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Preoperational Cleaning for New Construction Closed Loop

Technical Article CWT-LT-2002

The closed loop system plays a vital role in many facilities. Whether it is a comfort cooling, heating, or process system, the success of a closed loop treatment program starts with the proper preoperational cleaning.

Protecting the closed loop from day one will help ensure the system's expected lifespan. Upon installation, the new system will require cleaning and treatment prior to being put into service. The following procedures are recommended.

- Do not fill the system with water until you are ready to start the circulation pumps.
- When the closed loop is filled with water, add **CWT ST-5510** system cleaner and circulate for 24 to 48 hours. Consult with your Clear Water Tech consultant regarding dosage.
- Be sure that all zone valves are open to ensure that the water and cleaner circulates, making contact with all system piping and components for proper cleaning.
- When the cleaner has been circulated for the prescribed time, flush out the cleaner and add fresh water make-up.
- Flush until the water is clean, with no evidence of foreign matter, and the pH and alkalinity match the make-up water. Dissolved iron should be less than 1.0 mg per liter when the cleaning is completed.
- Once the system is completely flushed and cleaned, the contractor will need to clean all system strainers and filters.
- After the above procedures have been followed, add **CWT LT-2010** to reach the desired treatment level. Maintain 600-800 ppm of sodium nitrite in chilled water systems, and 800-1000ppm in hot water loops. Test with the **CWT Nitrite Test Kit**.
- For systems requiring a Molybdate based treatment, it is recommended to treat with **CWT LT-2400**. Test with **CWT High Range Molybdate Test Kit**. Maintain 100-200 ppm as MO in chilled water loops and 200-300ppm as MO in Hot Water loops.

Note: For systems that require the addition of water for hydrotesting more than 24 hours prior to cleaning, treatment with a volatile vapor corrosion inhibitor such as **VpCI-649** is required. **Azole** should be added to systems that have copper piping or components. **Contact your Clear Water Technologies consultant for the right treatment choice and dosage rates of all products.**