

High automation degree in the Bilfinger production centre

Modern Mabi line with 28 coils

One of the most modern production centres for insulating sheets. This is how the Mabi managing director Markus Biland describes the new logistic centre Roosendaal. The Mabi 16-4Z-EVO continuously produces pipes and the MABI Bingo 2 EVO supplies the shaped blanks at high speed. The machine automatically selects the correct blanks from the 28 equipped decoilers. Twenty sheet-metal specialists process the sheets rapidly and efficiently, producing assembly-ready complete packages according to precise project specifications.

The new Bilfinger Logistic Centre Roosendaal (LCR) Industrial Services – with an area of 32,000 m² - supplies around 2500 employees in Belgium and the Netherlands with personal protective equipment, certified tools and, above all, with insulating, scaffolding, drawing and fire protection materials. In large quantities and, at the same time, as project-orientated bespoke work.

The imposing heart of the LCR is the modern workplace for the prefabrication of sheet material, particularly for large industrial insulation projects. Twenty experienced sheet-metal workers have exchanged their impressively equipped workplaces in Zwartewaal and Antwerp for this hyper-modern centre. Efficient working is an effortless interaction between man and machine in a comfortable, bright and quiet environment. A row of 28 coils supplies two Mabi machines which in turn provide the sheet-metal workers with coded material packages. As assembly-ready finished materials, the sheets are sent in logistic bundles to the projects, together with all other required materials.

480 pipes per hour

Markus Biland and the technology specialist Tore Schumann are delighted to visit Roosendaal and exemplify the technical heart of the LCR. The management of Bilfinger Industrial Services and Mabi describe the Logistic Centre Roosendaal as a "unique, world-class centre."

Bilfinger has been working for years now with modern Mabi lines and has now invested in the latest generation sheet-metal processing machines from this brand in order to profit from the latest automation options. Bilfinger has transitioned from the Vario to the EVO with two new machines. The 16-4Z EVO, also known as the Rohrblitz, is specifically designed for mass and individual production of insulation pipes and blanks. Straightening, cutting, punching, beading and rounding all take place consecutively in a fully automated working process. All commercial material dimensions and types - including Inox - can be processed up to a thickness of 0.8 mm. In addition to the classical sheet width of 1000 mm, the machine can also process the increasingly popular 1250 mm width.



Mabi managing director Markus Biland, with the 16 4Z-EVO in the background, also known as the "Rohrblitz". This machine is completely designed for mass and individual production of insulation pipes and blanks. Straightening, cutting, punching, beading and rounding all take place consecutively in a fully automated working process. All commercial material dimensions and types - including Inox - can be processed. Including the increasingly popular sheet width 1250 mm.

The sheet width of 1250 mm offers significant efficiency advantages, depending on the order, programmed shapes and dimensions. The MABI 16-4Z EVO "Rohrblitz" produces up to eight pipe metres per minute, i.e. around 480 pipes per hour.

Online programming

Bilfinger Industrial Services has put Mabi's patented top model Bingo 2 EVO into operation for the cutting of shaped pieces. This machine is a fully-automated jack of all trades for insulation sheets, with a double cutting system, automatic width adjustment, product coding with fast-drying ink, optimisation of sheet nesting and online programming. The machine can be fully programmed during work preparation. The coding texts can also be adapted or expanded here. For example, project or order data or even the company name. In the future, automatic links between digital drawings (such as e.g. CAD/DXF files, or in a later phase, the upcoming BIM standard) and the Bingo 2 EVO may be feasible. This machine can also be set up, like the above-mentioned "Rohrblitz", as a pipe production line providing the same services. The maximum processing speed here is also up to eight pipe metres per minute.

The Bingo 2 EVO automatically loads standard coils, both the 1000 and 1250 mm widths, in the Bilfinger setup. The LCR has no less than 28 coils in a row. This means that several

types of standard sheet-metal coils are standing ready for processing, in addition to less common, customer-specific or exotic types. Both machines are equipped with an Ethernet connection for communication with the operating network and for maintenance purposes. Mabi offers a service warranty in Europe of up to maximum 48 hours. In practice, however, malfunctions are resolved far more rapidly. Telephone support is immediately at hand. Service engineers can also log in to the machines online, and can directly analyse and often resolve any problems. And, if necessary, a specialist will usually be at the door by the next morning. On being asked, Mabi has cast a careful eye into the future: They are busy working on a vertical coil magazine. The fully automatic coil changer Coilblitz is already available, the logical step is to combine it with a high-rise magazine. This would save a lot of space.

Mechanical

While both Mabis are producing at high speed, effortlessly keeping a team of 20 sheet-metal workers on their toes, we manage to ask the manufacturer about their assessment of laser processing and mechanical processing. "We checked this out intensively", responded Markus Biland. "They are significantly more expensive regarding costs and maintenance. Lasers work with gas and complex optical systems. Expensive and special interventions are necessary at the slightest problem, while mechanical systems are easy to operate and maintenance is inexpensive."

Standardisation

Bilfinger Industrial Services have standardised their finished part sheet processing as far as is possible, while complying with their in-house quality standard IsoPerfect. The working method and machine processes were perfectly matched during the setup of the production process in Roosendaal. Complicated conversions of drawings to machine programming are summarised in logical standard tables. This excludes interpretation differences and significantly reduces the preparatory work.



Bilfinger uses the patented top Mabi model, Bingo 2 EVO, a fully automated jack of all trades for insulation sheets, to cut shaped pieces: Double cutting system, automatic width adjustment, product coding with fast-drying ink, optimisation of sheet nesting and online programming. The machine can be fully programmed during work preparation. The coding texts can also be adapted or expanded here.



Man and machine: On the right, the double MABI line for two x eight pipe metres per minute, on the left, the team of specialists that process these pipes extremely efficiently into assembly-ready project packages.



*Technology specialist Tore Schumann. A brief glimpse under the engine cover of the Bingo 2 EVO. Tore Schumann doesn't mind a few scratches on the new line.
"After all, we are in production here!"*

This also has administrative advantages: The same data are available directly and without further processing for e.g. surface area calculations or product-costing analysis. Mabi also sees a significant operational advantage in such standardisation: Standardisation makes programming so easy and efficient, that the machine data can already be provided in the offer stage. When the order is placed, all you have to do is just press the "Start" button. Bilfinger put the new generation Mabi machines into operation at the end of 2012. The operators and work preparers were instructed in the operation. Production is underway after the running-in period and the usual fine setting work. We even saw a few scratches on the machine. "Yes, of course", said Tore Schumann. "After all, we are in production here!"