

## Attention: Editor September 16, 2024 PRESS RELEASE







# Fight Corrosion from the Inside Out: Steel Floats and Offshore Caissons

Floating docks, pontoon structures, pilings, and offshore platform caisson legs are a normal part of the marine environment. Corrosion inside these tubular voids or steel floats is a natural, yet insidious, response to these often damp, sometimes high-chloride conditions. As such, floating structures and caisson legs are at high risk for rusting from the inside out, while at the same time being difficult to protect. Fortunately, <a href="Cortec's">Cortec's</a> Vapor phase Corrosion Inhibitors are an excellent match for these interiors, offering effective protection that is easy to apply.



### 'Self-Applying' Corrosion Inhibitors

While it is difficult to apply coatings or other traditional rust preventatives inside dock floats or caisson legs, Vapor phase Corrosion Inhibitors solve the problem by helping to apply themselves. Similarly to an air freshener or diffuser whose scent gradually spreads out and pervades the whole room, Vapor phase Corrosion Inhibitor molecules condition an enclosed space by vapor diffusion. They are attracted to metal surfaces where they adsorb and form a hydrophobic molecular layer that



inhibits corrosion reactions in the presence of moisture and chlorides. Being water-soluble, Vapor phase Corrosion Inhibitors can protect metal surfaces above and below residual water that might have collected at the bottom of the float. Workers can apply Vapor phase Corrosion Inhibitors by fogging them into the void in liquid or powder form, or by suspending breathable pouches containing Vapor phase Corrosion Inhibitor powder.

#### **Examples of Floating Structure / Marine Void Protection**

Vapor phase Corrosion Inhibitors have been satisfactorily used in a variety of floating and structural marine voids. In one case, cylinder dock floats as wide as 2 feet (0.6 m) and as long as 40 feet (12 m) were painted on the outside but rusting on the inside. VpCI®-609 Powder was fogged into each void before final welding, and special access points were added during final production to allow reapplication every two years. After nine months, the test cylinders were inspected and found to be corrosion-free, confirming effective protection without additional labor.

In another application, an offshore platform caisson leg was treated with <u>VpCI®-337</u> BD, a waterborne fogging fluid, and VpCI®-609 S, a powder fogging material intended to counter water at the bottom of the leg. Custom strips of <u>EcoPouch®</u> (breathable pouches containing VpCI®-609 Powder) were also suspended inside the caisson. Workers installed corrosion coupons and two years later found a dramatically lower corrosion rate compared to corrosion in the control caisson.

### **Stop Corrosion From the Inside Out!**

While it is relatively easy to paint the outside of caisson legs or floating docks, it is much more difficult to provide comprehensive protection inside these voids, which have a tendency to rust unseen in a corrosive marine environment. Vapor phase Corrosion Inhibitors lighten the load by protecting efficiently and effectively without heroic application measures. Contact Cortec® for specific recommendations on protecting your marine void or floating structure against corrosion from the inside out.



Keywords: stop corrosion, corrosion inside floating structures, corrosion prevention in offshore caissons, void space corrosion, marine corrosion, corrosion inhibitors, rust prevention in marine environments, Cortec, rust prevention, offshore corrosion

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