

## Project Profile

### AOFP (Algeria Oman Fertilizer Plant)

<b>INDUSTRY</b>	<b>: Fertilizer-Chemical Processing</b>
<b>CLIENT</b>	<b>: Mitsubishi Heavy Industries : Algeria-Oman Fertilizer Plant</b>
<b>CONTRACTOR</b>	<b>: Daewoo Engineering &amp; Construction</b>
<b>SUPPLIER</b>	<b>: Nukote Coating Systems International</b>
<b>APPLICATOR</b>	<b>: Nukote Coating Systems Singapore</b>
<b>PROJECT</b>	<b>: Process Basins-Containment-Channels</b>
<b>LOCATION</b>	<b>: Oran, Algeria</b>
<b>SYSTEM</b>	<b>: Nukote XT Plus</b>
<b>APPLICATION TYPE: New Construction Concrete</b>	
<b>COATED AREA</b>	<b>: 4,000 m<sup>2</sup></b>
<b>COMPLETION</b>	<b>: April 2011</b>



### **DESCRIPTION:**

Nukote Coatings Systems International (NCSI) polyurea products were selected and specified by Mitsubishi Heavy Industries (MHI) as the protective coating system of choice for the largest Urea Fertilizer plant in the world.

Daewoo Construction and Engineering (DCE) engaged (NCSI) technical teams to prepare the application method

statements, quality assurance, inspection and testing plans.

This project is currently the largest Urea fertilizer production facility in the world. Due to the projects sensitive location in North Africa, (DCE) also engaged (NCSI) carry out the project management and application works for the project. Nukote XT was applied in various locations in the project which included; Primary Containment of Process Basins,

## Project Profile

### Secondary Containment of Chemical Storage Bunds and Waste Water Process Tanks

The largest application area was the chemical treatment and neutralization demi pits, which was completed in 10 working days. The concrete substrate required skim coating of voids using Nukote's epoxy / filler composite system to rid the substrate of defects.

All three pits were fitted with a series of brackets to support process pipe structures. This was recognised as a critical area for the application works. A site specific detail (pipe termination wrap) was designed and utilized to ensure that the coating was properly coating terminations at pipe brackets and other penetrations.



Two secondary containment bund areas were also coated, to ensure that Sulphuric Acid and Caustic Soda were properly contained should spills or leaks occur. This consisted of one bund area for caustic soda tanks and one bund area for sulphuric acid tanks.





## Project Profile

Three additional banded areas required protection with Nukote XT+. Two mechanical pump areas, one each for caustic and sulphuric liquid distribution, and one chemical dosing area where a variety of process chemicals are injected for treatment and neutralization in the plant aeration pits.



Ring beam protection, which is a common corrosion problem that occurs where a steel tank sits on a concrete base, was addressed with formal termination details submitted and approved by the Client.

Chemical attack and differential thermal expansion rates can cause failure of jointing systems allowing corrosive vapor or liquid to ingress under the tank. Corrosion can then progress rapidly, leading to perforation and leakage with the associated environmental damage, tank repairs costs and lost production.

## Project Profile

NCSI was involved from the specification phase to implementation and completion phases, which included the following; *Full specification and detail design; Project Management; QA & ITP Management, Specialist Coating Application Teams.*



All NCSI staff were flown in to apply and manage the works. NCSI completed the project within the desired timeline and exceeded all expectations of our clients. Once NCSI finished the complete contracted works DCE immediately ordered additional material and requested assistance for another 2000- 30000 m<sup>2</sup> of primary containment coating for effluent pits.

# Project Profile

