Gluing technologies for the wood industry

Adhesive dosing, mixing and application systems
OEST mechanical engineering
Machines for dosing and application of adhesives

Oest mechanical engineering holds a leading position regarding dosing and mixing equipment as well as application systems for glue mixtures and PUR adhesives.

More than 2500 customer specific machines make an important contribution in the glulam industry as well as in the production of solid structural timber and window frames.

Oest is also a competent partner for manufacturer in the furniture and door industry.

Customized solutions made by Oest are applied worldwide in the production of formed plywood solid wood panels and formwork.
Oest mechanical engineering is certified according to ISO 9001:2015. As a member in the Glued Laminated Timber Research Association (Studiengemeinschaft Holzleimbau e.V) and the German Engineering Association (VDMA) Oest has strong partner at his side.

Solid wood panels
3-layer panels
LVL / Plywood
Lightweight panels
Furniture
Doors
Surface application for lamellas
1C adhesive systems

For the automatic surface-application of glue to lamellas Oest has dosing and application equipment for one-component adhesives in the delivery program.

In particular for PUR adhesives, but also for PVAc adhesives.

Principally used for the dosing are special gear dosing pumps. Depending on the kind of application, a variety of application heads are available.

Application head VALUETAC GX with nozzle bar and manual adjustment of the application width via a closing bar.

Application head PROFITAC F with single needle valves for each glue thread and automatic application width adjustment.

Dosing unit KONTITOP Z with servo-drive

Application head VALUETAC GX

Application head PROFITAC F
2C adhesive systems

Oest offers also dosing and application units for adhesives with two liquid components.

Glue and hardener will be applied either separately or as a mixture.

Adhesive mixture can be applied in the start-stop method or by using ribbon coater with constant pouring curtain.

The separate application of adhesive and hardener is exclusively carried out with ribbon coater.

Two configurations are available for the ribbon coater for separate application, ECOTOP TL and TH.
Surface application for cross laminated timber
1C/2C adhesive systems

Oest is specialist for gluing systems for the production of cross laminated timber, with great experience.

There are machines available for all common adhesive systems on the market such as PUR, MUF and EPI. The delivery range is from simple application heads with fixed application width to fully automated application heads.

Various machine concepts with servo pump technology are available for the exact dosage of adhesive. Depending on the project, individual system components or complete gluing portals can be supplied.

Where required, areas of unglued cut-outs can be detected by special sensors. Adhesive is only applied where it is needed.
Surface application for plywood/LVL
1C/2C adhesive systems

Veneers can be glued contactless with ribbon coater, independently from workpiece thickness and corrugation. Oest ribbon coater offer precise adhesive application and allow high feeding speeds of the veneers. Depending on the machine concept, one-component adhesive application, separate application of resin and hardener or the application of mixed glue is possible.
Finger joint application
1C adhesive systems

For the glue application of finger jointings, Oest has systems for the dosing and application of one-component adhesives in the product range. PUR adhesives, as well as PVAc glues are being processed.

Depending on the application, the adhesive is applied contactless or with comb, on one side or both sides of the finger joint.

The heart of the Oest dosing systems for finger joint application are the self-developed high pressure dosing diaphragm pumps, ideal for short gluing cycles.

These were completed by the application heads ECOTAC, FACETAC and PROFITAC.
2C adhesive systems

The portfolio of Oest comprises also machines for the dosing and application of two-component adhesives.

These were applied either mixed or separately.

Depending on the kind of application, the adhesive is applied without contact with the application head FACETAC or with the comb system ECOTAC.

The application comb ECOTAC consists of a special structure of single sheet metals plates.

This guarantees a precise adhesive application and low maintenance costs.
In the case of edge gluing, the glue can be applied either contactless or in contact with the wood.

One-component PUR adhesives are applied contactless to the edge joints using the PROFITAC application head equipped with needle valves.

2C adhesive mixtures such as MUF and EPI are mixed with a static mixer. The adhesive mixture is applied with contact to the edge by means of the application head CONTAC.

Special mounting and adjustment mechanism for the application heads ensure an easy installation in different types of gluing presses.
I-beams / Formwork beams
1C/2C adhesive systems

For the production of I-beams or formwork beams 1C-PUR and 2C-MUF adhesives are mainly used.

Equipment for the glue application onto the flange and web is available.

In order to ensure maximum process safety, each flank of a flange is supplied with its own dosing pump and its own material valve.

In addition to the process-safe dosing technology, it is recommended for high-performance systems to install a visual application monitoring system, which controls the continuous application of the adhesive thread on the workpiece.

2C dosing unit KONTIMIX
Application head COMBITAC S for flange-application
Application head COMBITAC G for web-application
Mixing units
Flexible, demand-oriented solutions

With a versatile program of glue mixing units Oest offers custom made solutions.

As flexible systems with modular design principle they match a wide range of glue formulations and production processes.

Both, liquid and powder components can be processed. The mixing takes place in-line without stock piling.

Mixing unit ECOMIX for liquid and powder components
Dynamic mixer for liquid glue and hardener
Dosing unit HYDROMIX for the combination with a static mixer
**Controls and monitoring**

**Smooth work processes in the focus**

The entire electrical conception of the Oest machines are carried out by the in-house electrical department.

Short paths allow a high degree of efficiency and flexibility.

Oest PLC programmers are planning the complete machine controls and take care about the commissioning of the machine before the delivery.

Each control can be individual configured.

The following services are among others available:

- Visualizations
- Networking with other controllers and host computer via bus systems
- Operating data logging
- Remote maintenance
- Temperature measuring
- CAD connection
- Sensor technology for contour identification

In addition to the standard monitoring functions of the Oest dosing systems, such as pump monitoring, pressure monitoring of the dosing lines, level monitoring of the holding tanks, are the following additional devices available:

- Flow meter
- Camera monitoring
- Picture evaluation
- Sensor monitoring

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**Operator panel with visualisation**

**Application monitoring with black light sensors**

**Software-assisted evaluation camera**
Mechanisations
Portals, axes & Co

Our range of services includes also further mechanizations around our adhesive application heads.

These include for example:

- Adjustment and mounting mechanics
- Static or moveable gluing portals
- Gluing tables
- Feeding devices
- Linear axes
Accessories
Everything from a single source

Oest offers customized solutions for almost every customer request.

Our glue dosing and application systems are individual expandable through various accessories. These include:

- Supply systems for the flexible placement of the material container
- Filter systems
- Cooling units
- Adhesive heating systems
- Temperature measuring
- Heating cabinets
- Water spray units
- Collecting tray for drums and IBC container
- Auxiliary materials for adhesive handling

Material supply system
Filter system
Adhesive climatisation
Innovative technologies for dosing and application of adhesive systems.