Nordimpianti Systems Srl, 66100 Chieti, Italy

Italian machinery installed at a new factory in the Netherlands for the production of hollow core slabs

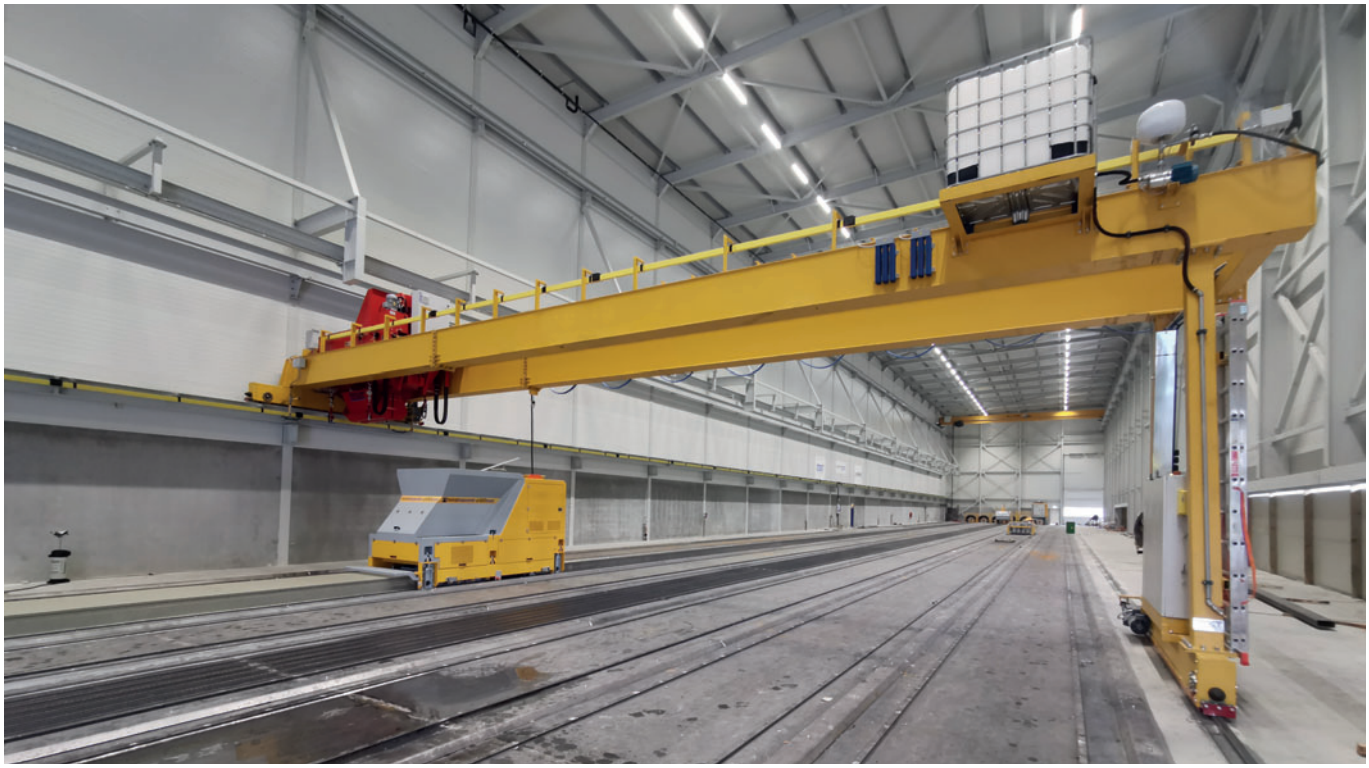
How will the country achieve a 95% reduction in greenhouse gas emissions by 2050? This is the question that the Netherlands has been asking itself with its need to implement a recent climate law. One industry at the forefront of this development will be the construction industry; and one company at the forefront of the construction industry will be Preco BV. The company opened up a new production plant in a designated Eco-factory zone. The factory is equipped with the most up to date technology for the production of concrete elements including prestressed concrete hollow core slabs.

A recent climate law in the Netherlands includes an ambitious emissions reduction target until the year 2050 coupled with the need to annually verify the results. Energy sources by that date will have to be renewable, reducing the dependence on fossil fuels such as coal and oil and focusing on solar and wind power. One proposal will see the tax on natural gas increased by 75%. This would discourage its use and push industry to adopt greener solutions. One industry at the forefront of this process will be construction and one company at the forefront of construction in the Netherlands is the Dutch company Preco BV.

Hollow core slabs with insulation

Preco BV was a development within the Cervix group where the founder Sender Van Den Bosch started producing the first concrete elements aimed at the agricultural sector in 2004. From the start the company expanded strongly and in 2012 a new office was opened in the city of Ede.

Further expansion has made Preco turn its attention to reducing the carbon footprint of how it works as well as aiming to produce products that themselves reduce emissions. In April Preco opened a new headquarters and factory in the city of



Internal view of the Preco B.V. factory showing the production beds.

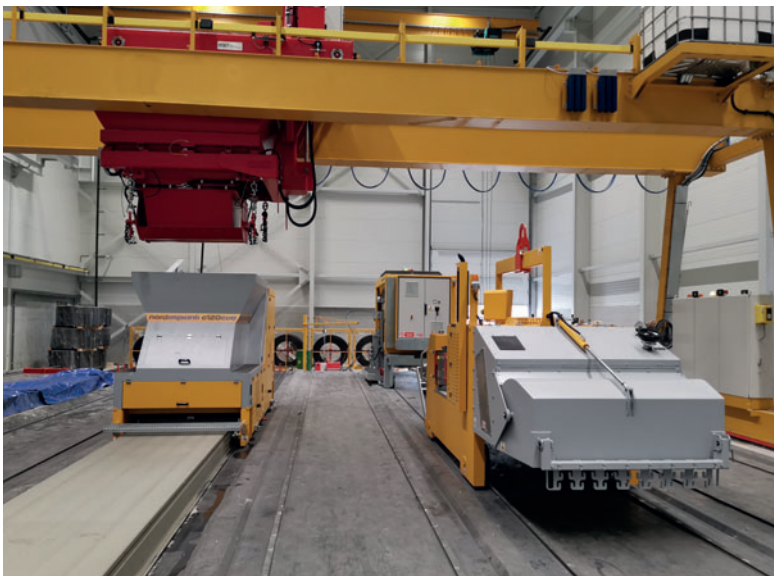
Apeldoorn, in a designated Eco-factory zone. In keeping with the general drive for environmental solutions this area makes full use of the vast roof spaces of the industrial units to generate power from solar panels.

The new factory is equipped with the most up to date technology for the production of concrete elements including prestressed concrete hollow core slabs. One of the new products produced at the site is a hollow core slab manufactured on top of a thick layer of polystyrene and marketed as a single product. This is all part of the Dutch company's objective to produce products used for the construction of residential buildings that increase the thermal insulation capacity and thus decrease the global thermal transmittance and the heat dispersion through the floor. These particular hollow core slabs are widely used in the Netherlands, where they are used for the construction of floors. This is but one technological advance that will help meet the government's desire to adopt increasingly energy-efficient housing solutions.

Innovative system for drainage holes

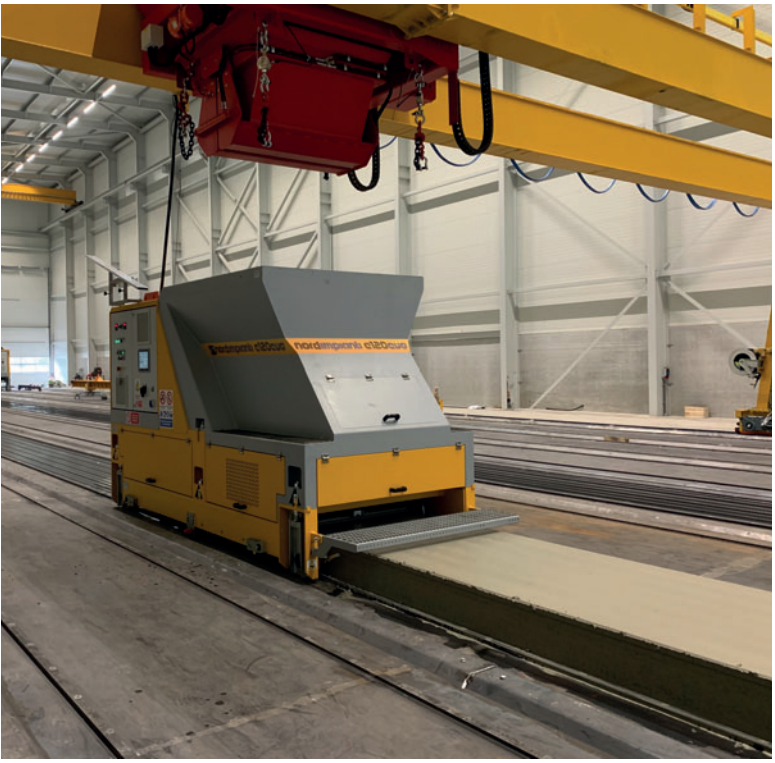
The development of this thermal insulating product was a direct result of a collaboration between Preco BV and the Italian equipment manufacturer Nordimpianti, which resulted in yet another evolution to Nordimpianti's already successful extruder.

The two companies first met in 2018 at the Intermat fair in Paris and the discussions culminated with a visit to Nordimpianti's headquarters where it was possible for Preco to get a close up view of the machines and equipment supplied by the Italian company. The meeting was decisive for Preco in recognising the advantages of the solutions offered by Nordimpianti, so much so that the supply contract for the new factory was signed immediately.



General view of the machies and equipment at the Preco factory, the Netherlands.

As well as the extruder casting machine Nordimpianti also supplied the new plant with a multi-function bed cleaner, an angle saw and a plotter for marking and labelling information directly onto the slabs.



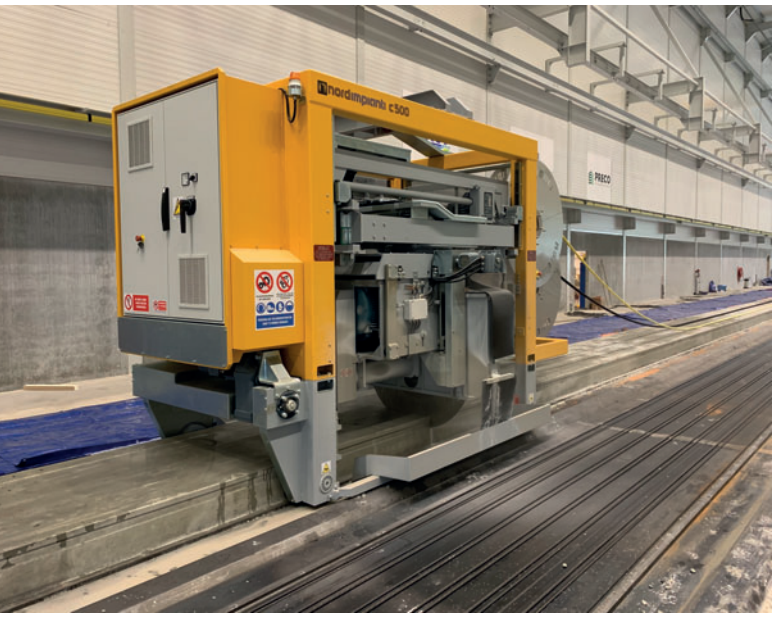
Nordimpianti's extruder in the casting phase.

The automatic plotter supplied by Nordimpianti is also worthy of special note. It is a dual purpose machine. Not only does it have the normal marking functions of a plotter but also includes an innovative and efficient system for making drainage holes in the freshly cast concrete. The plotter is a fully automatic machine. All the plotter work parameters are imported via WiFi from the Preco management software and thus affording great time savings and minimizing human error during production.

Cutting water recycling system

The Preco plant is equipped with seven 100m production beds fitted with 300 T reaction beams and a detensioning system. The supply of the concrete to the production machine is completely automatic and includes a fly bucket and a bridge crane equipped with a hydraulic bucket and telescopic arms to be able to lift the Extruder machine from bed to bed.

The Netherlands places particular emphasis on production processes and how these affect the surrounding environment. The Preco plant is fully engaged with this perspective. Another example of this is the plant's cutting water recycling system. This system recycles the water used by Nordimpianti's cutting saw via a settling tank and a filtering system located at the end of the production bed.



Nordimpianti's C500 angle saw in operation.

The plant's main production consists of traditional hollow core slabs in heights of 200, 265, 320 and 400mm. With the addition to the range of the new slab with the integrated polystyrene thermal insulation Preco, working with Nordimpianti, now has a product that is helping to lower emissions.

Indeed one of the aspects that influenced Preco to choose Nordimpianti as a machinery supplier for the new factory was the flexibility that Nordimpianti demonstrated in being able to modify and adapt its standard extruder machine to not only produce traditional slabs but also to cast a concrete element directly onto insulating material of variable thicknesses. This allows Preco to offer to the market the best products possible to help fulfil environmental targets.

Preco company is already thinking of expanding its range of hollow core slabs with the addition of elements up to 500mm high, the maximum thickness of extruded floor that can be employed under current regulations. With this collaboration Nordimpianti has further strengthened its already substantial presence in the Netherlands and is pleased to play even a very small part in meeting the present and future requirements of what the Dutch call "Klimaatwet", the most radical climate law ever.

FURTHER INFORMATION

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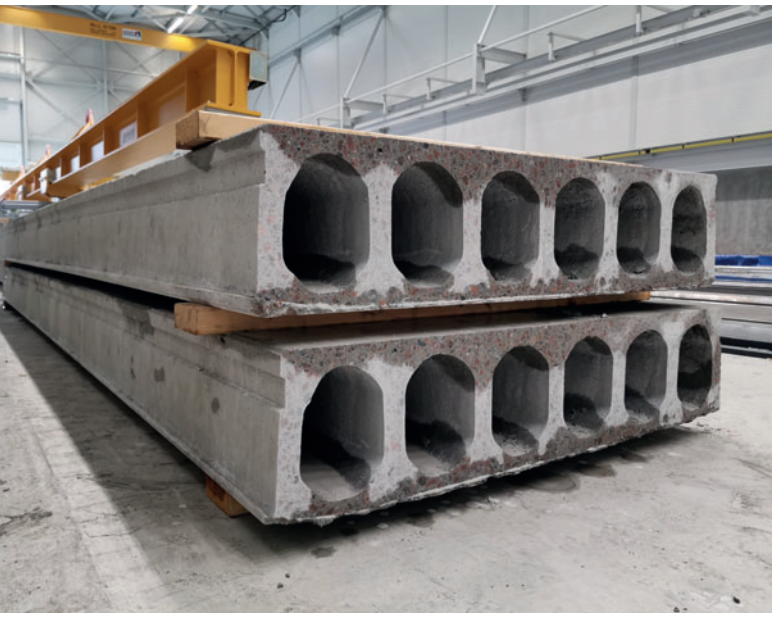
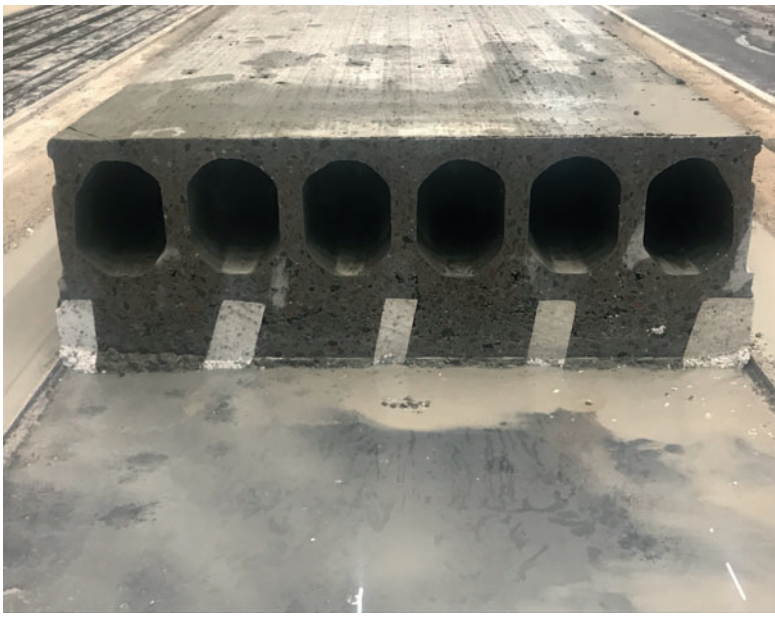


Hollow core slabs ready for delivery.



Recently cut hollow core slab with polystyrene insulation.