



Edgefolding Technology

Plastics
Technologies
in Motion.

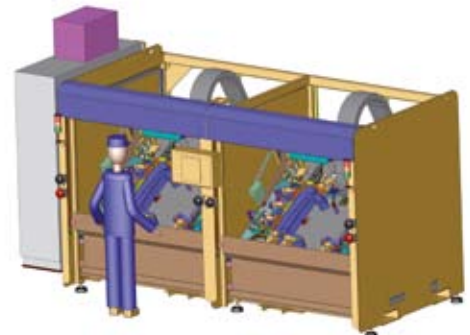
Edgefolding follows vacuum or press laminating, back-injection or back-pressing to finish the plastic component. Competitive production requires economical and reliable process technology. FRIMO edgefolding solutions are always exactly adapted to customer demands. The use of glue-based or glue-free tooling technologies depends on surface quality and component geometry. These tooling solutions are integrated into a variety of custom-designed machine concepts. A wide range of FRIMO edgefolding equipment is already in use for the production of numerous interior components such as door panels, armrests, pillar trims, center consoles, rear seat covers as well as luggage compartment trims, headliners and parcel shelves .

Tooling and machinery from one single source

- Prototype and pre-series tools
- Series tools
- Single-station units with a swiveling upper table as most economical variant
- Single-station units with vertical electromotive upper table drive, when stronger forces are required (e.g. heavy upper tool)
- Inline systems, which can substantially reduce cycle times for large volumes
- Rotary tables
- Combined systems, which integrate further process steps into the edgefolding machine such as e.g. punching, cutting, mounting, welding, stamping, gluing and joining, cooling, checking parts control, applying and reading the bar codes etc.



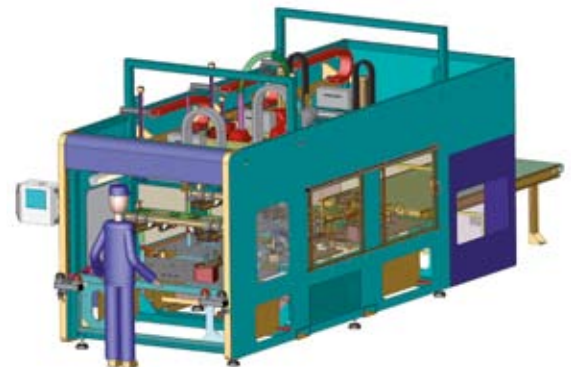
Single-station unit, swiveling



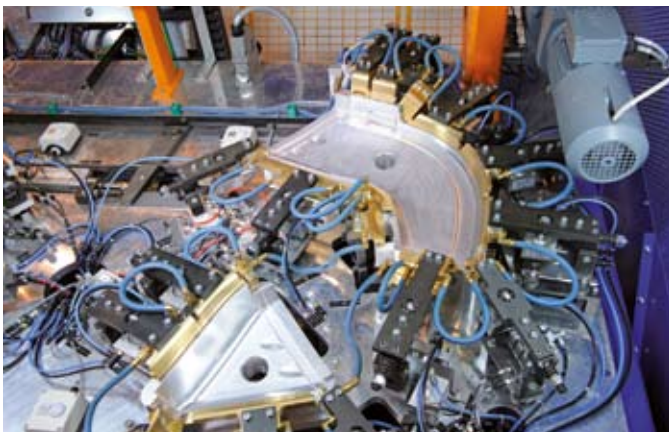
Two-station unit, swiveling



Single-station unit, vertical



4-station inline machine



Edgefolding tool with driven slider units



Inline machine with shuttle-system

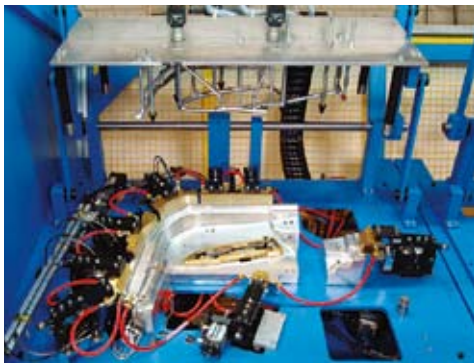
Glue-based and glue-free edgefolding

Glue-based edgefolding

With glue activation

The various options mainly differentiate in the method of introducing the heat to activate the glue. FRIMO edgefolding systems allow heat activation of the glue in the following technical configurations, e.g.:

- Hot air tube system for the pinpoint blowing of the glued joint and the activation of the glue, as well as cold edgefolding sliders
- Hot sliders, fitted with drill holes and tubes, with hot water running through over a tempering device
- Infrared heating by means of an infrared flash halogen spot, which heats up the glued joint, and cold edgefolding sliders, drilled



Tool with hot air pipe system

Without glue activation

Contact adhesives or hot / "open" thermoplastic or reactive hot melt adhesives are used, which are applied while still hot immediately before the edgefolding process. FRIMO edgefolding systems allow various different technical solutions, e.g.:

- Cold sliders for edgefolding when contact adhesives are used
- Cold sliders drilled, equipped with cooling tubes, when hot melt adhesives are required



Ultrasonic welding sonotrodes

Glue-free edgefolding

The gluing of the folding edge to the carrier takes place without adhesive. FRIMO edgefolding systems offer various realization solutions, e.g.:

- Slight melting of the carrier surface by means of hot air – hot air blowing cases and cooled sliders, drilled and equipped with tubes
- Plastifying of the carrier surface – directly or indirectly heated by cartridge heaters, cooled sliders, drilled and equipped with tubing
- Welding of the decor and carrier materials by means of ultrasonic welding sonotrodes

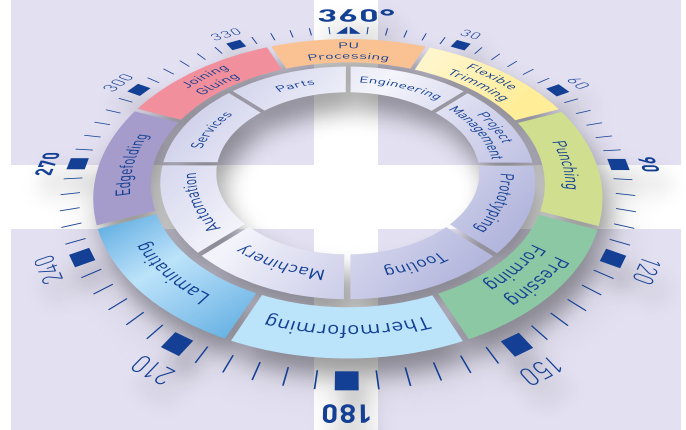
These processes are used to enable the easy doubling of material in the edgefolding areas, especially for back-injection molded, back-press-molded or laminated parts, for which subsequent edgefolding is necessary. Hot air is particularly suitable for the processing of thermoplastics such as e.g. PP, PE and PP natural fibres. Ultrasonic technology is extremely versatile in its application for thermoplastics and for duroplastics.

Benefits

- Compact and modular design
- Ergonomic tool assembly for optimal handling
- Complex tools with up to 8 cavities
- Flexible tool change systems
- Variety of standardized slide constructions for all edgefolding demands
- Center drives for the slides where possible – Single drives where necessary
- Various materials and material thicknesses processable
- Compensation of material thickness tolerances
- Process stability due to robust and proven edgefolding techniques and self-regulating heater technology
- Start-up support via infrared camera



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