

Concrete Spacer Wheel a Lock at Panama Canal Expansion

SUMMARY

Completed in 1914, the Panama Canal has been deemed one of the seven wonders of the modern world. The canal serves as a key channel for the international shipping industry, cutting across the Isthmus of Panama to connect the Atlantic and Pacific oceans. Since the canal's opening, more than 815,000 ships have passed through the canal.

While the canal opened up a safer, quicker route for maritime trade, the size of the locks dictated the size of the vessel that could pass through. However, the growth of the shipping trade and the demand for ships exceeding the size limitations of the canal brought about plans to expand the canal. These plans called for two new sets of locks with sliding gates and new approach channels that will accommodate the larger ships and additional traffic.

Dayton Superior Panama is proud to have provided product solutions and technical support on the Panama Canal Expansion project. The company has provided custom-made E-Z Lock Spacer Wheels for increased concrete coverage as well as the Taper-Lock® System, a proprietary taper-threaded coupler used to mechanically splice structural reinforcement. All Dayton Superior Panama products used on the canal were presented to site managers with final approval given by the Panama Canal Authority (ACP).

CUSTOMER:

- Grupos Unidos por el Canal (GUPC)

PROJECT

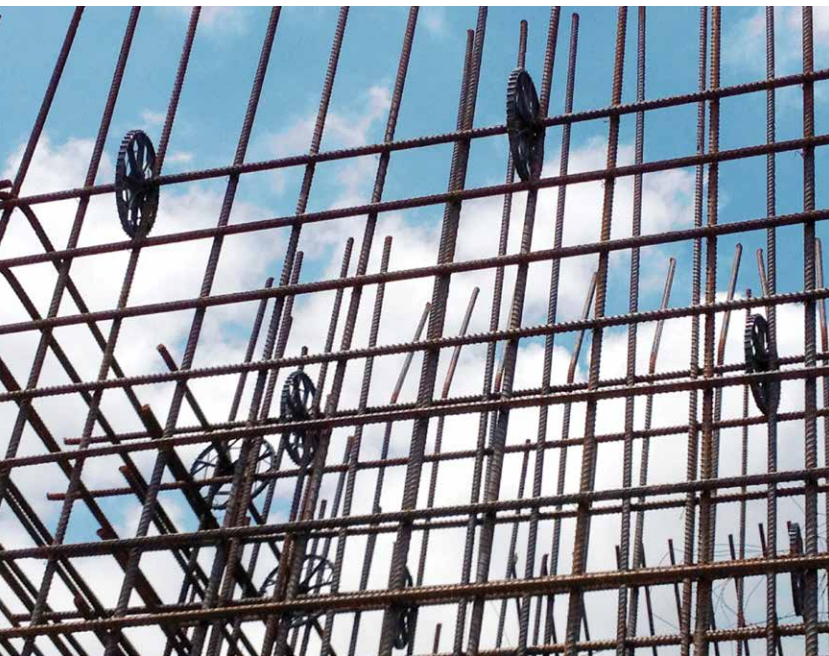
- Panama Canal Expansion
- International Maritime Trade

CHALLENGE

The concrete in the Panama Canal is constantly exposed to salt and fresh water. The Panama Canal expansion required that



Dayton Superior Panama worked closely with the contractor to provide products customized to the unique requirements of this project.



E-Z Lok Spacer Wheels hold rebar away from concrete surfaces to reduce oxidation.

the rebar be kept far enough away from the concrete surface to reduce the exposure that could cause oxidation (rust). In some cases, this required up to a 6.5" concrete clear cover from the top mat of reinforcing bar. The contractor was facing difficulty in manufacturing concrete dobies with an extremely large coverage area. Additionally, it would be impossible to attach a concrete block with the required coverage areas of 4.5", 5.5" and 6.5" on a vertical application.

SOLUTION

Dayton Superior Panama was one of only three companies consulted on a solution and Dayton's design was selected due to characteristics such as strength and the lock hub. Thus far, nearly 400,000 of the company's custom-made spacer wheels have been used on the Panama Canal expansion. In having Dayton Superior Panama provide custom-made spacer wheels, the contractor could now install them much faster and ensure the coverage area would be correct for the thorough construction inspections conducted on each aspect of the project. Another benefit in using the custom spacer wheels is that the concrete did not require sanding for a smooth finish, ultimately saving the contractor labor costs and work time.

"Dayton Superior Panama was able to meet the exact needs in manufacturing a spacer wheel that would work in the required varying coverage areas," said Rick Wilson, Dayton Superior's International Business Director. "The design of the spacer wheel proved superior because once locked onto the rebar it would not fall off or change shape, guaranteeing uniform coverage."

RESULTS

- Provided an alternative solution to manufacturing, transporting and installing heavy concrete dobies
- Coverage capabilities and stay-in-place design contributed to passing thorough construction inspections
- Faster installation saved time and labor costs
- Provided a smooth concrete finish, eliminating the need for sanding



RESOURCES

Learn more about the Dayton Superior E-Z Lok Wheel online at: www.daytonsuperior.com



DAYTON SUPERIOR E-Z LOK WHEEL

- Multiple hub diameter
- Designed for medium- to heavy-duty projects
- Wider locking hub eliminates "racking" and will not fall off
- Meets all requirement and qualifies as a CRSI Class 1 Bar Support
- Once locked onto rebar, this wheel will not change shape and will always provide uniform cover

RELATED PRODUCTS FROM DAYTON SUPERIOR

- Bar Lock® L Series Couplers
- DSR
- PSBB

Additional product information is available online at www.daytonsuperior.com. Contact your Dayton Superior representative at 888-977-9600, or send an email to info@daytonsuperior.com if you would like to discuss how these or other innovative systems can make your construction projects more productive.