

**FAT, Förder- und Anlagentechnik GmbH**

**„Solid mould” instead of “fast loop”  
Using mechanised moulding plants for cold resin moulding**

Casting pieces are used in more and more areas of machine construction. This is, however, also linked with higher production numbers, with more and more complicated geometries, as well as with increasing quality requirements. Apart from manufacturing ever increasing numbers of casting pieces with increasingly demanding geometries, casting plants frequently have to significantly improve the casting quality at the same time.

This is also done in order to decrease efforts for finishing in the cleaning shops.

Thanks to optimised production methods and process cycles, to the integration of existing resources and capacities, as well as to using first class auxiliary materials, productivity and casting quality can significantly be improved.

The task in most cases includes an entire moulding plant including mixer (figure 1), reclamation and dedusting plant (figure 1).

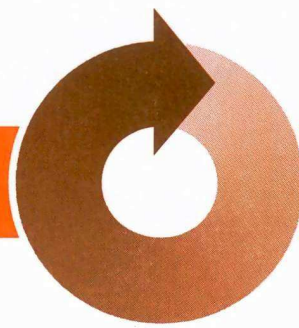


figure 1: mechanical reclamation with a filter plant

Different concepts including flask systems or flaskless systems, as well as different binding agents have to be discussed in order to solve this task.

Selecting the most suitable binding agent is also essential.

Criteria for selecting the most suitable binding agent system are determined by the specific casting process and by the necessity of producing good, and most of all, continuously good reclaimed material features.



For the most part, furan resins are used as binding agents in moulding shops of iron and aluminium foundries.

For steel casting and high-alloy special steels, the A-stage resin (resol) method, or better known as the alpha-set moulding method, has proven its worth.

FAT GmbH from Niederrischbach had great success with delivery of alpha-set moulding plants to steel foundries e.g. in the Ruhr district or steel foundry close to Leipzig (figure 2). Application of the alpha-set method is, however, less popular in Germany.

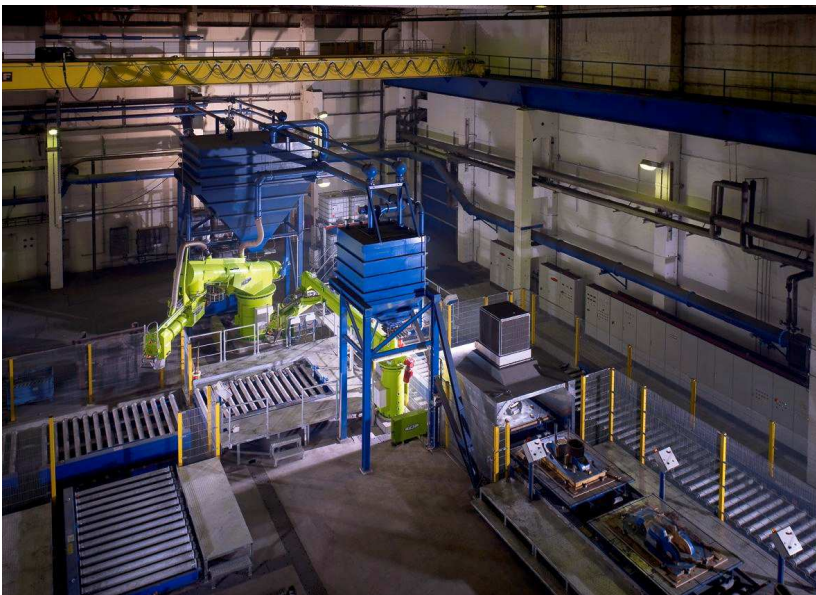


figure 2: mixing station with two vibration tables

FAT has developed and built machines for the foundry industry since 1973. The company is able to support all kind of equipment for the moulding shop of cold resin bounded sand.

FAT commissioned in 2011 for example following machines/plants:

- In march a chromite separation plant to a german steel foundry
- In april a mechanical reclamation plant in Portugal
- In may a mixer, moulding line and a mechanical reclamation plant to a russian steel foundry
- In may 2 mixer and a mechanical reclamation plant
- In may 4 mobile mixer, 4 chromite separation plants and 2 mechanical reclamation plants to a chinese steel foundry
- In june a thermal reclamation plant to a mexican aluminium foundry

## **FAT**

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