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**PRECAST WALL PRODUCTION**  
SEMI - PRO - EDGE

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# OUR PROMISE. PROFITABLE PRECAST.

Elematic is a world leader in precast wall production technologies with 230 currently valid patents and largest annual R&D investment in the industry. That's why we can offer you large, smoothly-running factories or efficient solutions for small-scale production, whichever suits best to your needs, and safe and user-friendly machines and technologies that generate true added value for your wall manufacturing.

Our production technology covers precast walls from sandwich and solid walls to filigran slabs, double walls and special products such as balcony and socle slabs.

To help you choose the equipment you need, we have created three production line packages: *SEMI*, *PRO* and *EDGE*. They offer different levels of production capacity, automation features and choices of end-product range and vary in the number of required operators. All these can be tailored to best meet your needs.

In our opinion, profitable precast is based on three cornerstones, and this is what we deliver every time.

### Lowest operational costs

Elematic production lines are optimized to supply the lowest operational costs in the precast business. The individual machines are designed to be raw-material efficient, fast, easy-to-use and durable, and to work

together in perfect concert. When you begin building your factory, our project office and installation services guarantee that your production will start as scheduled.

### Best end products

We want you to be proud of the products you supply to your customers. This is why our tables are made of sturdy steel with high load-bearing capacities, completely even surfaces and exact measurements – this is directly seen in the quality of the panel and in the need for finishing work on-site. We have also developed a practical, lightweight shuttering system called FaMe, which makes it quick and easy to create precise shutterings.

### Lifetime commitment

We stand by you at every step of your precast business and help you to find the smartest match to your needs from the initial definition of precast investment to precast production renewal. Our experienced experts guide you from building, investment and production planning to factory, line and machinery maintenance, optimization and renewal. We have skilled specialists at our technical support unit ready to help you with any challenges you may have. High-quality spare and wear parts, retrofit kits and upgrades are also available to improve your production process.

# WHAT IS PRECAST?

### A smart and safe way to build consistent high quality

Precast is a smart, industrialized way to build high-quality buildings of any type safely and affordably. Factory-made precast ensures fast construction times, high profitability and consistently high quality.

### Great freedom and flexibility

Precast is suitable for all types of building, whether residential, industrial or public. It can be used in seismic areas and is particularly well suited to areas where hurricanes are common. Precast can be used as the only building material or it can be utilized as a composite structure only. With pre-stressed slabs, the span in residential buildings can be 6 to 12 meters and only exterior walls need to be load-bearing. This gives great architectural freedom and allows the use of large, open, connected spaces, or whatever is best for the building's end-users.

### Beautiful and sustainable

Selected raw materials are used for precast as part of a carefully designed production process. It is also an energy-saving and raw-material-efficient building method. Compared to cast-in-situ, precast uses less of everything – less cement, less water and less steel – and produces less waste on-site and in the factory.

Precast also incorporates good insulation and thermal properties and has lower lifetime costs than any other building solution. Nevertheless, requirements for beautiful buildings and pleasant, modern neighborhoods are not compromised. Facades can be made in almost any size, shape, form, and finish. If the façade needs to include a reproduction of a famous artwork, it can. If a brick wall finish is preferred, this is also possible.



## END PRODUCTS

1. Sandwich panels
  2. Solid slabs
  3. Half slabs
  4. Solid walls
  5. Cladding panels
- + Filigran slabs / double walls  
+ Special slabs such as balcony and socle slabs



## BENEFITS AT A GLANCE

### Low operation costs

Compaction and tilting take place with one machine, a practical multifunction wagon. Fast and accurate casting gives an excellent casting result without wasting concrete.

### Best end products

High-quality tables with sturdy steel construction and completely even surfaces supply excellent panel quality. As panel surfaces are straight, only very little finishing work is needed.

## IN FIGURES

Theoretical capacity: ..... 280-600 m<sup>2</sup> / day  
(one casting)

Personnel: ..... 10

Production area: ..... 2000 m<sup>2</sup>

Land area: ..... 20000 m<sup>2</sup>

No. of tables: ..... 10-15

Typical table size: ..... 3.5 x 8.0 m

All figures are estimates

# SEMI

SEMI Wall is a smart choice if you are looking for a precast production solution in the annual capacity range of **70,000–150,000 m<sup>2</sup>**; you will only need a few predefined products; or you only need to cover a certain project and therefore need a production line that does not require a high initial investment.

SEMI Wall features straightforward and easy-to-learn basic technology and, as with all Elematic production lines, it is designed to supply the lowest possible operational costs and the best end products. The line can be, and almost always is, custom-made to suit the particular needs of your specific factory.

## KEY EQUIPMENT ON THE LINE:

### Table S5

Flexible and accurate production with a unique, long-lasting steel surface. The rigid steel structure manufactured to tight tolerances provides excellent panel surfaces.

### Multifunction Wagon S5

High-power compaction and safe tilting with one machine. Excellent compaction result for totally even precast product surfaces.

### Comskip S5

Fast and accurate casting. Machine is battery-powered – no additional power supply is needed.

### FaMe

Flexible and fast preparation of forms and openings with lightweight aluminum profiles and magnets. Easy to handle and adjust. Long lifetime. Saves costs and improves product quality.



## PROCESS

- 1 Batching and mixing
- 2 Shuttering with FaMe
- 3 Casting with Comskip
- 4 Compaction with multifunction wagon
- 5 Curing
- 6 Demolding and tilting
- 7 Table cleaning and oiling
- 8 Wall panel finishing and storing



# PRO

If you need to produce different types and large volumes of precast products in the annual range of **170,000–300,000 m<sup>2</sup>** the PRO production line and equipment are an ideal choice. All the PRO key functions are automated and it is designed to supply the lowest possible operational costs and the best end products. The line can be, and almost always is, custom-made to fit the particular needs of your specific factory.

The PRO Wall line consists of a circulation line and optional battery molds and tilting tables.

## KEY EQUIPMENT ON THE LINE:

### Table P7

Rigid steel structure manufactured to tight tolerances that keeps the panels straight and even. The etched table surface supplies excellent panel surfaces.

### FaMe

Flexible and fast preparation of forms and openings with lightweight aluminum profiles and magnets. Easy to handle and adjust. Long lifetime. Saves costs and improves product quality.

### Shuttle E9

Fast, automatic concrete transportation increases production capacity and allows concrete to be transported on time, even to remote discharge points.

### Comcaster E9

Fast and accurate casting with proven technology. Suitable for different kinds of concrete mix, including SCC.

### Plotter E9

Automated operation, fast and accurate marking of shuttering positions.

### Battery molds

For vertical casting of solid walls. Takes up very little floor space and delivers high productivity. Available as an option.

### EliPLAN P7

Unique enterprise resource planning solution for managing wall production. Features available capacity by date, easy planning and replanning of production, production status, storage management, truck loads planning and much more. Supplies excellent factory cost efficiency.



## BENEFITS AT A GLANCE

### Lowest operational costs

Smooth table circulation between the different process steps keeps productivity up and operational costs down. Efficient, time-saving shuttering process with FaMe system, offering savings of up to 70 percent. Low concrete consumption thanks to accurate dosing. Efficient use of space due to curing in stacks.

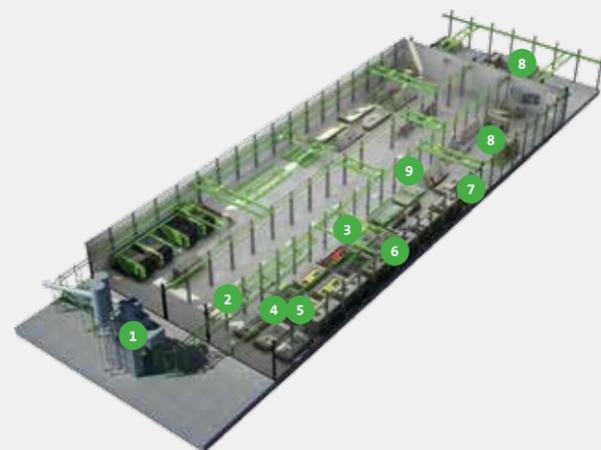
### Best end products

The tables are sturdy steel constructions with high load-bearing capacities (> 600 kg/m<sup>2</sup>). The exceedingly smooth steel surface of the tables creates wall products which require minimal finishing work.



## PROCESS

- 1 Batching and mixing
- 2 Concrete transportation
- 3 Shuttering with FaMe
- 4 Casting with Comcaster
- 5 Compaction
- 6 Curing
- 7 Demolding and tilting
- 8 Wall panel finishing and storing
- 9 Table cleaning and oiling
- + ELiPLAN P7 precast production management



## IN FIGURES

Theoretical capacity:..... 680–1200 m<sup>2</sup> / day  
(one casting)  
 Personnel:..... 12–20  
 Production area:..... 2800 m<sup>2</sup>  
 Land area: ..... 45000 m<sup>2</sup>  
 No. of tables: ..... 20–30  
 Typical table size: ..... 3.8 x 9.0 m  
 All figures are estimates



# EDGE

Are you looking for very high capacity – in the annual capacity range of **400,000–750,000 m<sup>2</sup>** – a wide product range and highly automated precast production? The EDGE Wall production line and equipment are just the answer to your needs. The EDGE production line consists of a circulating wall line and, as options, battery molds and tilting tables.

The tables move automatically between the production steps for high productivity. Logistics is cleverly solved with a central transfer wagon that ensures smooth traffic. Productivity is further improved by fully-automated concrete transportation and an automatic shuttering station.

## KEY EQUIPMENT ON THE LINE:

**Table E9.** Flexible, accurate production with a unique, etched, long-lasting steel surface. The rigid steel structure manufactured to tight tolerances provides excellent end-product surfaces.

**Shuttering robot.** Cost-efficient, multifunctional shuttering with accurate end-product dimensions.

Speeds up shuttering and reduces the number of rejected wall slabs. Also covers demolding, plotting and oiling.

**FaMe.** Flexible and fast preparation of forms and openings with lightweight aluminum profiles and magnets.

**Shuttle E9.** Fast, automatic concrete transportation increases production capacity and allows concrete to be transported on time, even to remote discharge points.

**Comcaster E9.** Fast and accurate casting with proven casting technology. Suitable for different kinds of concrete mix, including SCC.

**Transfer wagon E9.** Specifically designed to enable a flexible, automated multi-product production flow.

**Curing and lift E9.** Automatic curing and humidity control with high speed lifts. Saves space and energy, and gives optimal curing results.

**ELIPLAN E9.** Unique enterprise resource planning software provides complete support for the operative planning of the precast production

## BENEFITS AT A GLANCE

### High factory capacity

State-of-the-art automation technologies and optimized factory plan increases your factory capacity to a whole new level.

### High quality

Carefully designed, automated process guarantees the best possible precast product quality.

### Low operating costs

Tailor-made solution to meet your individual production requirements and guarantee the lowest possible operating costs.

## IN FIGURES

Theoretical capacity: ..... 1600–3024 m<sup>2</sup> / day  
(one casting)

Personnel: ..... 30–35

Production area: ..... 9000 m<sup>2</sup>

Land area: ..... 70000 m<sup>2</sup>

No. of tables: ..... 40–60

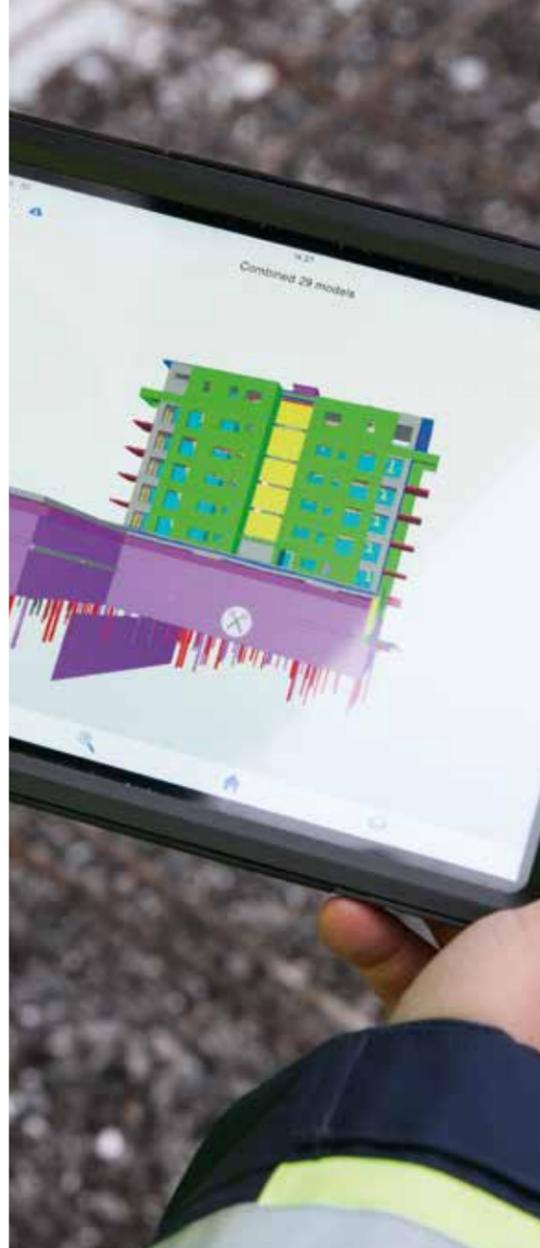
Typical table size: ..... 4.0 x 10 m

All figures are estimates

## PROCESS

- 1 Batching and mixing
- 2 Concrete transportation
- 3 Shuttering with robot and FaMe
- 4 Casting with Comcaster
- 5 Compaction
- 6 Curing
- 7 Demolding and tilting
- 8 Table cleaning and oiling
- 9 Wall panel finishing and storing
- + ELIPLAN E9 precast production management





## PRODUCTION OPTIMIZATION

The fully-automated Elematic EDGE wall line optimizes the entire precast wall production process, from building design all the way to the construction site. The line features advanced software, modern table circulation and state-of-the-art production machinery. Automated functions cover planning, monitoring and controlling the production process.

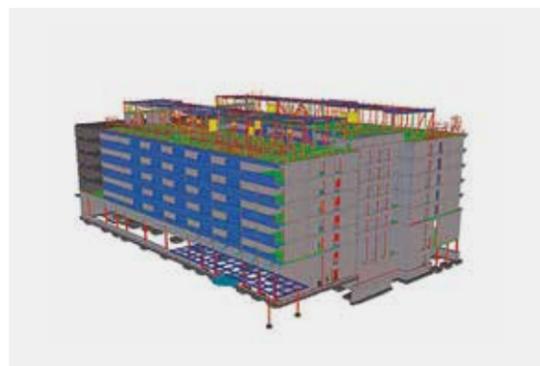
Production optimization and material management are straightforward – materials are directly synchronized with product design information and the manufacturing execution system shows the number of products in process at all times. Line operations are monitored and controlled from one central location, with real-time production data continuously available for any possible process adjustment needs. The system also shows the location of the finished products so no time is wasted on needless tracking.



## ELIPLAN

ELIPLAN is an enterprise resource planning solution specifically designed for precast factories. ELIPLAN enables you to optimize the use of factory resources and minimize waste, which can significantly reduce the operating costs of the factory.

ELIPLAN provides complete support for planning precast production, from one production line to multiple factories and product types. The solution includes support for sales, material management, production, warehouse management, transportation and machinery maintenance.



## WORKING TOGETHER FOR CONCRETE RESULTS

We offer a wide range of services that help to support your precast operation and to provide you with concrete results. Your precast operation is in the best possible hands.

### Care

We offer continuing expert care to ensure higher uptime. A comprehensive range of services and technical support are available to you throughout the lifetime of your precast plant: from commissioning and maintenance to upgrades and modernization. Our experienced service experts can help you to resolve any issues you may have using proven industry best practices. Fast support is provided throughout the day by our Helpdesk services in four locations: Finland, the USA, the UAE, and India.

The Elematic E-shop is open 24/7, enabling you to order high-quality spare and wear parts at your convenience. The OEM parts are guaranteed to fit your equipment and provide you with the lowest long-term operational costs.

### Grow

Together with Elematic's consultation services, your operation can reach new heights of profitability. We can help you to detect bottlenecks, optimize production, and find the most cost-effective recipes to improve your efficiency and ensure a higher return on your investment.

### Create

Our design services work closely with you to help you implement the most successful precast solutions. We are here to help you every step of the way, providing precast expertise for your project from the initial stages of concept design through to structural engineering for precast buildings.



# PRECAST WALLS

## SEMI - PRO - EDGE FOR WALL PRODUCTION

Elematic provides precast concrete technology, production lines, equipment and related services that help customers succeed. We are the global technology and market leader in precast concrete technology for residential and non-residential buildings.

Our precast production technology is highly respected worldwide for its high quality, excellent productivity and efficiency, and advanced solutions. We believe in continuous improvement of our operations and offering to develop our customers' business in a smart way. That's why we are trusted by 40% of the world's precasters.

[www.elematic.com](http://www.elematic.com)



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