



DESIGN GUIDELINE 220553 **MECHANICAL IDENTIFICATION AND PAINTING**

Scope

Requirements for identification and painting of mechanical piping, ductwork and equipment, underground pipe identification, valve tags, and labeling architectural access panels; including corresponding labeling requirements on design drawings.

Related Sections

U-M Design Guideline Sections:

U-M Master Specification Sections:

[220553 Mechanical Identification](#)

U-M Standard Details:

Reference Documents:

General

U-M Master Specification 220553 shall be used as the basis for the specification covering the identification requirements of piping, ductwork and equipment. The master specification reflects U-M's basic requirements for mechanical identification. It includes the required label size, nomenclature, color, mounting interval, etc. Revise the master specification only as required to make it project specific, e.g. to add a new pipe system type as opposed to revising the label nomenclature already indicated.

Pipe and duct on drawings should be labeled to match the respective drawing identification nomenclature indicated in the U-M master specification.

The U-M master spec. also includes U-M's requirements for underground pipe identification, valve tags, and labeling architectural access panels.

Editor's notes are included in the specification to assist the A/E. Be sure to turn on hidden text and read those notes.

Equipment Identification

During design phase, A/E shall assign equipment numbers to be used in the construction documents, in conjunction with the Project Coordinator.

Numbers for major mechanical equipment such as air handlers, chillers and pumps should be unique within a building and continue the sequence established by existing equipment. As an example, if air handlers AC-1, AC-2 and AC-3 already exist, then a new air handler should be named AC-4 (not AC-1 or AHU-4 or ACU-4). Although many equipment designators are

presently used throughout the University, the A/E shall use the designators listed in the equipment marker section of the U-M master specification whenever possible. Where the first equipment item on a project is not named "-1", the equipment schedule should note that all the equipment with names preceding it are existing.

All small equipment intended to appear on test and balance reports, including VAV boxes, shall be identified on design drawings with a unique number. Field labeling may not be required for small equipment not listed in U-M Master Specification 220553. Consult with the U-M Design Manager.

Valve Identification

Generally all valves and regulators on all systems, except those located directly at the equipment served, shall be provided with 1-1/2 inch diameter brass tags with stamped numbers and letters. Exact valve tag requirements are described in the U-M master specification *except the A/E must edit the specification to identify which systems are to be tagged.*

Special use valves shall be numbered on the design drawings, e.g. control valves.

The contractor shall develop a directory of valve tags, to be wall mounted and included in the O&M manual, as described in the U-M master specification.

Painting

Interior pipes and ducts are not typically painted, unless required in certain locations for aesthetic reasons, as confirmed by the U-M Design Manager. Exceptions include:

- Fire protection piping in exposed locations shall be painted red
- Pipes in the Central Power Plant. Consult with the U-M Design Manager for specifics.

Exterior uninsulated pipe and ductwork shall be painted the same color as the background building, or a complementary color as directed by the U-M Design Manager. Insulated pipe and ductwork normally does not require painting, provided the insulation material does not require paint for protection. However, review the visibility of insulated pipe and duct with the U-M Design Manager to determine if painting for aesthetic reasons is appropriate.