

## Corrosion Protection for (3) Double Bottom Storage Tanks on Sand Foundation using Zerust's Zerion<sup>®</sup> FVS via Underside Injection IDS

### Project Specifics

**Installation Dates**  
December 2022

**Location**  
Florida, USA

**Environmental Conditions**  
Avg. Temp. 77°F, ~57% humidity, clear skies, little wind

**Asset Details**  
Tank 1: 80-ft dia. tank. There exists ten (10) ports, both Leak Detection (LD) and Electrical Resistance (ER) probe ports, through the dead shell.

Tank 2: 80-ft dia. tank. There exist eleven (11) ports, both LD and ER probe ports, through the dead shell.

Tank 3: 117-ft dia. tank. There exists ten (10) ports, both LD and ER probe ports, through the dead shell.

**Vessel Construction:** Each tank had an ambient operating temperature and a double-bottom design with an estimated 6-8" of sand between the floors.

**Inhibitor Delivery System (IDS)**  
Underside Injection IDS

**Zerust Product(s) Used**  
Zerion<sup>®</sup> FVS Corrosion Inhibiting Powder

**Problem**  
The client wanted corrosion protection for three double-bottom, aboveground storage tanks with a sand foundation.

**Zerust Solution**  
Each tank was proposed to have a corrosion inhibitor solution, composed of a mixture of Zerion FVS corrosion inhibitor powder and clean, potable water, injected through existing ports in the dead shells into the foundation directly beneath the new (2nd) floor plates. This corrosion mitigation approach is known as an Underside Injection IDS. Following the tank assessments, the dead shell weld areas were sealed, as needed, to help prevent the ingress of further contaminants and the egress of applied corrosion inhibitor solution. Next, existing LD ports on each tank were hooked in-sequence to garden hoses and a pump using various fittings. The pump was submerged in a drum that was used to mix the corrosion inhibitor solution at the prescribed ratio for each tank.

**Conclusion**  
All tanks were injected with prescribed amount of corrosion inhibitor solution. Zerust recommends installing new ER probes as soon as possible for monitoring of the lifespan of the applied corrosion inhibitor solution. Data is recommended to be taken (min.) once a month and sent to Zerust for analysis.

