and combined machinery such as a fully automatic press laminating machines, in which an automatic linkage to further process steps such as punching, edge folding or trimming is possible.

The optimal availability of the systems is guaranteed by use of various quick-change tool systems which ensure productivity in multiple shift operation with various components. The following tool change options are available:

- Changing systems with a changing carriage
- Quick-change systems by means of air cushions
- Quick-change systems by means of automatic slides



Double press laminating machine



Details tool



Double press laminating machine



Details tool

Process outline

1 As a preparatory measure, heat-activated adhesive or contact adhesive is applied to the laminating materials or the carrier parts.

2 The decorative coverings are applied, depending on the planned laminating process, as a course cut or as a finished contour cut.

Non-elastic materials such as leather are prepared by sewing seams at the contour edges to make an overall cover.

3 During the laminating process, the carrier parts to be laminated are manually or mechanically attached to the upper tool.

4 The coverings are manually or mechanically inserted into the lower tool.

5 After heating to activate the adhesive, the upper and lower tool move in a closing action and the laminating process is completed.

In case of large contour differences partly requiring variously intensive stretching of the decorative cover, a clamp frame is used for laminating, which enables the exact stretching of the decorative coverings for crease-free laminating.

Sewn covers made of leather or alcantara are usually pre-positioned and pre-fixed before the actual laminating procedure begins.

Flexible and economical

Different types of press laminating processes

- Press laminating with hard upper and lower mold
- Membrane laminating (especially developed for leather laminating)
- Combined press laminating and edgerefolding process
- Devices for manual laminating procedures, particularly for leather laminating
- Laminating in a foam bed



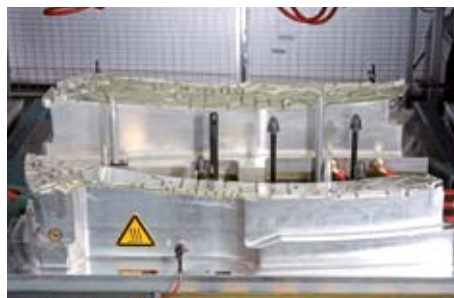
Upper tool



Single-station press laminating machine



Upper tool



Lower tool

Tailor-made solutions

Deciding on the optimal process depends on many parameters, which vary according to the project and customer demands, such as

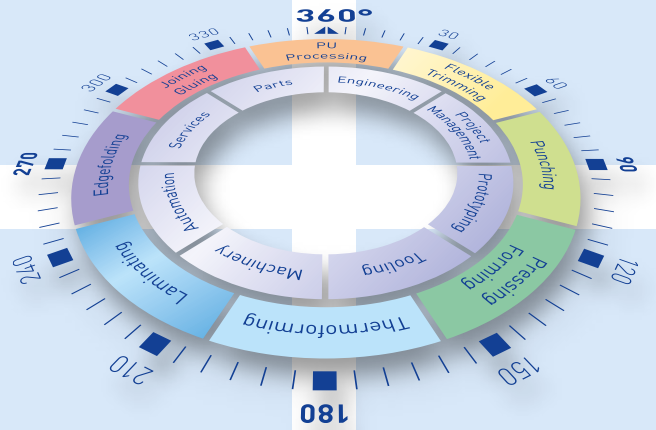
- Parts geometry, e.g. contour differences
- Tolerance compliance of carrier and decorative material, pressure and temperature tolerance, ageing and light resistance qualities
- Dimensional stability of the carrier material, e.g. injection molding (PP/ABS/PA etc.), natural fibres/fabrics with PP or PU matrix, wood fibre molding material, Long Fiber Technologies, high-resistance PU foam
- Expandability of the decorative material e.g. fabrics, knitted fabrics and fleeces with or without backing, compact, foam or compound foils, leather or artificial leather with and without backing, carpets made of multi-layer materials
- Adhesive technology, depending on the adhesive qualities of the materials e.g. chemically setting one-component, two-component or multi-component adhesives, or physically setting adhesives such as dispersion/solvent adhesives and thermoplastic or reactive hot melt adhesives
- Cycle times and quality requirements

Benefits

- Compact and modular construction with low space requirement
- Large variety of adapted system concepts
- High degree of flexibility with regard to design, 3D geometry
- Multitude of decorative materials possible
- Integration of further process steps possible, e.g. edgerefolding
- Minimal consumption of decorative materials
- Low volume weight of decorative materials
- Exact pressing pressure, for protection of decorative materials
- No loss of soft touch of decorative materials
- High efficiency
- Inline press laminating machines with short cycle times possible for maximum productivity



Plastics
Technologies
in Motion.



FRIMO Freilassing GmbH

Liegnitzer Str. 5
83395 Freilassing, Germany

Phone: +49 (0) 8654 4985 - 0
Fax: +49 (0) 8654 4985 - 80
info.freilassing@frimo.com

FRIMO Inc.

50685 Century Court
Wixom, MI 48393, USA

Phone: +1 (248) 668 - 3160
Fax: +1 (248) 668 - 3040
info.usa@frimo.com

FRIMO Automotive Trim Tooling & Equipment Co. Ltd.

Building 1, No. 568 Longpan Rd.
201801 Shanghai, China

Phone: +86 (21) 516515 - 68
Fax: +86 (21) 516515 - 69
info.china@frimo.com

www.frimo.com