SECTION 15190
MECHANICAL IDENTIFICATION

PART 1 GENERAL

1.1 SECTION INCLUDES:

A. Nameplates.
B. Tags.
C. Stencils.
D. Pipe Markers.

1.2 REFERENCES

A. ASME A13.1 - Scheme for the Identification of Piping Systems.

1.3 SUBMITTALS

A. Submit under provisions of Section 01300.
B. Submit list of wording, symbols, letter size, and color coding for mechanical identification.
C. Submit valve chart and schedule, including valve tag number, location, function, and valve manufacturer's name and model number.
D. Product Data: Provide manufacturer's catalog literature for each product required.
E. Manufacturer's Installation Instructions: Indicate special procedures and installation.

1.4 PROJECT RECORD DOCUMENTS

A. Submit under provisions of section 01700.
B. Record actual locations of tagged valves.

PART 2 PRODUCTS

2.1 NAMEPLATES

A. Description: Laminated three-layer plastic with engraved black letters on light contrasting background color.

2.2 TAGS

A. Plastic Tags: Laminated three-layer plastic with engraved black letters on light contrasting background color, tag size minimum 1½" diameter.
B. Metal Tags: Brass with stamped letters; tag size minimum 1½" diameter with smooth edges.
C. Chart: Typewritten letter size list in anodized aluminum frame.

2.3 STENCILS

A. Stencils: With clean cut symbols and letters of following size:

OUTSIDE DIAMETER OF INSULATION OR PIPE	LENGTH OF COLOR FIELD	SIZE OF LETTERS
¾" - 1¼"	8"	½"
1½" - 2"	8"	¾"
2½" - 6"	12"	1-1/4"
8" - 10"	24"	2½"
Over 10"	32"	3½"
Ductwork and Equipment	---	2½"

B. Stencil Paint: As specified in Section 09900, semi-gloss enamel, colors conforming to ASME A13.1.

2.4 PIPE MARKERS:

A. Color: Conform to ASME A13.1.
B. Plastic Pipe Markers: Factory fabricated, flexible, semi-rigid plastic, preformed to fit around pipe or pipe covering; minimum information indicating flow direction arrow and identification of fluid being conveyed.
C. Plastic Tape Pipe Markers: Flexible, vinyl film tape with pressure sensitive adhesive backing and printed markings.
D. Underground Plastic Pipe Markers: Bright colored continuously printed plastic ribbon tape, minimum 6" wide by 4-mil thick, manufactured for direct burial service.

2.5 COLOR STICK-ONS ON CEILING GRID

A. Self-adhesive color ¾" squares shall be installed on ceiling grid or on access panels to designate locations of concealed mechanical and HVAC equipment. Color code as follows:
   1. Green - Plumbing water valves
   2. Blue – HVAC equipment
   3. Red – HVAC piping specialties, valves, gauges, etc.
B. Self-adhesive color ¾" diameter dots shall be installed on ceiling grid or on access panels to designate locations of concealed equipment color coded as follows:
   1. Purple – HVAC energy management systems and HVAC control systems.
   2. Colors for other trades - see Section 16195

PART 3 EXECUTION

3.1 PREPARATION

A. Degrease and clean surfaces to receive adhesive for identification materials.
B. Prepare surfaces in accordance with Section 09900 for stencil painting.

3.2 INSTALLATION

A. Install plastic nameplates with corrosive-resistant mechanical fasteners, or adhesive. Apply with sufficient adhesive to ensure permanent adhesion and seal with clear lacquer.
B. Install tags with corrosion resistant chain.
C. Apply stencil painting in accordance with Section 09900.
D. Install plastic pipe markers in accordance with manufacturer's instructions.
E. Install plastic tape pipe markers complete around pipe in accordance with manufacturer's instructions.

F. Install underground metallized plastic pipe markers 6 to 8" below finished grade, directly above buried pipe.
G. Identify air handling units, pumps, heat transfer equipment, tanks, and water treatment devices with plastic nameplates. Small devices, such as in-line pumps, may be identified with tags.
H. Identify control panels and major control components outside panels with plastic nameplates.
I. Identify thermostats relating to terminal boxes or valves with stick-on laminated paper labels to be located on the inside cover. Specify AHU number, terminal box number and EMCS controller address keyed to control schematic.
J. Identify valves in main and branch piping with tags.
K. Identify air terminal units and radiator valves with numbered tags.
L. Tag automatic controls, instruments, and relays, similar to thermostats in item I. Key to control schematic.
M. Identify piping, concealed or exposed, with stenciled painting. Use tags on piping ¾" diameter and smaller. Identify service, flow direction, and pressure. Install in clear view and align with axis of piping. Locate identification not to exceed 20' on straight runs including risers and drops, adjacent to each valve and Tee, at each side of penetration of structure or enclosure, and at each obstruction. Gas piping shall be painted yellow for the entire length of the piping above ground.
N. Provide color-coded ceiling stick-ons to locate valves or dampers above T-bar type panel ceilings. Locate stick-ons on ceiling grid T-bars closest to equipment.

END OF SECTION