

# VACUWORX®

## TDC INTERNATIONAL USES VACUUM LIFTING TO ENSURE SAFETY, IMPROVE EFFICIENCY ON LOGISTICS END OF PIPE COATING JOB

Headquartered in Switzerland, TDC International (TDCI) is one of the leading pipeline coating providers specializing in using glass fiber reinforced plastics (GRP) for abrasion protection. TDCI's customers consist of major European utilities, pipeline operators, construction companies, steel manufacturers and traders. In early 2017, TDCI received an order from Mannesmann Grossrohr (SMGR) to coat over 2.1 km of DN1000 (40 in) for Open Grid Europe's 62 km gas pipeline Schwandorf-to-Forchheim loop line (LSF) with its proprietary coating, pau wrap®.

For logistical efficiency, it was decided to transport all 179 pipes via train on the Deutsche Bahn to TDCI's rail yard, located near the company's production facility in Trollenhagen, Germany. From the rail yard, the PE-coated pipes needed to be carefully handled and placed on trucks shuttling between the factory and the yard.

Due to precise requirements and time constraints of the project, TDCI began searching for an alternative approach to the traditional slinging method to decrease turnaround times at the railhead with an emphasis on ensuring efficiency and safety. It was particularly important to use a handling system that would not damage the pipes or their existing anti-corrosion layer.

After careful review, examination and testing, TDCI opted to handle the 12 m pipe lengths using a Vacuworx RC 10 Vacuum Lifting System in conjunction with a crane – and they were not left disappointed.

### Safety First

Pipelines coated with TDCI's pau wrap® (a GRP mechanical protection coating of pipeline systems) are mostly intended to be installed by trenchless application (i.e. horizontal directional drilling, auger boring, Direct Pipe®), or used in other situations where there are tough geological conditions.

TDCI's Plant Manager, Gundula Seidler, explained that the company coats pipes ranging from DN80 (3 inch) to DN1400 (56 inch) in diameter with pau wrap® – a GRP coating designed to protect the pipeline from damage caused by mechanical forces during installation, such as shear-forces, abrasion or indentation, as well as during handling and transportation.

It is important for TDCI that the logistics of the transloading process are performed accurately and efficiently while simultaneously ensuring the safety level of the work crew. Job site safety best practices are important to TDCI, and Seidler was keen to establish a secure process and system for the pipe handling.



This meant keeping the workers from touching the pipes and minimizing going up and down the rail wagons or trucks. By utilizing the Vacuworx RC Series vacuum lifting system, the loading crew could work much safer than the traditional slinging methodology without causing delays to the train-to-truck transportation.

Vacuworx lifters feature a powerful vacuum pump driven by a diesel engine or hydraulic power, wireless remote operation which increases safety compared to other systems, and 360° rotation allowing for the precise placement of materials by a single operator working from the cab of the host machine. The RC Series, which consists of five models ranging from 10 to 25 tonne lift capacities, helps eliminate the risk of damaging materials and coatings, without having to take extra precautions and with no additional workers required on the ground.

“It always takes a bit of time at the beginning of a project when the team is presented to work with a new system because they need time and practice to get used to the new mechanics,” Seidler said. “Nevertheless, due to how easy and intuitive the Vacuworx system is, we managed to master the process relatively quickly. Once our crew learned how to use the equipment, it only took us five minutes to offload a pipe from the train and load it on the truck.”

The goal, she said, was to speed up handling during the loading and unloading process without damaging the pipe, all while keeping workers away from potential harm.

### Complete System

In the factory in Trollenhagen, TDCI added the standard 5 mm pau wrap® coating thickness to the L 485 ME grade pipe with wall thicknesses of 16.8 mm and 20.3 mm. After coating, each pipe weighed over 5,000 kg, resulting in the decision to use the Vacuworx vacuum diesel-powered RC 10 model, which has a lifting capacity of 10 tonne.

Seidler, who stated TDCI is known for always delivering products on time with high quality, noted that a highly reliable system was needed to maintain a tight schedule. She said that several days of wind and rain had no bearing on the performance of the Vacuworx lifting system, including its ability to handle both wet, smooth polyethylene coated pipes or glossy GRP coated pipes.

TDCI, which successfully completed its end of the Schwandorf-to-Forchheim project in November 2017, decided that the vacuum lifting devices would be considered for future pipe handling projects due to several factors, including their agility and ability to minimize workers' hands-on exposure to pipes in the field.

“This Vacuworx system, which is completely remote-controlled, increases the level of safety,” Seidler said. “Workers don't have to come near the pipe during lifting. Together with the excellent customer service, the system assures a high level of safety for the employees who are responsible for loading pipes.”

For more information on the RC 10 or any of our other innovative vacuum lifting systems, please contact:

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