

Topwerk Prinzing-Pfeiffer GmbH, 89143 Blaubeuren, Germany

## Tubobel in Belgium modernises its production with a new radial press

The Belgian company Tubobel NV has equipped its plant in Tessenderlo for the future and completed a further modernisation step with a new radial press. The choice fell on a radial press type RP 1630 from Prinzing-Pfeiffer GmbH of Blaubeuren, Germany, a Topwerk Group company. In doing so, Tubobel has invested twice in machines from the Topwerk Group within a short space of time. A concrete block making machine type RH 2000 from the Hess Group, which similarly belongs to the Topwerk Group, has very recently gone into operation at another location where concrete products for garden and landscape construction are mainly produced. The decision to invest in the new RP 1630 radial press from Prinzing-Pfeiffer was preceded by an analysis of the pipe making machines currently available on the market. Ultimately, the radial press from Prinzing-Pfeiffer convinced in several points and the choice was made. The managing director of Tubobel, Mr Luc Lemmens, was supported by Mr Roel van Osnabrugge from the company rosseco bvba of Roeselare, Belgium as project partner. Rosseco is Prinzing-Pfeiffer's representative in the Benelux countries.

■ Mark Küppers, CPI worldwide, Germany ■

The company Tubobel NV, from Tessenderlo, Belgium, which specialises in the manufacture of precast concrete elements for underground construction, has developed into one of the most important suppliers in this sector in Belgium over the years. Tubobel produces a comprehensive range of products with around 70 employees. Apart from the classic pipe and manhole range, Tubobel also manufactures, for example, jacking pipes with an internal diameter of 400 to 1,600 mm as well as various elements for wastewater treatment plants and other products for underground construction.

All of the products meet the requirements of the EN 1916-BENOR standard and are sold to customers all over Belgium.

Tubobel came into being in 1998 through the merger of two manufacturers of precast concrete elements for road and underground construction – Belema NV, a subsidiary of Colas Belgium, and Bonna NV, a subsidiary of the French company Bonna Sabla. The entire production of both companies was then relocated to Tessenderlo, where Belema has been producing since 1972.

Five years ago the international owners of the company went their separate ways and Luc Lemmens took over the concrete plant as the sole owner, so that it was now once again in Flemish hands.

Luc Lemmens used the new beginning to realign Tubobel as an independent player in the market. Luc Lemmens has set himself

the goal of further improving service and Tubobel's position in the market. Professional advice and comprehensive services are just as much matters of course for Tubobel as the constant improvement of products, quality assurance and quality control.

He regards the continuous modernisation of the concrete plant as one of the keys to success. One of the biggest steps here was the investment in a completely new production line for the manufacture of monolithic concrete manhole bases a few years ago (detailed report in CPI 5/2013).

Under Luc Lemmens' guidance, Tubobel was quickly able to expand its market strength and soon had a market share of over 25% in Belgium. Numerous large-



One of two 2-MW wind turbines at Tubobel



Concrete pipes on the way to a customer



Freshly manufactured DN 700 pipes produced with the RP 1630



Apilion wire cage welding machine type ASMS



Base pallets with reinforcement stand at the ready



The new RP 1630 radial press

scale orders ensure excellent utilisation of the entire production. The location of the company directly on a canal simplifies transport logistics for some projects and can thus bring advantages over competitors.

A further pillar for Luc Lemmens was and still is the company Bovin Beton and Natuursteen, where the new RH 2000 concrete block making machine from the Hess Group is now also in operation.

### Large-scale power generation

To further advance his company, Luc Lemmens has invested a great deal in Tubobel since the takeover. Apart from new machines for concrete production, the topic of solar and wind power was also on the agenda. Tubobel has installed more than 1,000 photovoltaic panels with a total area of around 2,000 m<sup>2</sup> on the roof of the pro-

duction hall and is making a large contribution towards environmental protection and an independent power supply through this climate-friendly energy production.

In the next step two large wind turbines, each with an output of 2 MW, were installed on the outskirts of the site. The company's own energy production took a giant leap forward as a result. The lighting in the offices and production halls has been converted entirely to LED in order to reduce the company's own power requirements as much as possible. With this great dedication Tubobel has become an exemplary plant in terms of environmental protection and autonomous energy management, probably beyond Belgium's borders, too, and is making efforts to further optimise the company's energy balance.

These efforts are also reflected in the new concrete pipe making machine from

Prinzing-Pfeifer. The good energy balance of the radial press was also one of the reasons that Luc Lemmens chose this machine.

### Prinzing-Pfeifer RP 1630 radial press

Prinzing-Pfeifer offers an extensive range of machines. Apart from production machines for the manufacture of precast concrete elements for infrastructure construction, the company supplies installations for the manufacture of concrete pipes and manholes, such as the RP 1630 radial press. Prinzing-Pfeifer belongs to the Topwerk Group, an internationally operative mechanical engineering company in the concrete block industry. With over 850 employees and branches across the globe, the Topwerk Group produces machines and plants for the manufacture of the most diverse concrete products. The headquarters of the Topwerk Group are located in Burbach-Wahlbach, Germany.



Concrete feeding to the RP 1630



Counter-rotating compaction tool/packerhead

**High-performance machine for external diameters of up to 2,000 mm**

The RP 1630 radial press supplied by Prinzing-Pfeifer is a fast, high-performance machine for manufacturing concrete pipes with a maximum internal diameter of 1,600 mm and a maximum length of 3.0 m. Tubobel now has concrete pipes up to 1,600 mm in its product range, which wasn't possible with the old machines.

In the radial press, the concrete is compacted by being radially pressed against the outer mould jacket by a rotating press tool consisting of packerhead and distributor head. The counter-rotation of the packerheads and the distributor heads ensures that the built-in reinforcement cage does not twist.

The pipe making machine is equipped as standard with high drive power for the production of thick-walled and double-reinforced pipes.

As opposed to a classic machine, the pipes are not demoulded in the machine, but remain in the 3-part mould jacket while being transported by a fork-lift truck to the

set-down area and are only then demoulded. In order to fully utilise the machine's performance, it is operated with two 3-part mould jackets and a turntable. Once the production of a pipe is completed, the turntable rotates by 180° and conveys the mould jacket to be demoulded forwards, while the second, empty mould jacket is rotated into the production position. Whilst the next pipe is being manufactured, the finished pipe is demoulded in the set-down area and the empty mould jacket is then prepared once again with a base pallet and reinforcement cage for the next cycle and set down on the turntable. Tubobel still operates with only one mould jacket.

The main points are the larger diameter that is now possible, the increase in product quality and the operating reliability of the new plant in comparison with the pipe making machines that have already been in use for decades.

**Decoupling of production and demoulding**

In the case of production with the radial press with two mould jackets, one mould jacket is always available. Standstill times

due to demoulding in the machine – as in the case of the classic pipe making machine – are eliminated. Through this decoupling of production and demoulding, the cycle times are shortened and production output is increased accordingly. According to the manufacturer the cycle times lie between 1 and 4.5 minutes, depending on the product parameters.

The RP 1630 radial press from Prinzing-Pfeifer operates with a hydrostatic drive which, as opposed to an electric drive, offers advantages such as greater efficiency, higher torque reserves and a lower electrical connected load. These advantages were further favourable points for Luc Lemmens and contributed to his decision to purchase the Prinzing-Pfeifer pipe making machine.

Apart from high reliability, Tubobel was convinced by the low expected material wear and a lower noise level compared to the other machines.

Both non-reinforced and reinforced concrete pipes can be manufactured using the



Control panel





Hydraulics room



Fork-lift truck with a 3-part mould jacket



Inspection line for the finished pipes



Retaining wall elements

RP 1630 radial press. Tubobel produces almost exclusively reinforced concrete pipes with its new pipe making machine. The reinforcements for the pipes are produced on site with a cage welding machine from apilion machines + services GmbH, one of the world's leading manufacturers of fully automatic wire cage welding machines and a partner of the Topwerk Group.

**Modernisation for a secured future**

For the company this investment was a further important step in its history. Luc Lemmens considers his company to be equipped for the future with the new pipe making machine from Prinzing-Pfeiffer: "Pipe production with the new radial press is more economical and efficient." It has already been possible to significantly increase the hourly output per man and this

will develop even more positively in the future.

Modernisation is the buzzword and will remain so. Luc Lemmens wants to, and will further modernise his concrete plant step by step and bring it up to the current state of the art in all areas.

Naturally he is also open to new products and always has the market well in view. An



Mould for the manufacture of retaining walls



From left: Arie van Ettehoven from Prinzing-Pfeiffer, Luc Lemmens from Tubobel and Roel van Osnabrugge from Rosseco

example of this would be the new production of retaining walls, for which Tubobel has purchased an adjustable mould from Construx. The elements, which are up to 2,000 mm high and up to 5,000 mm wide, are concreted overhead. The movable walls with a maximum base width of 1,400 mm can be manufactured parallel or slightly inclined.

Some of the retaining walls are produced by round cut-outs and pipe connections, including seals, and are used in the Belgian canal network. These retaining walls, which have been in Tubobel's range for a while now, were in very great demand from the outset. ■

Watch a video on production with the new radial press at Tubobel.



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