

Bianchi Casseforme s.r.l., 43045 Fornovo di Taro (PR), Italy

New production plant for precast elements in Poland

Bianchi Casseforme s.r.l in collaboration with the international design and consulting company Structurama provides all the equipment for the construction of a new precast plant.

JOKA Group Poland was founded in 1995 and has been engaged in the supply of building and finishing materials from its very beginning. Additional departments were created thanks to the dynamic development of the company. In 1998 the construction activity began, whose main specialization was industrial construction production facilities, warehouses and logistics centers for both domestic and foreign customers.

At the end of 2021 JOKA Sp. z.o.o decided to expand their construction business and start a new production plant for the construction of precast elements by setting up a new company called, Prefabbricati Sp. z.o.o.

The partnership between Structurama and Bianchi Casseforme, represented in the Polish market by the company Ciepiela Technology Promotion has allowed the realization of this project through a "turnkey" service able to design and start up a complete prefabrication plant characterized by great efficiency and flexibility.

This new factory is a self-build facility, whereby the complete new facility will be produced using the precast moulds and equipment supplied by Bianchi. The factory is called "Prefabbricati Sp. Z.o.o" and is under construction in Poland near Tomaszów. Poland. The Structurama team designed the layout of the plant and took care of the management of the construction phase, while Bianchi Casseforme provided all the equipment for the realization of all the full range of precast

elements. This will allow Prefabbricati Sp. z.o.o. to construct a full range of industrial, commercial, residential and infrastructural buildings with unlimited opportunities.

The Supply

Tilting table, with a surface of 24m x 3.8 m made out of 10mm steel and stiffened using other structural profiles. The structure rests on neoprene anti-vibration pads. The tilting mechanism is by telescopic hydraulic cylinders which allows, after the concrete has cured, an easy removal of the elements in a vertical position. The table was supplied with both the lower and lateral sides adjustable in height to allow the production of panels of different thickness's, ranging from 20 to 30 cm. An initial set of magnetic side formers were also supplied to produce maximum of 3 panels of 2.5/3 m wide and 20 cm height. The mould includes a vibration system and a curing plant, to facilitate the hardening of the panels. In addition, a synchronous alternative movement smoother 3000 mm long for smooth panels surface was also provided.

Hydraulic Column mould, made entirely in steel; 32 m long. The formwork allows the production of N°2 columns with rectangular or square section with variable base and height (Base 40/50/60/70/80 cm and Height 40/50/60/70/80 cm). The formwork is composed of a base frame positioned on anti-vibration supports, two modular sides designed for columns with a height of max 80 cm which open and close hydraulically, three base column widths of 40/50/60 cm equipped with a 15 x 15 mm steel chamfer were also supplied as part of the initial order. This column mould was supplied with modular corbel/shelf boxes with would allow corbels to positioned on all four faces of the column and at different levels. The mould is completed by a pneumatic vibrators system.



Tilting Table



Hydraulic Column Mould



Precast concrete Column

Universal Casting Bed: The base frame to produce pre-stressed beams with a length of 100 m and a useful width of 110 cm was made with a plate 8 mm thick and stiffened by metal profiles. The sides are placed over the base and locked by a special clamping device.

Strands anchoring structure: The anchoring structure is designed for a maximum prestressing load of 800 tons. The strand relaxation end, includes two vertical columns placed in a pit 1.80 m deep, spaced having an internal space of 110 cm; N°1 perforated beam, sliding during relaxation operations, complete with holes for 0.6" strands; N°2 relaxation cylinders with a loading capacity of 400 Ton and N°2 relaxation cylinders with a loading capacity of 100 Ton.



Universal casting bed

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Double slope mould

Sides for T/L/R Beams: A pair of sides length 21 m to produce concrete elements with "T/L/R" profile with linear section, height max. of 130 cm. The sides are made of 6 mm thick sheet metal, stiffened by a frame made up of structural profiles. The sides are equipped with 2 bolted vertical pads 250 x 800 mm and complete with upper spacer and lifting hooks. The sides are designed for use on a universal base, equipped with clamping devices, vibration system and a curing plant.

Sides for I-Beams: A pair of sides of length 12,5 m to produce I beams with a section width of 40 cm and height ranging from 60/80 cm. These moulds are made of sheet plate profile bent and stiffened by a frame composed of other folded sheet plates and structural steel profiles. The sides are modular to allow the production of elements of different sizes. Are designed for use on a universal base, equipped with clamping devices, vibration system and a curing plant.

Sides for I-Beams: A pair of sides of length 25 m to produce I beams with a section width of 50 cm and height ranging from 100/120/150 cm. These moulds are made of sheet plate profile bent and stiffened by a frame composed of other folded sheet plates and structural steel profiles. The sides are modular to allow the production of elements of different sizes. Are designed for use on a universal base, equipped with clamping devices, vibration system and a curing plant.

Sides for double slope beams (6%): Sides to produce double slope beams, variable in length from 19 to 35 m and in height from 88 to 193 cm. Are assembled out of sheet plate 6mm in contact thick, stiffened by a frame composed of other folded sheet plates and structural shapes. The sides are modular to allow the production of elements of different sizes and designed for use on a universal base. Are equipped with clamping devices, vibration system and a curing plant.

2m³ hydraulic bucket: For the transport and distribution of concrete with hydraulic opening and closing. The bucket is made of 5 mm thick steel plate and is complete with push-button remote control and a 3 m cable. A battery charger was also supplied.



Double slope beams

Bianchi Casseforme s.r.l also supplied all hydraulic equipment for pre-stressing and relaxation strands: this included one hydraulic pump unit for the operate of simple effect relaxation cylinders, one prestressing hydraulic pump unit capable of operating alternatively two separate strand pre-stressing jacks with support for jack movement and one 25-ton x 400 mm stroke individual strand pre-stressing jack. ■

FURTHER INFORMATION



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