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**Attention: Editor**  
**January 23, 2023**  
**PRESS RELEASE**



## **An Anticorrosion Strategy for Cleaning and Blasting Tube Bundles**

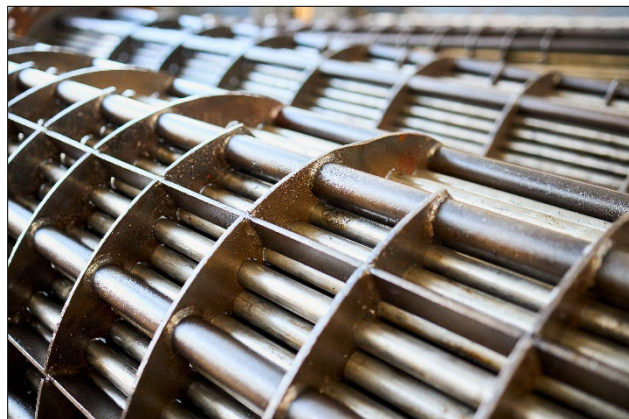
Tube bundles and shells are everywhere in the industrial world. A major threat to efficiency is rust, fouling, or other product buildup on the shell or tube side of the bundles. Over time, this makes the heat exchanger system work harder and can gradually raise operational costs or even lead to equipment failure. Cortec® offers the following strategies for cleaning and blasting tube bundles to keep them in good operating condition.



### **Causes of Tube Bundle Corrosion**

Corrosion can happen on new tube bundles before they are ever installed. This is especially true in the oil and gas industries, where it is common to build giant modules near the ocean, ship them overseas, and assemble them in a remote oil field. Exposed as they may be to high temperatures and sea spray, it is unsurprising that rust can quickly take over and start an early aging process on either the shell side or the

tube side. In the case of operational heat exchangers, rust often takes place when moisture from the air condenses on comparatively cooler tube bundles and causes “sweating.”



### **Cleaning the Shell Side**

One of the most common ways to remove rust, fouling, or any type of buildup on the shell side is to remove the tube bundle from the shell and clean the bundle with high pressure water blasting. The water pressure is typically strong enough to blast the rust right off the metal surface, so all that is needed is a flash rust inhibitor to protect the newly blasted metal from further

corrosion. [VpCI®-611](#) is a water-based rust preventative concentrate that can be mixed with the blast water for this purpose.

### **Cleaning the Tube Side**

Tube internals are naturally more difficult, but not impossible, to clean. One way to remove rust on small tube bundles is to immerse them in a tank or tub of [VpCI®-422](#) biobased rust remover, take them out after 30-60 minutes, and neutralize them with [VpCI®-414](#), which also protects against flash rust. Bundles that are too large for immersion can be filled with VpCI®-422 for the same amount of time, drained, and neutralized with a VpCI®-414 solution. In either case, the process can be repeated if additional rust removal is needed after the first treatment.

### **Hydrotesting and Preservation of Tube Bundles**

After cleaning, tube bundles are often hydrotested to ensure their integrity (especially when new). This introduces yet another corrosion threat that can be counteracted by adding [VpCI®-649](#) to the hydrotest water. Because this corrosion inhibitor leaves behind a protective film on metal surfaces, it can be added at higher doses for ongoing corrosion protection during



long-term preservation. Tube bundles that have been taken out of their shell and therefore cannot be hydrotested may be preserved by shrink wrapping them in [VpCI®-126 HP UV Shrink Film](#) or [MilCorr® VpCI® Shrink Film](#), depending on storage conditions and length of preservation.

## **Get Started on Cleaning and Preservation**

Rust removal and prevention is important for keeping tube bundles as close to “like new” condition as possible, ready for efficient operation. Further corrosion can be prevented by adding corrosion inhibitors to the cleaning and hydrotest water and applying other preservation materials. Contact Cortec® for more advice on cleaning and preserving tube bundles: <https://www.cortecvci.com/contact-us/>

*Keywords: anticorrosion strategy, cleaning and blasting tube bundles, Cortec, VpCI, corrosion protection, rust removal, protect against flash rust, corrosion and hydrotesting, long-term preservation, cleaning heat exchangers*

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