



# Tindall

*ENGINEERED TO SERVE*



## PETROCHEMICAL PROJECTS



**TRUNKLINE LNG | MISSISSIPPI DIVISION***Lake Charles, LA*

## RESISTANCE MADE PRACTICAL

The Trunkline LNG terminal is one of the largest import terminals in the U.S. CB&I approached Tindall to provide an alternative design for their fireproofed steel pipe racks and the tower that rises up the side of the massive LNG tank. The project team selected Tindall because of our reputation and experience for delivering innovative, practical, and economic solutions.

Tindall's engineering team worked alongside CB&I as the specialist precaster to design a clever structure with discrete elements to emulate cast-in-place construction. Precast provided comparable structural efficiency and durability, including fire and blast resistance, with greater speed and at a lower cost than steel construction. These robust precast components were able to meet both the industrial construction requirements and the harsh environment posed by the plant and marine location.

Unlike the steel alternative, the completed emulative precast connections were fully covered by protective concrete. Once the connections were made, there was no need for the costly and time-consuming secondary work associated with the steel option, like bolt tightening and on-site fireproofing.







M&E GLOBAL | MISSISSIPPI DIVISION  
*Freeport, TX*

## FROM DRAWINGS TO SOLUTIONS

Tindall began this project with nothing more than basic drawings indicating the scope of work. Working alongside Jacobs Engineering, Tindall took the existing cast-in-place concept and transformed it into an emulative precast solution.

The project used 30-foot-high precast columns to support two steel pipe-rack modules throughout the plant. An equipment tabletop structure and 3D process structure were created by applying Tindall's patented emulative connections. Tindall also provided the precast for two hefty, 40-foot-tall base structures, each supporting a 1,500-ton reactor vessel. The project was completed on an accelerated schedule with significantly reduced site labor.





**DOW PETROCHEMICALS | MISSISSIPPI DIVISION**  
*Plaquemine, LA*

## CONSISTENT. CAPABLE. CONFIDENTIAL.

As is the case with many projects within the petrochemical market, both of the following projects required strict confidentiality. Tindall is committed to meeting the expectations of discretion for all our clients.

For the first project, a polyethylene plant, Tindall was hired to create a series of eight inch thick by 14 foot wide architectural precast wall panels. These components were used for a packing facility, an associated office area, and a motor control center that needed to meet strict blast resistance specifications.

A year later, a second project, a petrochemical plant, required a nearly identical series of components for an office building and two motor control centers. After creating the architectural panels to meet strict blast resistance specifications, 16 industrial transformer separation panels — each 12 inches thick — were added to the scope of the project.

For both projects, the architect and engineer came directly to the Tindall plant to custom select the final sandblasted finish of the architectural panels.





## PENNSYLVANIA PETROCHEMICALS PROJECT | VIRGINIA DIVISION

Monaca, PA

# THE POWER OF EMULATIVE DESIGN

With over 5,000 construction personnel on site, the Pennsylvania Petrochemicals Project is one of the largest construction projects in the world. To help bring the structures to life safely and efficiently, the Tindall team leveraged emulative design to convert multiple scopes of work from cast-in-place to precast concrete. Through close collaboration with the design and construction teams, Tindall's expert engineers consistently delivered innovative solutions, precise detailing, and extensive documentation.

An important deliverable for this project was a chemical process structure that was in the critical path of the construction sequence. Through 100% emulative design, Tindall provided a wide range of precast solutions, including roof slabs, balconies, supporting beams, wall panels, spandrels, a modular burn pit, precast strip foundations, and a mat foundation.

Tindall also delivered 450 precast foundations with pedestals of various sizes to support and speed up construction of heavy industrial structures in the OSBL, PE 1-2, PE 3, and main substation areas of the project. Additionally, Tindall produced precast trenches and tops throughout the project, as well as around 120 sections of cantilevered firewall with integral foundations for the substation module and cocatalyst structure. By embracing emulative design, the Tindall team delivered innovative solutions that met the industry's most stringent requirements for quality, logistics, engineering, and speed of delivery.







## DOW PLANT

*Freeport, TX | Texas Division*

For this project, Tindall took the existing cast-in-place designs for pipe-racks and process structures and transformed them into a precast plan. The CIP process structures, which were originally estimated to take four or five months each, were erected in just one or two weeks.

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## POLYETHYLENE PLANT

*Lake Charles, LA | Mississippi & Texas Division*

Tindall created an emulative precast plan for this project's pipe-racks and compressor building. With two massive precast plants just a few hundred miles away on either side of the job, Tindall was able to rapidly engineer, fabricate, and deliver all the required members in nine months.

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