

# Cameron LNG Plant Repairs

Hackberry, LA, USA (2018)

PRODUCTS USED:

**Krytol Plug™ Krytol Repair Grout™ Krytol T1®**

**ENGINEER:**

Thompson Engineering

**DISTRIBUTOR:**

M2 Solutions

## BACKGROUND

Due to the growing demand for liquefied natural gas (LNG) in Louisiana, Cameron LNG had a plant built in the southwestern region of the area between the towns of Cameron and Lake Charles. Estimated to cost \$10 billion to construct, the plant was more than worth the value as it was designed to provide a projected output of around 48 million m<sup>3</sup> (1.7 billion ft<sup>3</sup>) of LNG daily.

To reach that desired output with optimal design, the plant's construction team needed to secure the plant's 12-meter-deep (40-foot-deep) concrete subterranean emergency dump tanks. Part of that meant keeping them free from water ingress so they could work as intended for the plant's safety protocols, allowing the plant to drain by gravity in the event of an incident. However, after the concrete tanks were cast, the construction team noticed that those same tanks had developed several leaks. To prevent further water ingress and protect the tanks' ability to remain watertight, the team knew they would need a quality repair solution.

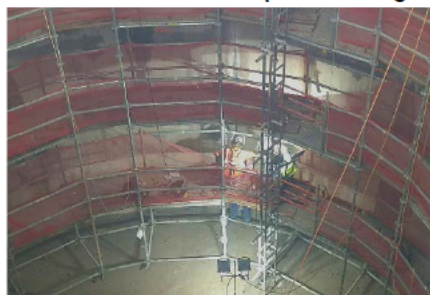
They just had three key challenges that their solution would have to overcome. The most immediate one was the local geography surrounding the plant's location. Because the plant was built on the shore of Calcasieu Lake, it has a water table depth of just 1.5 m (5 ft). That makes it possible for water to easily access the plant's concrete tanks, so the repair solution would need to permanently waterproof the tanks. The second challenge was the low temperature of -260° F (-162° C) the tanks could be exposed to in the event of an emergency dump of LNG, which meant that the repair solution would need excellent thermal compatibility with the tanks' concrete to ensure it remained compatible during any temperature changes. And lastly, the third challenge was that the concrete tanks required a lining of specialized insulated panels, meaning the repair solution would have to be one that would not interfere with the installation of these panels.

## SOLUTION

After determining the optimal solution for this situation, the repair team chose to go with Kryton's Krytol® Leak Repair System. They were confident that with the system's Krytol Plug, Krytol Repair Grout, and Krytol T1 products working in tandem, it would be able to meet all three of the team's repair challenges.



SMART CONCRETE®



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After all, they knew the benefits each product offered. For one, the plug, a rapid-setting hydraulic cement product, was designed to stop flowing water with or without hydrostatic pressure within minutes. Meanwhile, the repair grout made use of Krystol® technology, advanced fiber technology, and shrinkage-controlling additives. All of which ensured that the concrete it treated would be able to react to water by forming interlocking crystals that would fill up any potential pathways for water ingress permanently while also making the concrete more resistant to future cracking. Then, for further waterproofing protection, Krystol T1 would provide additional Krystol technology in a slurry treatment form that would create a surface similar to concrete itself, which would ensure the repair had similar thermal properties and that the panel installation wouldn't be hindered.

In short, Kryton's Krystol Leak Repair System had all the right qualities to permanently repair Cameron LNG's concrete tanks. To ensure those qualities were used to maximum effect, a technical representative from Kryton went to the worksite to provide product training, guidance, and assistance with repairs. The end result was a complete success, revealing fully dry tanks that had a surface amplitude of less than an eighth of an inch to allow for the installation of the insulated panels with their adhesive.

