

TUBEGUARD®-XL TUBE PROTECTION, CORROSION INHIBITOR AND BIO-FILM REMOVAL TABLETS



**YOU'VE TAKEN THE TIME TO CLEAN
YOUR EQUIPMENT, NOW PROTECT
IT BY APPLYING TUBEGUARD-XL!**



TubeGuard®-XL

TubeGuard-XL is a revolutionary alloy passivation flush for supplementary tube protection. This formulated tablet design is the best available technology for inhibiting corrosion of copper, stainless steel and other ferrous metals. The TubeGuard-XL tablet is safe to handle, completely biodegradable and designed with environmentally friendly compounds. This breakthrough tube protection process will forever change the ease and effectiveness of both, eliminating bio-film and preventing corrosion. No measuring, or dosing of chemicals is required. The TubeGuard-XL tablet simply dissolves in water and can be used during tube brushing or after a chemical descaling and flushing of your water operated system. TubeGuard-XL tabs not only contain corrosion inhibitors for passivation, but also a medical grade detergent for bio-film removal. The application of TubeGuard-XL is perfect for plate and frame and brazed plate heat exchangers as a protective measure to decrease the potential for micro biologically induced corrosion (MIC).



THE EFFECTIVENESS OF PASSIVATION:

Passivation is the process of treating or coating a metal with a protective film or layer in order to reduce the chemical reactivity of its surface. A passivation film or layer will render a metal less susceptible to corrosion processes.

Will the alloy in my system naturally passivate after a cleaning?

This is a question that is commonly asked. Naturally occurring passivation

can take place but it is very dependent on the levels of dissolved oxygen and CO₂ within the cooling water. As a result, the time frame to accomplish natural passivation will vary in all situations as will the timeline. Natural passivation is unlikely to happen in boilers after a chemical descaling. This is due to deaeration of the boiler feed-water and the water treatment chemicals the boiler is supplemented with. Passivating corrosion inhibitors are typically added after a boiler has been descaled and the spent descaler has been neutralized & discharged. By applying

the TubeGuard-XL after a cleaning, the product will rapidly develop a passivation layer offering protection of your base alloys.

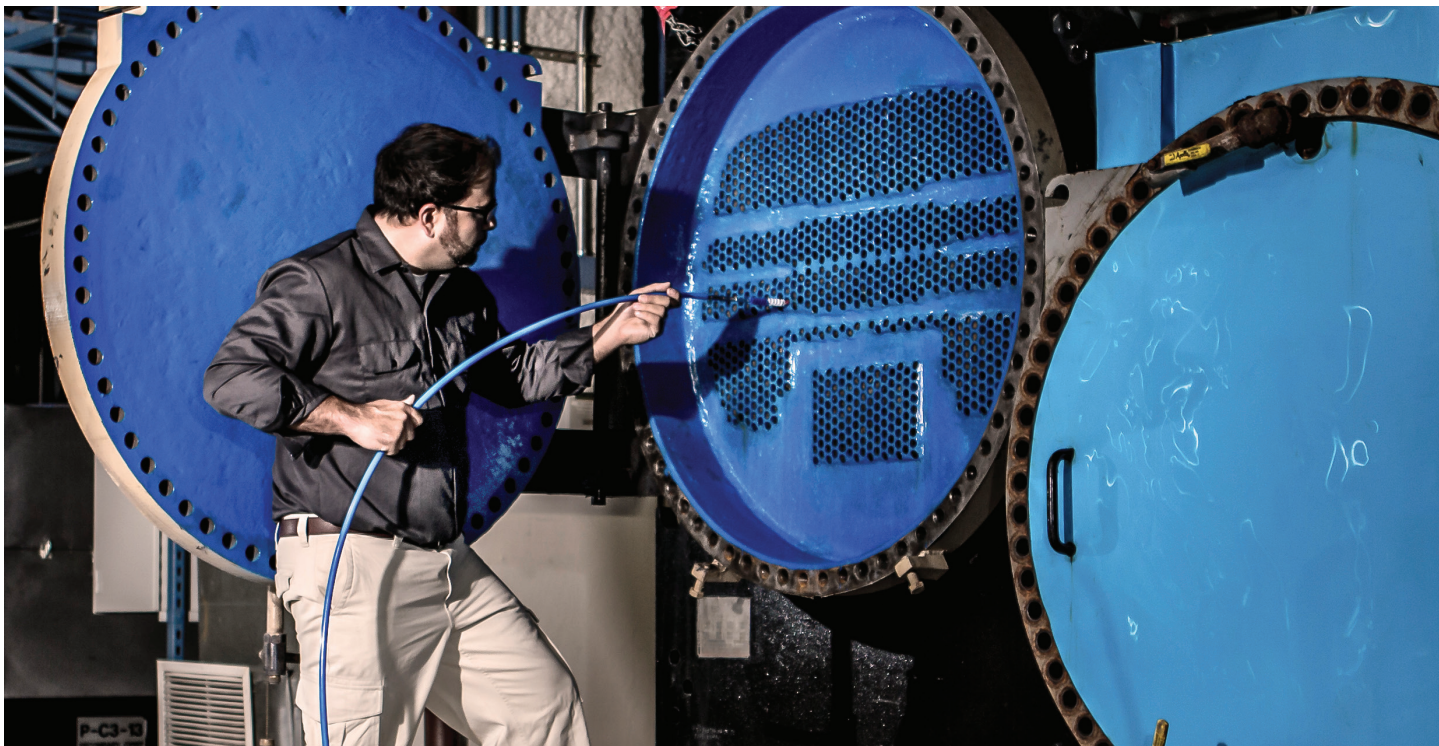
WET EQUIPMENT LAY-UPS

For long term protection of equipment, the solubilized TubeGuard-XL solution can be left in the system for seasonal wet lay-up of HVAC equipment. For wet lay-ups, utilize (2) TubeGuard-XL tablets for every 50 gallons of total volume.

GOODWAY®
INNOVATIVE MAINTENANCE SOLUTIONS

Call: 1-800-333-7467
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HOW MUCH TUBEGUARD-XL DO I NEED?

- 1 Tablet for every 200-250 tubes in tube brush applications with a RAM-PRO-XL and chemical dispenser.
- 1 Tablet for every 50 gallons of liquid volume in a post descaling application.

HOW IS TUBEGUARD-XL APPLIED?

Tube brushing applications:

- Our RAM Chemical dispenser allows the tablet to simply dissolve in the on-board reservoir during the tube cleaning. As the water passes through the dispenser, it picks up the chemical residual from the TubeGuard and applies it to the tube surface for passivation.
- The dissolve time for a tablet is approximately 1 hour offering ample time to apply the passivation layer to approximately 200-250 tubes.

Chemical descaler circulation applications:

- After you have completed your descaling process and have flushed out all residual descaling solution, solubilized TubeGuard-XL can be circulated through your application.
- Pre-dissolve the recommended amount of TubeGuard-XL tablets (1 tablet for every 50 gallons of total volume) in a 5-gallon bucket and slowly add to the recirculation tank on your pump system. The circulation time of the TubeGuard-XL solution will be approximately 15 minutes depending on overall total volume of the system that was cleaned.
- TubeGuard-XL tablets take 1 hour to dissolve, so allow ample tablet dissolve time so the solution is ready when needed.
- For helpful procedural steps, please contact your Goodway sales person.

Please note: TubeGuard-XL tabs should never be mixed with or added during a chemical descaling operation. The application requires the equipment should first be flushed with clean water and then the TubeGuard-XL can be added to passivate the system.

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