

State-of-the-Art Hydrolysis Plant

CHEMISTRY. Pörrer completes a three-and-a-half-year EPCM project for LAT Nitrogen's melamine plants.

LINZ. LAT Nitrogen Linz GmbH operates two melamine production plants in the Linz Chemical Park. A new state-of-the-art wastewater treatment plant was built for both plants. LAT Nitrogen (Borealis Agrolinz Melamine GmbH until

LAT Nitrogen

July 2023) awarded the EPCM contract for this project to Pörrer in Linz in March 2020. The contract included authority engineering, extended basic engineering, detail engineering, project management, scheduling, procurement support with expediting, construction supervision, and commissioning support. The total investment cost of the upgrade was approximately EUR 42 million. The new thermal wastewater treatment plant has been in full operation since the end of July 2023.

State-of-the-art wastewater treatment

The project started with the dismantling of 1,500 tons of material from two decommissioned melamine plants, followed by the construction of a new treatment plant for the process wastewater from the operating melamine plants 4 and 5. Pörrer once planned melamine plant 5 with demanding process parameters (175 bar pressure and over 400 degrees Celsius temperature).

The melamine plants process urea into melamine. The "process wastewater" was previously treated using two existing thermal wastewater treatment plants. A new wastewater treatment plant was built with a 1,000 cubic me-



▲ The hydrolyzers are loaded for sea transport in Mumbai, India.
▶ Plant site before modernization.
▼ Plant site after modernization.



ter double wall tank. It consists of two pressure units (hydrolyzers) connected in series. They split or-

ganic nitrogen compounds into ammonia and carbon dioxide at an operating pressure of 45 bar

and an operating temperature of over 230 degrees Celsius. A stripper removes the dissolved ammonia from the wastewater, which is then recirculated to the process as an ammonium carbonate solution.

3,600 flanges, 3,700 bends, 2,000 fittings, and 300 EI&C field devices were prefabricated, installed, and tested in the new plant. Pörrer project manager Harald Grünberger sums up: "It was an exciting three

“We are delighted with LAT Nitrogen that the plant is now running as planned!”

Harald Grünberger
Pörrer Project Manager



The purified "process wastewater" is re-cooled via heat exchangers and discharged into the cooling water channel after all limits have been checked.

Two superlatives on their way from Mumbai to Linz

The two hydrolyzers, weighing 180 tons and measuring 37 meters in length each, were transported by sea from Mumbai, India, to Linz, Austria. The challenge on site was to place the two hydrolyzers on the five-meter-high foundation strips, which was accomplished using a special hydraulic lifting and moving system. In total, 40 pieces of equipment, 8,100 meters of piping,

and a half years from dismantling to construction to commissioning. After very demanding weeks, the hydrolysis plant was handed over on time. We are delighted that LAT Nitrogen can now produce melamine in compliance with all environmental regulations!"

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