

Elematic, 37801 Akaa, Finland

Outstanding Productivity with Lightweight Shuttering System

Over the years, Elematic, a world-leading manufacturer of precast concrete plants and production lines, has put a special focus on the development of practical shuttering systems for precast concrete production. As a result, a product family now known as Elematic FaMe was created. The FaMe family consists of a number of patented solutions, with jaw-type magnets of various types, lightweight aluminum side profiles and a design software tool forming the core of the unique system. New innovations based on customer feedback are constantly introduced to the FaMe family.

As all precasters know, a modern precast concrete factory cannot function efficiently without an advanced shuttering system. It is essential not only from the point of view of a safe and fast process but also from the point of view of capability to supply products according to customer needs.

- "We have developed this system for more than 20 years based on customer feedback. It is thus easy to be proud of the result. The FaMe system allows fast and efficient preparation of molds as well as their shifting into different dimensions. It can actually save nearly 70% of the total shuttering time", describes Tero Mäki, Sales Engineer at Elematic. "A lot of this has to do with light, durable materials and simple structure of the system."

Elematic uses aluminum in their side profile solution so they weigh only about 3 to 6 kilos per meter. Thus the side profiles in the Elematic system are easy to handle and carry without any crane or other special arrangements, and time is saved.

Together with aluminum side profiles, the push-button magnets make a very fast and accurate accouplement that guarantees dimensional accuracy and rectangularity of the end products. "Quality is definitely one

of the key benefits of the FaMe system. When you do not need to weld nor bolt anything, the bed will stay in shape and the surface will remain smooth, meaning that the end product will also be even and smooth, and of correct dimensions."

Elematic FaMe push-button magnets consist of the magnet itself, a releasing tool and a storage system. They feature a patented jaw-type connection mechanism that fits to all mold systems, and any steel table and bed surface. "The push-button magnets are universal; they fit to any possible system and with an adapter, to any existing side profiles that the factory may have. But that is basically the only thing that fits anywhere - in general there are no universal solutions in the FaMe world but each and every factory has their own culture, their own ways of working. This is why Elematic specialists always visit the factory sites before giving their recommendations for the shuttering system and it is also the reason why we have had such a good opportunity to develop this product line together with precasters from all over the world. Since 1995, when the first parts of the system were launched, deliveries have taken place to more than 50 countries, and nowadays we have trained FaMe specialists in most market areas. Thus we can provide professional

local support in local language", Mäki states.

A good example of an innovation that was introduced because of the global scale of the deliveries is the FaMe Hot magnet series that can withstand high temperatures - even 70-80 degrees of Celsius - without losing its grip strength. "We developed FaMe Hot for the needs of the factories located in the world's hottest places and also for production methods where curing is speeded up by using high temperatures in curing chambers."

In addition to high quality and ease of use, the FaMe method is a cost-efficient solution in the long run. "Even if the initial investment is higher than with the traditional method, the aluminum side profiles quickly pay for themselves. The lifetime of such a system will be around 10 years whereas, if you use wood for example, you need to replace the profiles often and a lot of expensive material will also go directly to waste", Tero Mäki says.

The FaMe product line does not include only traditional hardware products but also a unique software solution - a tool for creating shuttering plans - the Fame Designer. Even if the benefits are obvious, there is no other similar tool available on the market. "We developed the FameDesigner with the user in mind. It is a simple-to-use tool: precast product measures just need to be fed in and the tool provides a shuttering plan with side forms and a recommendation for the number of magnets for each table", describes Jarkko Salmensivu, Automation and Software Product Manager at Elematic. "The number of magnets and the distance between them depends on many factors, among them wall panel thickness, table vibration, table cleanliness, ambient temperature, table steel plate thickness, strength of the chosen magnet type, side profile material and so on."



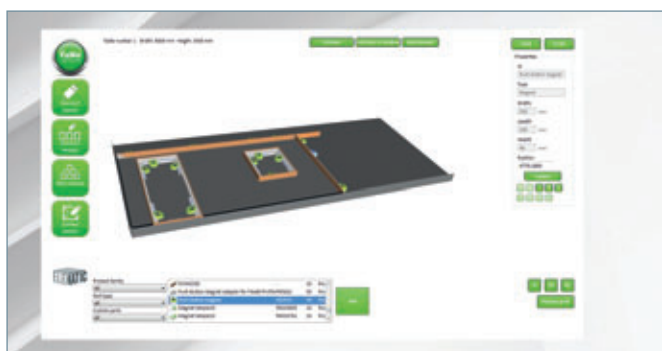
New addition to Elematic FaMe product family, the Flex-Pro side form for wall elements, sandwich panels and beams/columns up to 500 mm in side form height. With the Flex-Pro, the element is always straight with 90 degree corners. Flex-Pro is light in weight, 7 kg/m.



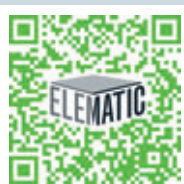
Elematic FaMe LITE system for window and door molds on tilting tables, carousel line and battery molds. New cast aluminum corner piece guarantees straightness and 90 degree corners of window and door molds. Light in weight – a window mold for H = 150 mm wall panel thickness and size 1 x 1m weighs less than 30 kg.

The shuttering plan can be printed for factory furnishing, or saved to a library for re-use. The Designer tool also helps maintaining the FaMe parts storage. If any parts are missing, it is easy to order replacements and ensure that production continues smoothly. "We have included a possibility for tailoring FaMe part combinations and for shortening available side profiles, and these versions can also be used as part of a shuttering plans", Salmensivu explains. "FaMe Designer is a practical tool that saves a lot of time in the precast concrete factory".

Elematic FaMe fastening method is usable in both battery molds and tables with steel surface. ■



Elematic FaMe Designer software tool for creating shuttering plans.



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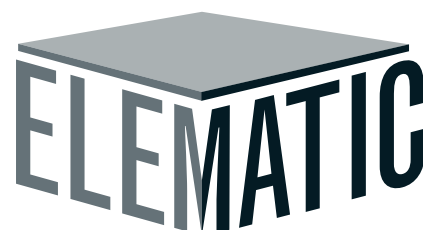
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