

Tecnocom, 33100 Udine, Italy

2-in-1: Highly flexible mould system goes into production

The Swiss Müller-Steinag Group is investing in the further development of its Schachen plant: The goal is to fulfil not only the role of a supplier with the plant established in 1981, but also that of a partner with holistic building concepts. For this purpose the company expanded its own engineering department and the machine pool was extended and diversified. Together with Tecnocom, a Progress Group company, a highly flexible mould system for the manufacture of TT slabs and rod-shaped precast concrete elements was developed and installed. Production started in November 2016.

Large structural elements for precast concrete construction have been produced at the Müller-Steinag Element AG plant in Schachen near Lucerne for over 35 years. Founded in 1981 as Cavag AG, the company concentrated in the first decades on the production and assembly of silos for agriculture as well as elements for building construction. Since the turn of the millennium and the takeover by the Müller-Steinag Group in 2011, the building construction segment has grown increasingly in importance and the production and turnover of structural precast concrete elements have increased steadily.

Today the Schachen plant specialises in the planning and production of prestressed structural precast concrete elements and, with its many years of experience in industrial and commercial construction, is an important part of the Müller-Steinag Element AG sales company. The latter unites all of the group's plants that are involved in the manufacture of precast concrete elements. Its portfolio extends from large engineering elements for support structures, prestressed elements and highly load-bearing columns through to noise barrier elements and multi-storey car park systems.

Schachen plant: from the supplier to the partner role



Thomas Wyss,
Managing Director
of the Schachen plant

"Each of the group's plants has a core alignment", explains Thomas Wyss, managing director of the Schachen plant. As far as the Schachen plant is concerned, he says, its alignment has undergone a change in the last ten years. "We want to get away from the role of the supplier and our goal is to develop into a partner for our customers that can offer its own concepts."

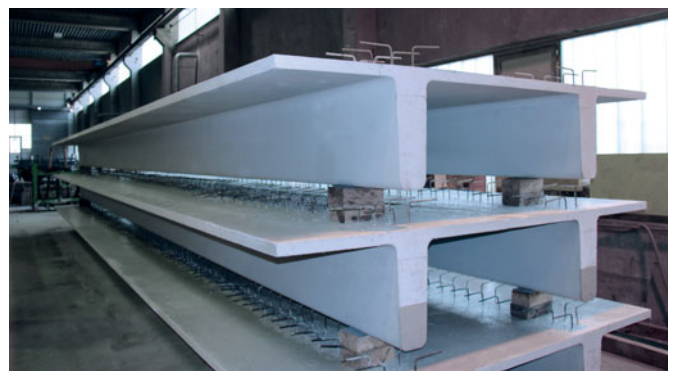
For this purpose the company expanded its own engineering department and began to extend and diversify the machine pool. Wyss says: "That enables us to no longer act just as a simple supplier of structural elements, but to develop holistic building concepts together with our clients."

Highly flexible mould system for the manufacture of TT slabs and rod-shaped precast concrete elements

An important milestone along this route was the investment in a mould system with which TT slabs and rod-shaped structural precast concrete elements can be manufactured according to customer wishes. The choice of technology partner fell on Tecnocom, a Progress Group company specialising in special mould systems.



Tecnocom developed a flexible mould system with two different types of moulds for the Schachen plant: with the first, a 46 metre-long mould for the manufacture of TT slabs, the corresponding precast concrete elements are currently being produced.



The 10.5 metre-long and 2.5 metre-wide TT slabs are being used for the construction of the new SRF technical centre near Zurich. Over 250 of them will be produced up until the early summer of 2017.

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If the TT mould is no longer required, it can be dismantled from the base frame and replaced by a second mould for the manufacture of rod-shaped precast concrete elements.

"Tecnocom convinced us with their technical solutions", says Thomas Wyss.

The installed mould system consists of a base frame on which two different kinds of moulds can be mounted. Thanks to this flexible alignment, the production can be switched following the manufacture of TT slabs in the first project phase to the manufacture of girders and columns in the second phase. An already existing prestressing plant was integrated into the system.

Project-related manufacture of TT slabs

"Currently we are producing TT slabs with the first mould for a project in Leutschenbach near Zurich", says Wyss. The mould was developed and installed especially for this order. It has a length of 46 m and is equipped with a vibrator system. "The TT slabs that we are currently manufacturing have a length of 10.5 m and a width of 2.5 m", Wyss explains. "They are being used for the construction of the new SRF technical centre (SRF = Swiss Radio and TV - Ed.)." Over 250 such precast concrete elements are to be produced up until the early summer of 2017. After that the mould will be dismantled and replaced by a second mould for the manufacture of rod-shaped components.

Manufacture of rod-shaped precast concrete elements with heights of up to 2 m

This mould also has a length of 46 m and has vertical support frames to which the lateral shuttering elements are fastened. The support frames themselves consist of four modules on each side and can be moved with the aid of electric motors. The lateral shuttering elements are thus also separately controllable. The variable height of up to 2 m provides for additional flexibility. "The special feature of this mould is that it can be used to produce concrete elements that are both 2 m in height and very long", Managing Director Thomas Wyss continues. The girders and columns are manufactured both in untensioned and pretensioned versions.

Doubling of output through additional longitudinal shuttering element

Using an additional longitudinal shuttering element, the mould can be divided in the middle. "That allows us to produce two precast



The mould for the production of girders and columns has vertical support frames with a height of up to 2 m. These consist on each side of four modules and are separately controllable by means of electric motors.

concrete elements in parallel which is effectively the same as doubling the output", Wyss explains. Thanks to the electric motors, the lateral shuttering elements can be opened wide enough for that.

Highly flexible product, trusting cooperation

For the Müller-Steinag Group this high flexibility is one of the most important properties of the new mould system. Thomas Wyss is satisfied: "We are able to produce not only TT slabs with a variable cross-section, but also various rod-shaped components - for example columns with corbels." Wyss describes the cooperation with Tecnocom as very good throughout. "Apart from the technical know-how that convinced us, it was the strong group in the background that established great trust." ■

FURTHER INFORMATION



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