

SECTION 23 05 70 - IDENTIFICATION FOR HVAC SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following identification materials:
 - 1. Equipment markers.
 - 2. Pipe markers.
 - 3. Duct markers.
 - 4. Valve tags.
 - 5. Valve schedules.
 - 6. Warning tags.
- B. Refer to other Division 23 Specification Sections for requirements to label and identify materials, equipment and accessories relating to other components of the HVAC System(s).

1.3 SUBMITTALS

- A. Submit Product Data for type of marker and tag along with a schedule where each type will be installed.

1.4 COORDINATION

- A. Coordinate installation of identifying devices with completion of covering and painting of surfaces where devices are to be applied.
- B. Coordinate installation of identifying devices with location of access panels and doors.
- C. Install identifying devices before installing acoustical ceilings and similar concealment.

PART 2 - PRODUCTS

2.1 MANUFACTURERS:

- A. Provide identification materials available through Craftmark Pipe Markers or equal.

2.2 EQUIPMENT MARKERS

- A. Equipment Markers: 1/8" thick black plastic tag with engraved data in white letters, pre-drilled holes for permanent attachment on equipment.

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1. Minimum marker size: 4" wide by 2" high. Length and width to be larger if required for marker content.
2. Minimum letter size: 1/2".
3. Adhesive: Contact-type permanent adhesive, compatible with label and with substrate material.
4. Marker content: equipment name tag as shown on the drawings (i.e., AHU-1).

2.3 PIPING IDENTIFICATION DEVICES

- A. Manufactured self-adhesive pipe markers: Preprinted, color-coded, with lettering indicating service, and showing direction of flow. Provide markers for all piping systems.
1. Colors: Comply with ASME/ANSI A13.1.
 2. Lettering: Use standard piping system terms and abbreviate only as necessary for each application length.
 3. Pipes with OD, Including Insulation, Less Than 6 Inches: Full-band pipe markers extending 360 degrees around pipe at each location.
 4. Pipes with OD, Including Insulation, 6 Inches and Larger: Either full-band or strip-type pipe markers at least three times letter height and of length required for label.
 5. Arrows: Integral with piping system service lettering to accommodate both directions; or as separate unit on each pipe marker to indicate direction of flow.

2.4 DUCTWORK IDENTIFICATION

- A. Manufactured self-adhesive vinyl peel off markers, 4" x 24" with bold 2" letters. Include airflow direction, duct service (such as supply, return, and exhaust and air handling system identification (i.e. AHU-2 SUPPLY AIR).

2.5 VALVE TAGS

- A. Valve Tags: Stamped or engraved with 1/4-inch letters for piping system abbreviation and 1/2-inch numbers, with numbering scheme reviewed and approved by the owner's representative. Provide 5/32-inch hole for fastener.
1. Material: 0.032-inch- thick brass.
 2. Valve-Tag Fasteners: Brass wire-link or beaded chain.

2.6 VALVE SCHEDULES

- A. Valve Schedules: For each piping system, on standard-size bond paper. Tabulate valve number, piping system, system abbreviation (as shown on valve tag), location of valve (room or space), normal-operating position (open, closed, or modulating), and variations for identification. Mark valves for emergency shutoff and similar special uses.
1. Valve-Schedule Frames: Glazed display frame for removable mounting on masonry walls for each page of valve schedule. Include mounting screws.
 2. Frame: Extruded aluminum.
 3. Glazing: ASTM C 1036, Type I, Class 1, Glazing Quality B, 2.5-mm, single-thickness glass.

PART 3 - EXECUTION

3.1 EQUIPMENT IDENTIFICATION

- A. Install and permanently fasten equipment markers on each major item of HVAC equipment. Locate nameplates where accessible and visible. Nameplates are not required for HVAC equipment that is exposed to view in finished areas such as corridors, stairs, offices and classrooms. Include nameplates for the following general categories of equipment:
1. Air Handling Units.
 2. Energy Recovery units.
 3. Packaged Air Handling Units.
 4. Packaged Outdoor Air-handling Units
 5. Unit Ventilators.
 6. Fan Coils.
 7. Air Terminal Units.
 8. Exhaust Fans.
 9. Kitchen Ventilation Systems.
 10. Boilers.
 11. Chillers.
 12. Pumps.
 13. Air Separators.
 14. Expansion Tanks.
 15. Air-cooled Condensing units.
 16. Ductless Air Conditioning Units.
 17. Terminal Heating Units.
 18. Acoustical Smoke Vents.

3.2 PIPING IDENTIFICATION

- A. Provide labels for all piping systems including:
1. Chilled water.
 2. Heating hot water.
 3. Refrigerant systems.
 4. Condensate piping.
- B. Locate pipe markers where piping is above accessible ceilings, exposed in machine and/or equipment rooms and in maintenance spaces such as shafts, tunnels, and plenums as follows:
1. Near each valve and control device.
 2. Near each branch connection, excluding short takeoffs for fixtures and terminal units. Where flow pattern is not obvious, mark each pipe at branch.
 3. Near penetrations through walls, floors, ceilings, and non-accessible enclosures.
 4. At access doors, manholes, and similar access points that permit view of concealed piping.
 5. Near major equipment items and other points of origination and termination.
 6. Spaced at maximum intervals of 50 feet along each run. Reduce intervals to 25 feet in areas of congested piping and equipment.

3.3 DUCT IDENTIFICATION

- A. Install duct markers with permanent adhesive on air ducts according to the following:

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1. Supply ducts.
 2. Return ducts.
 3. Outside air intake ducts.
 4. Exhaust ducts.
- B. Locate duct markers where ducts are above accessible ceilings, exposed in machine and/or equipment rooms and in maintenance spaces such as shafts, tunnels, and plenums as follows:
1. Near each branch connection.
 2. Near penetrations through walls, floors, ceilings, and non-accessible enclosures.
 3. At access doors and similar access points.
 4. Near major equipment items and other points of origination and termination.
 5. Spaced at maximum intervals of 50 feet along each run. Reduce intervals to 25 feet in areas of congested piping and equipment.

3.4 VALVE-TAG INSTALLATION

- A. Install tags on all valves and control devices valves and control devices in all piping systems. List all tagged valves in a valve schedule.
- B. Valve-Tag Application Schedule:
1. Valve-Tag Size and Shape for all piping systems:
 - a. 1-1/2 inches, round.
 2. Valve-Tag Color: Natural.
- C. The location of all valves shall be indicated by locator tags on the ceiling tile. Provide equipment locator tags in a color suitable to the owner. Tags to be push tack type with 7/8" diameter head as manufactured by Marketing Services Inc. or equal.

3.5 VALVE-SCHEDULE INSTALLATION

- A. Mount valve schedule on wall in accessible location in each major equipment room. Provide a complete valve schedule in the O and M manuals.

END OF SECTION 23 05 70