



ArcelorMittal Sheet Piling, worldwide leader in providing foundation solutions



The new steel sheet pile's Service Centre raises new industry standards and provides ArcelorMittal Poland – Dabrowa Gornicza the opportunity to add yet another fundamental role to that of a leading manufacturer: supply on-demand comprehensive solution packages to the end-user

New Steel Sheet Pile Service Centre for ArcelorMittal Poland

In Dabrowa-Gornicza, part of ArcelorMittal Poland, the rolling of steel sheet piles started in 1979. The first section was named "G1", and the production capacity was 7,000 t per year. Later, in 1984, the production was boosted to 40,000 t a year, and the initial section was renamed "G62". The mill continued enlarging its product portfolio, and after the creation of ArcelorMittal in 2006, more cost-effective sections were developed in the Polish mill. Even though the range was continuously extended and optimized by using the most modern rolling technology that allows for manufacturing more efficient sheet piles, the "original" sheet pile is still part of the current rolling program (GU 16-400).

Steel sheet piles have become a key product in the portfolio of Dabrowa's "Heavy Mill", which is focusing on adding value to the products for the benefit of our customers. Currently, six ranges of sheet pile sections and steel grades up to S 460 AP are produced, leading to more efficient piles.

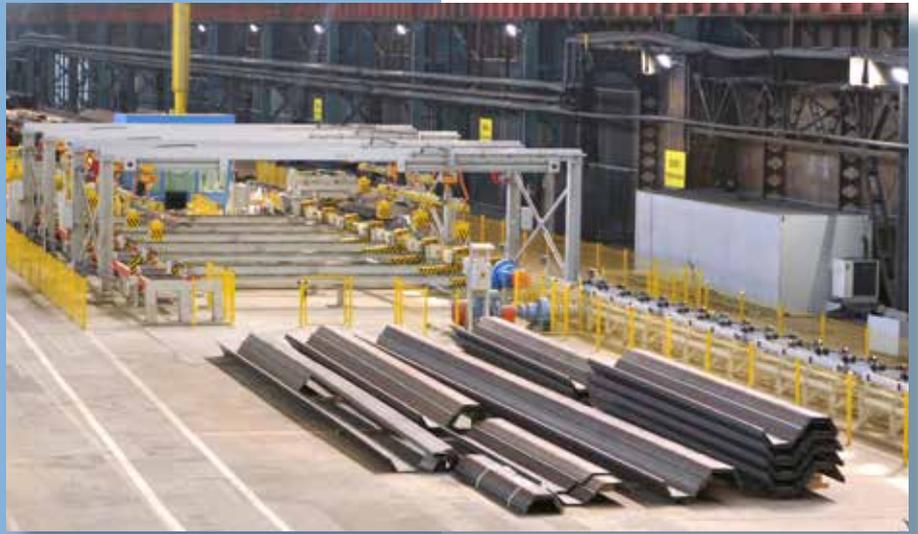
Now has come the time to also offer first-class service through further improved quality, higher flexibility, specific coatings, sealing systems, ...

The new Service Centre in Dabrowa-Gornicza provides the answer to today's requests and plays an essential role in supporting our customers: supply on-demand complete solution packages to the customer.

The service centre encompasses following services

- cutting to length
- drilling of handling holes
- pairing of U-type double piles
- crimping of U-type double piles
- coatings
- sealing of the interlocks
- fabrication of special sections, including welding

Cutting, pairing and crimping



Cutting to length

Cutting to length is performed with a cold saw. Up to 8 single sheet piles are piled up in a bundle and cut to length in less than 10 minutes. Any burrs that might stick to the sheets are removed at the end of the servicing process.

Drilling of **handling holes** in the sheets is performed with a steel drill under a flow of cold air to cool down the drill. One single tool can drill 40 bundles before maintenance. Standard dimensions of the

holes have a diameter of 40 or 50 mm, and are located 200 mm from the top of the pile. Alternative diameters and positions can be made upon agreement.

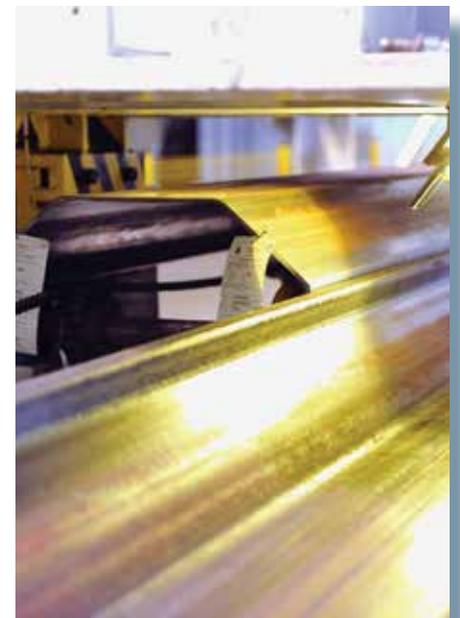
The sheet piles are laid out individually on a buffer table before being fed into the pairing equipment.



Pairing

Two single piles are threaded together to form a double pile. This process determines the form of the pair, the standard form being the "S" form, but "Z" forms can also be ordered. The minimum length of the piles that can be handled in this equipment is 6 m, the maximum is 28 m. The threading operation is controlled by an

operator and the machine is equipped with a bumper mechanism to ensure that the top of both piles are flush. The equipment is optimized to handle the complete GU range.





Crimping

Paired sheets are pushed down the roller table into the crimping equipment. The standard crimping pattern implemented is 3.5 crimps per meter, with a minimum resistance of each crimp of 75 KN based on the future version of the European standard EN 10248. The resistance of the

crimps varies by profile, and higher values may be achieved. Other crimping patterns are available on request. The quality of the crimps is controlled continuously during the process. Additionally a camera in the control room allows the operator to check visually the quality of the crimps. The correct position of the crimps on the interlocks is of outmost importance. The sheets are guided into the crimping device to ensure the proper alignment / position of the tool. Furthermore, the crimps are controlled once more when the piles are transferred to the finished goods stock area.



Traceability

Traceability has been improved and the labels which are fixed on each sheet pile bundle after the pairing process include relevant information about the sheet pile characteristics (section, steel grade, heat number,...) and the final customer.

The hall is equipped with cranes capable of lifting bundles up to 12 t.

The project was launched in July 2012. Commissioning of this state-of-the-art equipment that required a strategic investment took place in March 2014.

Sheet piles can be stocked in the same hall before shipment to the customer, or transferred to another hall for further processing. The available inventory is calculated to cover for all customer needs, ensuring just-on-time delivery. It is composed of several sections from the ranges GU 7N, GU 14N, GU 18N, GU 22N, GU 28N and GU 32N available in several steel grades and in lengths up to 24 m.



ArcelorMittal is extremely proud of this brand new service centre for steel sheet piles. The ambition is to satisfy the growing needs and expectations of customers, and to raise the industry standards by providing high quality and durable products, combined with an excellent customer service level. A priority is the health and safety of all employees, the environment and the satisfaction of all the stakeholders.

Coating, sealing and fabrication

Coating, sealing and fabrication of sheet piles is also offered.

The mill can provide several types of **coating systems** according to the international standard ISO 12944. Coatings are quite regularly used to cover the atmospheric zones (for aesthetics reasons most often) and splash zones in seawater (durability issues).

To increase the **watertightness** of a sheet pile wall, the interlocks can be fitted with special sealing systems. At present the service centre offers cost-effective and environmentally-friendly systems:

Beltan® Plus, based on a bituminous filler, as well as **ArcoSeal™**, a wax based filler. The common interlocks of paired sheets can also be **seal-welded** if requested by the customer.

Finally, **certified welders** fabricate almost any type of special piles according to European standards, like GU-box piles, special sheet piles with connectors welded on, corner piles, etc.



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