

232500S01 HVAC WATER TREATMENT – Water Systems Chemical Treating

INFORMATION:

This standard addresses the chemical treating of HVAC water systems (heating hot water and glycol) related to construction projects in Medical Center maintained facilities. The procedure is to be utilized by contractors working with those systems in conjunction with the Medical Center Physical Plant Division staff to ensure a consistent level of chemicals are maintained in the systems upon completion of work and/or outages.

REQUIREMENTS:

1. The following levels of chemicals are to be maintained in the respective systems:
 - a. Heating hot water (tight system) – 200 to 300 ppm of Molybdate / 150 to 250 ppm of Nitrite / 5 to 20 ppm of Azole / pH 8.5 to 10.
 - b. Heating hot water (regular water losses) – 1000 to 1500 ppm of Nitrite / 5 to 20 ppm Azole / pH 8.5 to 10.
 - c. Glycol systems – 50% inhibited ethylene or propylene glycol
2. The contractor doing the project work is to use the same vendor, product brands and chemical mixtures as the Medical Center to maintain consistency of material in the systems.

PROCEDURE:

The following procedure is to be used on any system outlined above.

1. Outage is scheduled with the Physical Plant Division – Medical Center (PPDMC) using the standard outage procedure.
2. A pre-test is conducted on the system to determine the chemical content prior to the work to establish an existing baseline. If this outage and work will be an extended period of time with the affected work portion being isolated from the remainder of the system, then this pre-test should occur approximately 48 hours prior to the refilling of the system. This pre-test should have the involvement of the PPDMC Preventative Maintenance Manager or his designee to agree on the baseline.
3. Outage is initiated by PPDMC and the contractor does the required work (additions, modifications or repairs) to the affected system.
4. Upon completion of the work, the contractor is to clean and flush the affected piping systems per the procedure outlined in the project specifications.
5. When the system is adequately cleaned and flushed, the contractor is responsible for refilling the section of the affected piping with water and appropriate chemicals to meet the required levels noted above.
6. After the outage section is filled, the affected area will be opened up back into the overall system by PPDMC.
7. The system will be allowed to operate normally and circulate throughout the system for 48 hours.
8. The chemical levels will be tested in the mechanical room that contains the system equipment and also in the area where the work was completed. This test is to confirm that the chemical has been adequately dispersed throughout the system and meets the required chemical levels. This testing is also done in conjunction with the PPDMC PM Manager or designee for agreement on the chemical level.

232500S01 HVAC WATER TREATMENT – Water Systems Chemical Treating

9. Should the test not meet the desired level, then additional chemicals should be added by the contractor and steps 7 through 9 repeated until the level is satisfactory.