

**SECTION 23 25 00  
HVAC WATER TREATMENT**

**PART 1 - GENERAL**

**1.1 DESCRIPTION**

A. This section specifies cleaning and treatment of circulating HVAC water systems, including the following.

1. Cleaning compounds.

**1.2 RELATED WORK**

- A. Test requirements and instructions on use of equipment/system: Section 01 00 00, GENERAL REQUIREMENTS.
- B. General mechanical requirements and items, which are common to more than one section of Division 23: Section 23 05 11, COMMON WORK RESULTS FOR HVAC and STEAM GENERATION.
- C. Piping and valves: Section 23 21 13, HYDRONIC PIPING and Section 23 22 13, STEAM and CONDENSATE HEATING PIPING.

**1.3 QUALITY ASSURANCE**

- A. Refer to paragraph, QUALITY ASSURANCE in Section 23 05 11, COMMON WORK RESULTS FOR HVAC and STEAM GENERATION.
- B. Technical Services: Provide the services of an experienced water treatment chemical engineer or technical representative to direct flushing, cleaning, pre-treatment, training, debugging, and acceptance testing operations; direct and perform chemical limit control during construction period and monitor systems for a period of 12 months after acceptance, including not less than 6 service calls and written status reports. Emergency calls are not included. Minimum service during construction/start-up shall be 6 hours.
- C. Chemicals: Chemicals shall be non-toxic approved by local authorities and meeting applicable EPA requirements.

**1.4 SUBMITTALS**

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, and SAMPLES.
- B. Manufacturer's Literature and Data including:
1. Cleaning compounds and recommended procedures for their use.
- C. Water analysis verification.
- D. Materials Safety Data Sheet for all proposed chemical compounds, based on U.S. Department of Labor Form No. L5B-005-4.
- E. Maintenance and operating instructions in accordance with Section 01 00 00, GENERAL REQUIREMENTS.

**1.5 APPLICABLE PUBLICATIONS**

- A. The publication listed below form a part of this specification to the extent referenced. The publications are referenced in the text by the basic designation only.
- B. National Fire Protection Association (NFPA):  
70-2008.....National Electric Code (NEC)
- C. American Society for Testing and Materials (ASTM):  
F441/F441M-02 (2008) ... Standard Specification for Chlorinated Poly  
(Vinyl Chloride) (CPVC) Plastic Pipe, Schedules  
40 and 80

**PART 2 - PRODUCTS****2.1 CLEANING COMPOUNDS**

- A. Alkaline phosphate or non-phosphate detergent/surfactant/specific to remove organic soil, hydrocarbons, flux, pipe mill varnish, pipe compounds, iron oxide, and like deleterious substances, with or without inhibitor, suitable for system wetted metals without deleterious effects.
- B. All chemicals to be acceptable for discharge to sanitary sewer.
- C. Refer to Section 23 21 13, HYDRONIC PIPING and Section 23 22 13, STEAM and CONDENSATE HEATING PIPING, PART 3, for flushing and cleaning procedures.

**2.2 EQUIPMENT AND MATERIALS IDENTIFICATION**

Refer to Section 23 05 11, COMMON WORK RESULTS FOR HVAC and STEAM GENERATION.

**PART 3 - EXECUTION****3.1 INSTALLATION**

- A. Delivery and Storage: Deliver all chemicals in manufacturer's sealed shipping containers. Store in designated space and protect from deleterious exposure and hazardous spills.
- B. After chemical cleaning is satisfactorily completed, open the inlet and outlet valves to each coil and close the by-pass valves. Also, clean all strainers.
- C. Perform tests and report results in accordance with Section 01 00 00, GENERAL REQUIREMENTS.
- D. Instruct VA personnel in system maintenance and operation in accordance with Section 01 00 00, GENERAL REQUIREMENTS.

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