

Design Standard

Identification of HVAC Piping, Ductwork, and Equipment

Purpose:

The identification of heating, ventilating, and air-conditioning piping, ductwork, and equipment is an essential element of the mechanical systems. This design standard has the purpose of creating a consistent application of systems identification requirements throughout the East Side Union High School District therefore achieving a standard of quality for maintenance and reliability throughout all renovation and new building projects.

Design Standard:

Design and specify work to include materials and installation of mechanical systems identification for complete and operable systems.

- General: Adhere to ANSI A-13.1
- Ductwork
 - General: Provide for identification of air supply, return, exhaust, intake, and relief ductwork with stenciled signs and arrows, showing ductwork service and direction of flow, in black and white. Piping should be identified by wrap-around plastic identification. Include arrows to show normal direction of flow. For hot non-insulated pipes, install a segment of pipe insulation with appropriate piping identification.
 - Locations: Ductwork and piping shall be identified every 20' in spaces with removable ceilings and at each access door in spaces with hard ceilings. Exposed ductwork shall be identified every 20' in mechanical rooms. As described above, ductwork shall be labeled on both sides of floor and wall penetrations.
 - Access Doors: Provide engraved plastic-laminate signs on each access door in ductwork and housings, indicating purpose of access (to what equipment) and other maintenance and operating instructions, and appropriate and procedural information.
- Piping
 - Wrap around plastic identification. Include arrows to show normal direction of flow. For hot non-insulated pipes, install a segment of pipe insulation with appropriate piping identification.
 - Locate identification as follows wherever piping is exposed to view in occupied spaces, machine rooms, accessible maintenance spaces (above removable ceilings and the like) and exterior non-concealed locations.
 - Near each valve and control device.

- Near each branch, excluding short take-offs for fixtures and terminal units; mark each pipe at branch, where there could be question of flow pattern.
- At locations where pipes pass through walls, floors, ceilings, or enter non-accessible enclosures.
- At access doors, manholes and similar access points which permit view of concealed piping.
- At major equipment items and other points of origination and termination.
- Spaced intermediately at maximum spacing of 20' in spaces with removable ceilings and at each access door in spaces with hard ceilings.
- Identify non potable piping and outlets.
- Color code piping: Fire protection – red; Gas – yellow; All others – white with appropriate identification.
- Valve Identification
 - Provide for brass or engraved plastic valve tags on every valve cock and control device in each piping system; exclude check valves, valves within factory-fabricated equipment units, plumbing fixture faucets, convenience and lawn-watering hose bibs, and shut-off valves at plumbing fixtures. HVAC terminal devices and similar rough-in connections of end-use fixtures and units. List each tagged valve in a valve schedule for each piping system. A copy of the valve schedule for that building should be posted in each mechanical room or custodial room or closet.
- Mechanical Equipment Identification
 - Provide for engraved plastic laminate sign on or near each major item of mechanical equipment and each operational device. Provide signs for the following general categories of equipment and operational devices:
 - Main control and operating valves, including safety devices.
 - Meters, gauges, thermometers and similar units.
 - Fuel-burning units including boilers, furnaces, and heaters.
 - Pumps, compressors, chillers, condensers and similar motor-driven units.
 - Heat exchangers, coils, evaporators, cooling towers, heat recovery units and similar equipment.
 - Fans, blowers, primary balancing dampers and VAV boxes.
 - HVAC central-station and zone-type units.
 - Tanks and pressure vessels.
 - Air conditioning indoor and outdoor units.
 - AFD's and transmitters and Control Boxes.

Approved Manufacturers:

- Seton
- Brady

Substitutes Allowed:

Yes, if performance and quality equivalency can be evidenced.

Associated Design Standards and Construction Specifications

- Division 23 HVAC Design Standards

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