

# LENTON® FORM SAVER Helps Deliver Water to Millions in Australia



*LENTON® FORM SAVER was used in the concrete construction of the Gold Coast Desalination Plant's pre-treatment building filter and flocculation tanks, residual treatment tanks and drum screen tanks.*

Over the last two decades, South East Queensland has become one of the fastest growing regions in Australia. Each year, 55,000 to 80,000 people move to this flourishing, metropolitan area. Approximately 3 million people currently reside in South East Queensland, meaning that one in seven Australians call the region home.

In addition to this record population growth, South East Queensland is also experiencing some of the worst drought condition in its history. To address the water shortage crisis, the Queensland State Government and Gold Coast City Council formed an initiative to construct the first large-scale water desalination plant on Australia's eastern seaboard.

The Gold Coast Desalination Plant will convert seawater from the Pacific Ocean into consumable drinking water. Desalination makes water fit for human consumption by removing dissolved minerals, such as salt, from seawater or brackish water.

Although a number of technologies have been developed for desalination, the most common is Reverse Osmosis. Simply, the water is filtered in pre-treatment building tanks and is pushed under high pressure through a number of membrane filters. The filtered, treated water is stored in reservoirs on-site until it is ready to be delivered to the Gold Coast and other areas in South East Queensland.

Construction on the mammoth desalination plant was managed locally by GCD Alliance (comprising John Holland, Veolia Water, Sinclair Knight Merz and Cardno) and began in September 2006. The key challenge for the GCD Alliance was to conduct site selection and feasibility studies and complete preliminary/detailed design, construction and commissioning all within approximately three years.

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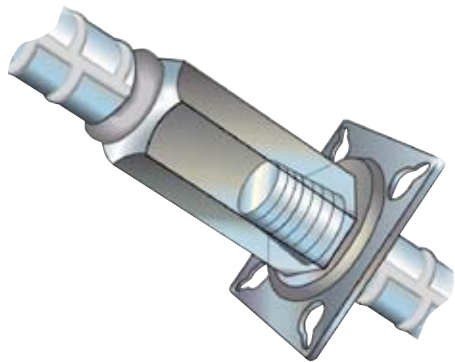
In order to make the plant operational by November 2008, the GCD Alliance selected products that offered significant time, labor and cost savings. One such product was the LENTON® FORM SAVER from ERICO®. By eliminating the need to provide pour strips in proprietary formwork panels at starter bar locations, LENTON FORM SAVER dowel bar replacements provide continuity and structural integrity in segmental pour applications for reinforced concrete construction.

Designed with ERICO's unique LENTON tapered thread system, LENTON FORM SAVER includes factory-installed thread protectors and durable mounting plates for easy attachment to forms. In addition to eliminating on-site safety hazards from exposed dowels, LENTON FORM SAVER also protects valuable forms by allowing stripping, cleaning and recycling in less time.

The GCD Alliance utilized LENTON FORM SAVER in the concrete construction of the pre-treatment building filter and flocculation tanks, residual treatment tanks and drum screen tanks. Traditionally, when reinforcing steel is needed to be continuous through the concrete construction joint, reinforcing bars are lapped and continued into the next concrete pour.

According to Craig Sampson, Civil Project Engineer with the GCD Alliance, LENTON FORM SAVER was an ideal choice for the project because of the demanding construction schedule, high quantity of large reinforcing bars and the use of large hired formwork panels that could not be drilled through.

"LENTON FORM SAVER enabled high concrete walls to be poured full-height using large forms without the need to drill holes through them or break the forms into smaller pieces," said Sampson. "The deletion of the commonly used reinforcing box, where starter bars are folded up into a box behind the form and bend out later, was also a necessity due to space limitations caused by the high volume of large reinforcing steel bars at close centers."



*LENTON® FORM SAVER provides continuity and structural integrity in segmental pour applications.*



*The LENTON® FORM SAVER dowel bar substitute system eliminates the need for drilling through expensive formwork.*

Sampson added that LENTON FORM SAVER was chosen over other couplers "due to cost savings, compact size of the coupler and the general feeling and security of a sound, reliable connection, which was especially important for the suspended cantilevered troughs holding water."

Meeting the scheduled completion date has been a priority since the project commenced. In 2007, South East Queensland experienced its driest year since 1900, and record-high temperatures have continued to strain water supplies. Fortunately, the Gold Coast Desalination Plant will produce approximately 125 megaliters of clean drinking water each day, which is approximately 20% of South East Queensland's daily water needs

Innovative, time-saving products, such as the LENTON FORM SAVER, are helping play a key role in enabling the GCD Alliance to meet its construction deadlines. LENTON FORM SAVER splices are easy to install and offer consistent performance and durability, while adding value and integrity to the structure.

"I would have no hesitation in using the LENTON FORM SAVER again on other projects of this nature," said Sampson.