

Harbor Project: Terex® Lattice Boom Crawler Crane Lifts Dockside Cranes in Mannheim

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Crane Service Provider Steil Uses Heavy-Duty Machine for Loading and Assembly

Trier-based Steil was scheduled to lift two dockside cranes for assembly at the Port of Mannheim on behalf of Kranwerke Mannheim. However, before this could be done, one of the massive crane girders had to be loaded at the Speyer Port so that it could be taken to Mannheim by ship. The client for this job was Tobies, a manufacturer headquartered in Speyer. As far as the Steil team was concerned, there was only one machine that could reliably take care of both jobs: the Terex® Superlift 3800.

Steil was one of the first companies to buy this crane model, which now goes under the name of CC 3800-1 as a result of the Demag brand being reintroduced. Since its initial purchase, the company has acquired more units, so that it now has a total of 7 in its fleet.

“There’s no doubt about it – without this crane, we wouldn’t have been able to take care of these jobs with the kind of flexibility we needed. Not by a long shot,” Steil Project Manager Sebastian Sehl points out. The crane immediately demonstrated its flexibility when loading the 78-meter-long, 105-tonne crane girder onto a pontoon at the Speyer Port, as the required radius could increase by up to three meters if the load were lifted from the heavy goods vehicle and onto the pontoon at low tide. In contrast to a mobile crane with its full counterweight, increasing the Superlift counterweight and radius would enable the Superlift 3800 to take care of the lift. “That’s why we planned with a variable Superlift counterweight of 65 to 125 tonnes. That allowed the crane to work flexibly with a radius of 28 to 30 meters and made sure that the job would still be feasible even at low tide,” explains Sebastian Sehl.

This meant that the Steil team was prepared for any and all contingencies at the site. On Saturday morning, the team lifted the crane girder, as well as other components, onto the waiting pontoon with ease. After this, the pontoon started off on its way to the Port of Mannheim, where the Steil team and its crane would soon be continuing with the project.

Re-encounter in Mannheim

Once there, the Steil team would be erecting two container cranes at the shipyard. This would involve working with a number of components including the crane girder loaded in Speyer, which is why the team decided to rely on the capabilities of the Superlift 3800 once more. For the first step, the hinged legs for dockside crane 1 were erected with the help of two assist cranes, one belonging to the 200-tonne class and the other to the 130-tonne class. At the same time, the fully assembled, 241-tonne crane girder was lifted with the Superlift 3800, which was set up with a 54-meter-long main boom, 50-tonne central ballast, 165-tonne superstructure counterweight, and 54-tonne Superlift counterweight for the job. This configuration enabled it to pick up the fully assembled crane girder, lift it 30 meters, and then move with load about 15 meters. With a radius of 16 to 18 meters, the crane then lifted the girder to a height of 32 meters and turned it so that it was parallel to the dockside crane's hinged legs, which could then be bolted to both of the dockside crane's bogies and to the girder. After this, the two assist cranes were moved so that they could bring the fixed legs into position for installation on the bogies. "During all this work, the crane had to hold the heavy crane girder in the required position without the girder swinging back and forth, which definitely was made more difficult by the wind hitting them, but never to the point that it became critical," Sebastian Sehl reports.

"The rest was routine"

The next step was to bring the 15-tonne trolley onto the runway girder. Two 200-tonne cranes were used for this job. "This enabled us to set up both dockside cranes within the required timeframe. During the entire process, the Superlift 3800 in particular proved once again to be the perfect choice thanks to its enormous power reserves and flexibility," Sebastian Sehl happily summarizes.

Source: Terex Corporation, Terex Cranes