



**Unconventional Solutions, Inc.**  
Partnering with Your Industry to Repair - Protect - Upgrade

# Leading Edge

## Don't Let Your Boiler Become a Million Dollar Liability


Take measures to prevent corrosion during layup, maximize asset service life and reduce problems

Controlling corrosion during boiler layup for both wet and dry boiler layup, vapor-phase corrosion inhibitors can provide effective equipment protection.

Any system is prone to corrosion when put into a state of non-operation. For boilers, shutdown can occur for various reasons, including equipment inspection, maintenance outages, fluctuating production requirements, or seasonal and holiday layups. When the boiler is started again, a spike in iron levels in the feedwater or condensate samples signals unchecked corrosion and potential short- and long-term service challenges. Corrosion protection is therefore critical to successful layups and startups.

The need for boiler layup is driven by an institution's demand for steam, the key byproduct of boiler operation. Steam demand fluctuates on a seasonal basis. If out-of-use systems are not adequately protected, corrosion and iron can affect a water treatment chemical program, tie up the system and become a foulant. Iron chips can plug up sensor lines and interfere with heat transfer efficiency. Corrosion sites also could become eventual points of leakage.

One of the most common corrosion-protection methods during boiler layup is applying desiccant to a dry, empty boiler. Desiccant may seem like an

inexpensive commodity chemical for layup. This layup philosophy, however, hinges on the ability of desiccants to remove moisture from the air and limit corrosion by keeping the space dry. Protection, therefore, is limited and depends on the adequate absorption of moisture, which means the desiccant may need to be removed and replaced periodically. Otherwise, the system may be unprotected (if the desiccant cannot absorb any more moisture). In the worse cases, a saturated desiccant can lead to corrosion at the point of metal contact if not removed quickly enough. 

Read more about reducing boiler problems today from the Cortec Experts: [www.process-heating.com/articles/94092-controlling-corrosion-during-boiler-layup](http://www.process-heating.com/articles/94092-controlling-corrosion-during-boiler-layup)



The waterside of a firetube boiler that was shut down and left full of water is shown. Brown areas show where the pipes and walls were covered with water. The orange line shows where corrosion has occurred above the water level because the boiler was not laid up with a vapor-phase corrosion inhibitor. | Photo credit: Cortec Corp.

### Cortec Boiler Preservation Products:

Cortec's boiler layup products have provided a simple and effective solution for boiler operators who want to look forward to an easy startup. The **Boiler Lizard**®, **Boiler Gecko**™, **Boiler Dragon**™, and the **Boiler Egg**™ are all easy to apply (no quick lime or silica gel needed) to drained boilers of various sizes. They provide protection against corrosion during the layup period (or in the case of the Boiler Egg™, during the critical startup phase) helping operators avoid resultant leakage, blockage, and repair headaches. To streamline the process even further, these products typically do not even need to be removed at startup.

**Boiler Gecko**™ is VpCI® packaged in an airpowered spray can for use in the dry layup of small boilers and steam components.

**Boiler Dragon**™ is VpCI® waterborne multimetal fogging fluid designed for use in the dry layup of large boilers and steam components.

**Boiler Lizard**® contains VpCI® powder in a polyvinyl alcohol (PVA) water-soluble bag. For use in the dry layup of medium sized boilers.

**Boiler Egg**™ is designed to scavenge oxygen and passivate metal during the initial filling of makeup water after seasonal or long-term dry layup of boilers. The Boiler Egg™ comes in an easy-to-handle pouch that is readily dissolved upon water contact.

**PURCHASE TODAY:** <https://www.usigroups.com/product/cortec-boiler-preservation/>



**Boiler Gecko**

**Boiler Dragon**

**Boiler Lizard**

**Boiler Egg**



Keeping You in the Know Since 2002

## USI Dates to Remember

**March 16**

**SEMPPEs** at Bakers of Milford (Milford, MI)

**June 9**

**USI Dayton-Cincinnati Golf Outing** (Miamisburg, OH)

**June 16**

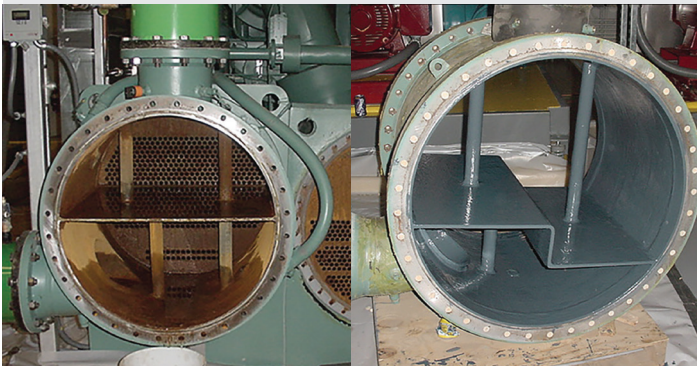
**USI Wixom, MI Golf Outing** (Milford, MI)

### Heat Exchangers, Chillers and Condensers



are constructed of bundles of copper tubes held together by tube plates, all of which are contained in a solid metallic cylinder. If these units are left unattended, the corrosion would completely destroy the tube plate.

The Unconventional Solutions Team can help find a solution to Repair and Protect your Heat Exchangers/ Chillers and save you money in costly downtime and replacement costs.



## PRODUCT HIGHLIGHT

### Resimac Resimetal 203 Superflow Ceramic Repair Fluid

#### Resimac Resimetal 203 Superflow Ceramic

**Repair Fluid** is an erosion-corrosion resistant coating used principally in fluid flow situations for improving flow efficiency. The material can be applied directly to abrasive blasted steel or to surfaces previously rebuilt with Resimac 101 Metal Repair Paste or 201 Ceramic Repair Paste.



**BEST USED AS A TWO COLOR SYSTEM!**

**APPLY RED FIRST, THEN GRAY.**

During regular maintenance checks, if you start to see **RED**, you will know it is **time to re-coat** before extreme wear/damage takes place.

Call us @ 248.735.7000 for a **FREE** demonstration.

<https://www.usigroups.com/product/resimac-resimetal-203-superflow-ceramic-repair-fluid/>



## PURCHASE ORDER (PO) ORDERING NOW AVAILABLE

Call us at 248.735.7000 or email Customer Service at [cs@usigroups.com](mailto:cs@usigroups.com) to set up an online account.

**Contact the USI team today! We have an Unconventional Solution for YOU!**

### The USI Team offers:

Technical Support • Training • Troubleshooting  
HOTSHOT & Same Day Local Deliveries available for orders placed by 12 p.m. EASTERN TIME

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**Fast, Friendly Service & Shipping**

