

**SECTION 230553
IDENTIFICATION HVAC PIPING AND EQUIPMENT**

GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Identifying Devices and Labels
- B. Related Sections:
 - 1. Section 23 05 00 (15050) – Common Work Results for HVAC

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.
- B. Submit “Letter of Conformance” in accordance with Section 01 33 00 indicating specified items selected for use in project with the following supporting data.
 - 1. Product Data: For identification materials and devices.
 - 2. Samples: Of color, lettering style, and graphic representation required for each identification material and device.
- C. QUALITY ASSURANCE
- D. 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.
- E. SEQUENCING AND SCHEDULING

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

1.4 PRODUCTS

1.5 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.

1.6 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.
- 1.7 Valve Schedule Frames: Glazed display frame for removable mounting on masonry walls for each page of valve schedule. Include screws.
- A. Frame: Extruded aluminum.
 - B. Glazing: ASTM C1036, Type I, Class 1, Glazing quality B, 2.5-mm, single-thickness glass.
- 1.8 Lettering and Graphics: Coordinate names, abbreviations, and other designations used in mechanical identification with corresponding designations indicated. Use numbers, letters, and terms indicated for proper identification, operation, and maintenance of mechanical systems and equipment.
- A. Multiple Systems: Identify individual system number and service if multiple systems of same name are indicated.
- 1.9 EXECUTION
- A. LABELING AND IDENTIFYING PIPING SYSTEMS
 - B. Install pipe markers on each system as indicated below. Include arrows showing normal direction of flow.
 - 1. Gas.
 - 2. Condensate.
 - 3. Vent.
 - C. Marker Type: Plastic markers, with application systems. Install on pipe insulation segment where required for hot, non-insulated pipes.
 - D. Fasten markers on pipes and insulated pipes by one of following methods:
 - 1. Snap-on application of pretensioned, semirigid plastic pipe marker.

- E. Locate pipe markers where piping is exposed in machine rooms; accessible maintenance spaces such as shafts, tunnels, and plenums; and exterior non-concealed 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.

1.10 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. Chilled Water
 - 2. Heating Hot Water
 - 3. Condenser Water
- 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. Install framed valve schedule in each major mechanical equipment room.
- F. Valve schedule and tag locations shall be shown on record drawings.

1.11 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.

1.12 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 DOCUMENT 230553

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