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SECTION 23 05 53

IDENTIFICATION FOR HVAC PIPING AND EQUIPMENT

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**PART 1 - GENERAL**

1.1 SUMMARY

- A. Section Includes:
  - 1. Identifying Devices and Labels

1.2 REFERENCES

- A. [ASTM International \(ASTM\)](#) Publications: (Former American Society for Testing and Materials)
  - 1. C1036 "Standard Specification for Flat Glass"
- B. [The American Society of Mechanical Engineers \(ASME\)](#) Publications:
  - 1. A13.1 "Scheme for the Identification of Piping Systems"

1.3 SUBMITTALS

- A. General: Submit the following in accordance with Conditions of Contract and Division 01 Specification Sections:
  - 1. All identifying devices and labels.

1.4 QUALITY ASSURANCE

- A. Comply with [ASME](#) A13.1, "Scheme for the Identification of Piping Systems" for lettering size, length of color field, colors, and viewing angles of identification devices.

1.5 SEQUENCING AND SCHEDULING

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

**PART 2 - PRODUCTS**

2.1 GENERAL

- A. General: Products specified are for applications referenced in other Division 23 Sections. If more than single type is specified for listed applications, selection is Installer's option.

- B. Pipes Including Insulation: Full-band pipe markers, extending 360 degrees around pipe at each location.

## **2.2 IDENTIFYING DEVICES AND LABELS**

- A. Lettering: Manufacturer's standard preprinted captions as selected by Owner's Representative.
- B. Lettering: Use piping system terms indicated and abbreviate only as necessary for each application length.
  - 1. Arrows: Either integrally with piping system service lettering, to accommodate both directions, or as separate unit, on each pipe marker to indicate direction of flow.
- C. Plastic Duct Markers: Manufacturer's standard laminated plastic, in the following color codes:
  - 1. Green: Cold-air supply.
  - 2. Yellow: Hot-air supply.
  - 3. Blue: Exhaust, outside, return, and mixed air.
  - 4. Terminology: Include direction of airflow; duct service such as supply, return, and exhaust; duct origin, duct destination, and design flow.
- D. Plastic Tape: Manufacturer's standard color-coded, pressure-sensitive, self-adhesive, vinyl tape, at least 3 mils thick.
  - 1. Width: 1-1/2 inches on pipes with OD, including insulation, less than 6 inches; 2-1/2 inches for larger pipes.
  - 2. Color: Comply with [ASME](#) A13.1, unless otherwise indicated.
- E. Valve Tags: Stamped or engraved with 1/4-inch letters for piping system abbreviation and 1/2-inch sequenced numbers. Include 5/32-inch hole for fastener.
  - 1. Material: 0.032-inch thick, polished brass.
  - 2. Size: 1-1/2-inches diameter, unless otherwise indicated.
- F. Valve Tag Fasteners: Brass, wire-link chain and S-hooks.
- G. Access Panel Markers: 1/16-inch thick, engraved plastic-laminate markers, with abbreviated terms and numbers corresponding to concealed valve. Provide 1/8-inch center hole for attachment.

## **PART 3 - EXECUTION**

### **3.1 LABELING AND IDENTIFYING PIPING SYSTEMS**

- A. Install pipe markers on all mechanical systems. Include arrows showing normal direction of flow.
- B. Marker Type: Plastic markers, with application systems. Install on pipe insulation segment where required for hot, noninsulated pipes.

- C. Fasten markers on pipes and insulated pipes by one of following methods:
  - 1. Snap-on application of pretensioned, semirigid plastic pipe marker.
- D. Locate pipe markers where piping is exposed in machine rooms; accessible maintenance spaces such as shafts, tunnels, and plenums; and exterior nonconcealed locations according to the following:
  - 1. Near each valve and control device.
  - 2. Near each branch connection, excluding short takeoffs for fixtures and terminal units. Mark each pipe at branch, where flow pattern is not obvious.
  - 3. Near penetrations through walls, floors, ceilings, or nonaccessible 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 a maximum of 50-foot intervals along each run. Reduce intervals to 25 feet in areas of congested piping and equipment.
  - 7. On piping above removable acoustical ceilings, except omit intermediately spaced markers.

### 3.2 VALVE TAGS

- A. Install on valves and control devices in piping systems, except check valves, valves within factory-fabricated equipment units, plumbing fixture supply stops, shutoff valves, faucets, convenience and lawn-watering hose connections, and HVAC terminal devices and similar roughing-in connections of end-use fixtures and units. List tagged valves in valve schedule.
- B. Valve Tag Application Schedule: Tag valves according to size, shape, color scheme, and with captions similar to those indicated in the following:
  - 1. Domestic Cold Water.
  - 2. Domestic Hot Water.
  - 3. Domestic Hot Water Return.
  - 4. Gas.
- C. Tag Material: Brass.
- D. Tag Size and Shape: According to the following:
  - 1. Cold Water: 1-1/2 inches round.
  - 2. Hot Water: 1-1/2 inches round.
  - 3. Gas: 1-1/2 inches round.
- E. Valve schedule and tag locations shall be shown on record drawings.
- F. Valve Schedule: As-built plumbing plans shall be noted with valve tag information to allow valve tags and valves on plans to be correlated.

**3.3 LABELING AND IDENTIFYING DUCT SYSTEMS**

- A. Duct Systems: Identify air supply, return, exhaust, intake, and relief ducts with duct markers; or provide stenciled signs and arrows showing service and direction of flow.
  - 1. Location: Locate signs near points where ducts enter into concealed spaces and at maximum intervals of 50 feet in each space where ducts are exposed or concealed by removable ceiling system.

**3.4 ADJUSTING AND CLEANING**

- A. Relocate HVAC identification materials and devices that have become visually blocked by work of this or other Divisions.
- B. Clean faces of identification devices and glass frames of valve charts.

**END OF SECTION**