

Nordimpianti System Srl, 66100 Chieti (CH), Italy

New Production Line in Ukraine for the "Kovalska" Group

Nordimpianti has strengthened its presence in Ukraine by supplying a new hollow core slab production line to the renowned company Industrial-Construction Group "Kovalska". The new line was installed at the LLC "Beton Komplex" site in the Ukrainian capital of Kiev, one of the many production plants in the "Kovalska" group. "Concrete by Kovalska" is a brand that encompasses various manufacturing facilities such as: "S. Kovalska Reinforced-Concrete Structures Plant", "Beton Service" Plant, LLC "AvtoBudkomplex-K", OJSC "BudIndustriya" (Chernigov) and "Beton Komplex" Plant – the latter starting in 2002.

The Kovalska Group itself was founded in 1956 with the name of Reinforced-Concrete Structures Plant no.1 but was renamed in 1996 in honor of Svetlana Kovalska, the company's outstanding leader who rose from the shop floor to become the plant's Director dedicating her life to the growth and constant development of this company. The group Kovalska is one of the most important production hubs of reinforced concrete panels with 70 % of residential and cultural projects in Kiev completed under the "Concrete by Kovalska" name.

The group has undergone various transformations up to the year 2002 which then heralded a new era for the company's development. The «S. Kovalska Reinforced-Concrete Products Plant» bought one of Kiev's largest manufacturers of precast reinforced concrete – OJSC «Reinforced-concrete products plant no. 5». It was renamed LLC «Beton Komplex». The company produced hollow core slabs using the old fixed formwork system. Since 2002 exceptional market growth quickly meant that Beton Komplex had to



Cutting of the ribbon during the inauguration of the new plant

look to further increase its production capacity. Not only was an increase in production required but the company also wanted to increase efficiency and produc-

tion quality to the levels of the other prefabricated products. The project to upgrade the production line started in 2007 at the BAUMA exhibition in



Aerial view of LLC "Beton Kompleks"



Signing of the contract. From the left is Mr. Gian Piero Gagliardi Managing Director of Nordimpianti and Mr. Vladimir Jurievich Surup Vice-President of Industrial-Construction Group „Kovalskaya”



ICC Russia 2012
stand no. 37
5 - 6 December
St. Petersburg



Hanoi, 4 - 7 December
stand no. A1-1506



Why Nordimpianti

We are one of the world's leading suppliers of machinery and complete production plant for the manufacture of pre-stressed concrete elements.

With NORDIMPIANTI's casting machines (Extruder and Slipformer systems) you can produce a wide range of pre-stressed concrete elements such as hollow core slabs for flooring and walls systems, vineyard posts, lintels, inverted T-beams, pre-stressed and solid slabs, U-Panels, and large 1m high hollow core slabs used for the most demanding construction applications.

The company gives you the benefits of 40 years of international **Concrete Experience** to develop Tailored solutions that help our customers maximize their own business.

Extruder and Slipformer technologies
THE BEST QUALITY CASTING MACHINES AVAILABLE



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**Concrete
Experience**



General view of the new hollow core production line



Site construction

Germany, where the company Beton Komplex invited various suppliers to tender for the project.

The project needed careful planning as the new line was to be installed within the existing building where in addition to the hollow core products Beton Komplex also produced beams, columns, concrete blocks and other elements.

To ensure product quality, the concrete mixing and concrete distribution systems were also to be upgraded.

The tender for the work to modernise the concrete mixing plant was won by the Italian company Simem which provided two new Xentrix 2500 model mixers, which fitted with special moisture detection probes keep the concrete quality consistent by controlling water/cement ratios, aggregate quality and supplementary chemical additives.

Concrete is delivered by an overhead rail-car of 2500 liters and a concrete distribu-

tor that follows the casting machine, supplying concrete to the casting machine every 4 minutes. The Extruder machine, laying a H220 panel travels at approximately 1.8 meters per minute. To cast one entire 112 meter bed takes the Extruder between 60 to 90 minutes.

After undertaking extensive research, involving travel to production sites in many countries and seeing at first hand different types of machines Beton Komplex decided to use the Extrusion technology offered by Nordimpianti for their upgraded production line.

One of the main reasons for this choice was that Beton Komplex has always regarded product quality as a distinctive element and this reasoning has, over the years led it to its current dominant market position.

In addition to the finished product quality the key elements underlying the choice of Beton Komplex were:

- Low maintenance costs of the extrusion casting machine;
- Low consumption of cement and the ability to use large sized aggregates;
- Technical assistance with local Russian speaking personnel;
- Product quality and durability;
- Availability of qualified and knowledgeable backup.

The new production line supplied by Nordimpianti is based around the EVO e120 Extruder together with different forming inserts for the production of 220-320-400 and 500 mm high elements.

The power for the machine is supplied from the bridge crane which was modified for this purpose.

For panel cutting Nordimpianti also supplied the saw, The 500AM model is very versatile and able to cut anywhere along the bed transversally and longitudinally and all angles in between. The production



Old production system using fixed formwork



Nordimpianti's new EVO e120 extruder in operation producing H320 mm panels



Nordimpianti's Multi-function bed cleaner

line consists of five 112m production beds. Each bed configured with a special Nordimpianti layout. The bed consists of a double track, one for the lower side edge of the panel and one for the wheels of the production machines. This arrangement allows the gaps between the two tracks to act as a channel for the water used in the cutting process and minimising the amount of water overspill on the floor between the production beds.

To prepare the bed for production Nordimpianti supplied one of its multi-function cleaning machines. This machine cleans the bed, then can apply detaching oil to the bed and after can pull the cables from one end of the bed to the other.

Also supplied were auxiliary items such as the reaction beams rated at 300t, balance lifts and cover sheets to cover the bed immediately after casting.

To be ready for May 2012 and for the start of the new production season the preparation work had to proceed without interruption

A further challenge was the strengthening of the existing structure, necessary for the new concrete distribution system which was vital to the start up of production being on time. Bed installation and the modernization of the concrete mixing plant were carried out and



The newly manufactured hollow core panel passing strength and quality tests with outstanding performance



Bridgecrane bucket for concrete supply to the extruder

coordinated by the Ukrainian company Eurobeton who worked on behalf of both Nordimpianti and Simem.

Installation of the five 112m beds, including the heating system took only 30 days to complete so that production was able to start without delay.

The outcome was to the satisfaction of all parties. This was due in part to the in-depth knowledge and experience that Eurobeton, Nordimpianti and Simem could bring to the table, enabling them to meet all the agreed deadlines.

The Kovalska group were pleased to inaugurate the plant on July 25, 2012 at an event attended by the Italian suppliers Nordimpianti and Simem.

The new production line is now in full swing with 5 production runs per day. The first products manufactured with height H 320 mm have been delivered and assembled at the logistic construction center in Brovati where Beton Komplex also provided other prefabricated products.

With the successful implementation of the new production line Beton Komplex is already planning new investment including the launch of new floor panel production lines at other production sites which will once again bear the hallmark of the "Made in Italy" logo.

FURTHER INFORMATION

nordimpianti Concrete Experience...

NORDIMPIANTI SYSTEM SRL
Via Erasmo Piaggio, 19/A
Zona Industriale Chieti Scalo
66100 Chieti (CH), Italy
T +39 0871 540222
F +39 0871 562408
info@nordimpianti.com
www.nordimpianti.com

КОВАЛЬСЬКА ПРОМИСЛОВО-БУДІВЕЛЬНА ГРУПА

LLC «S.KOVALSKA REINFORCED-CONCRETE STRUCTURES PLANT»
Srolyndustrii Str., 7
Kiev, 01013, Ukraine
Tel/Fax: +380 (044) 285-5424, 239-0770, 239-0760
office@kovalska.com.ua
www.beton.kovalska.com



SIMEM ITALIA
Viale dell'industria, 24
37046 Minerbe (VR), Italy
T +39 0442 640014
F +39 0442 640273
info@simem.com
www.simem.com



EUROBETON S.A.
Mr. Andrey Portugalski
Ordgonikidze Str, 6
84306, Kramatorsk, Donetsk region
UKRAINE
T +380626460699 / 61046
Mob.: +380503673088
info@eurobeton.info
www.eurobeton.info



Planetary mixer Xentrix 2500 –Output 1,5 m³ per cycle



Completely automatic Concrete supply flybuckets in operation