

Construction underway for Uzbekistan’s first float project



Siemens Solution Partner HORN Glass is responsible for all technological equipment required for the construction of Uzbekistan’s first float glass plant. Fully automated production is expected to begin in the summer of 2021. As Madgi El-Awdan reports, the real net output ratio for this project was the turnkey specialist’s highest ever.

Extraordinary times call for extraordinary commitment. Many employees of HORN Glass, which is based in the Bavarian city of Plößberg, are currently stationed more than 5000km from their original workplace – in Uzbekistan, or more precisely, in the city of Zarafshan, about 670km west of the capital city of Tashkent. Most of them had never heard of the city before but what even experts in the international glass industry do not know is that the Central Asian country currently has no float glass production of its own. It imports glass sheets from abroad, a situation that will soon change.

Since May, HORN Glass has been equipping the country’s first float glass plant on behalf of Zarafshon Oyna LLC. “We’re extremely proud to be implementing this major project as a turnkey solution” says Markus Frank, Deputy Director, Glass Plant Technology at HORN Glass. The medium-sized enterprise is in charge of planning, delivering and commissioning all technological equipment in the plant, which will be handed over to the customer on a turnkey basis in the summer of 2021. “Our real net output ratio is higher than it’s ever been for comparable projects” Mr Frank confirms.

Impressive scope of supply

Before the float glass plant begins delivering its planned daily capacity of 250 tons, HORN Glass will have provided an impressive scope of supply, including planning the melting

tank, tin bath and annealing Lehr and delivering all the refractory material, the firing system for natural gas and diesel oil, batch and cullet chargers, stirrers, coolers and measuring and control

technology. The company will also supply the tin bath with its associated technological equipment, which includes a shielding gas mixing station. These will be accompanied by the ▶



The accompanying images show construction work underway at Zarafshan, about 670km west of the capital city of Tashkent, Uzbekistan. All images courtesy of HORN Glass.

entire annealing lehr and automation system for the hot end.

As a Siemens Solution Partner, HORN Glass once again opted for the Simatic PCS 7 process control system, this time Version 9.0. The process automation architecture is designed for maximum flexibility, thanks to a redundant client-server structure. Process optimisation is provided by the powerful Simatic PCS 7 Process Historian archive and reporting system and a remote VPN service. The plant sections are integrated in the process structure by three AS 410 single station automation systems. SCALANCE communication modules and Simatic ET 200 I/O modules are used in the network.

Functional security for the industrial thermo-processing technology was implemented using fail-safe Simatic ET 200SP-F I/O modules. The Simatic PCS 7 process control system with its modular system platform is ideal for this plant.

Collaboration with European technology experts

As general contractor for the project, HORN Glass has collaborated with leading European companies that are all specialists in their fields. For example, the batch house was provided by ZIPPE, the cutting machine with glass stackers by



Bottero, the compressor plant by Kaeser and the equipment for producing hydrogen by Hydrogenics.

High quality Siemens products include an NXAir air-insulated medium voltage switchgear (10 kV), a Sivacon S8 low voltage switchboard (0.4 kV), Sinamics frequency converters and low voltage motors. The Simatic PCS 7 process control system demonstrates

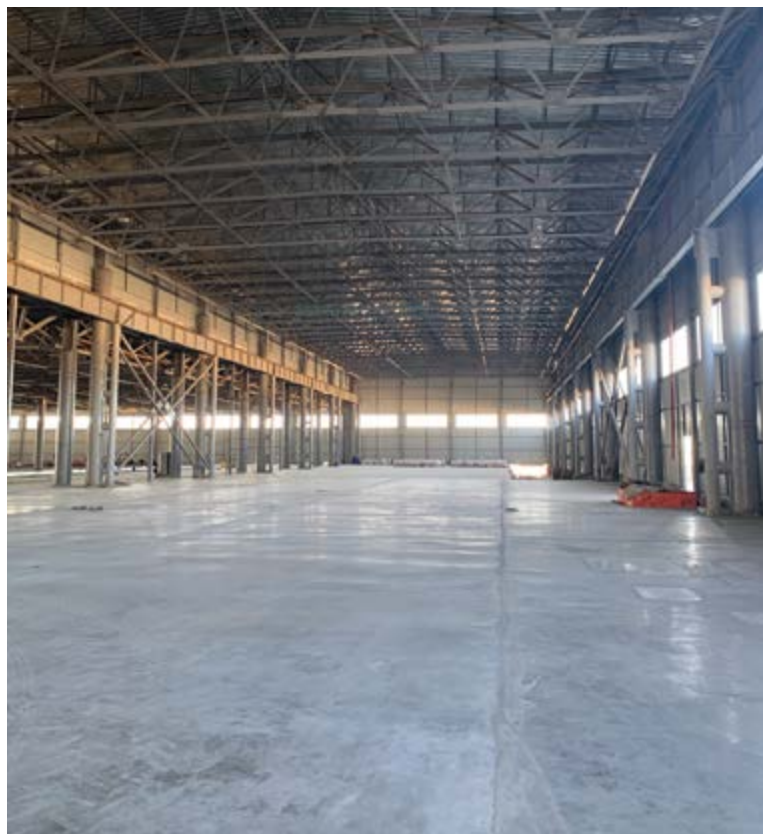
its strengths as a technological bracket around plant-wide automation. Even the auxiliary installations are integrated!

“Total automation is an important factor, because the personnel who will work on-site later are often less qualified than we’ve come to expect in high-tech countries” Markus Frank explains. This is why HORN Glass also decided to develop a special concept for the top rollers that allows the tin baths to be integrated in the process control system. The customer in Uzbekistan will be using the HTRM-S (suspended) top roller.

HORN Glass also relies on Siemens products for all the machine technology. The drive system comprises Sinamics S120 motors and controllers and control tasks and functional security are handled by Simatic ET 200SP components. These machines are always used in pairs. All the plant sections communicate via Profinet. As a special feature, a Mobile Panel is used in addition to the Simatic HMI TP900 Panels, making the performance of maintenance and setting tasks especially user-friendly.

Already thinking about the future

The experts at HORN Glass are already thinking several steps ahead. When the production plant enters operation in the middle of next year, plans for the processing plants will be gradually introduced. “We’re recommending an expansion on the same premises so that processing and finishing can also be performed in Uzbekistan” says Markus Frank. This will allow the customer to market architectural and automotive glass directly from the factory, both at home and abroad and consistently promote the ‘Made in Uzbekistan’ image for float glass products as well. ●



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