

SECTION 220553 - IDENTIFICATION FOR PLUMBING PIPING AND EQUIPMENT

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Equipment labels.
2. Warning signs and labels.
3. Pipe labels.
4. Warning tags.
5. Ceiling Markers

1.2 ACTION SUBMITTALS

- A. Product Data:** For each type of product indicated.
- B. Samples:** For color, letter style, and graphic representation required for each identification material and device.
- C. Equipment-Label Schedule:** Include a listing of all equipment to be labeled with the proposed content for each label.

PART 2 - PRODUCTS

2.1 EQUIPMENT LABELS

A. Plastic Labels for Equipment:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Brady Corporation.
 - b. Carlton Industries, LP.
 - c. Champion America.
 - d. Craftmark Pipe Markers.
 - e. emedco.
 - f. Kolbi Pipe Marker Co.
 - g. LEM Products Inc.
 - h. Marking Services Inc.
 - i. Pipemarket.com; Brimar Industries, Inc.
 - j. Seton Identification Products; a Brady Corporation company.
2. **Material and Thickness:** Multilayer, multicolor, plastic labels for mechanical engraving, **1/16 inch** thick, with predrilled holes for attachment hardware.
3. **Letter and Background Color:** As indicated for specific application under Part 3.

4. Maximum Temperature: Able to withstand temperatures of up to 160 deg F.
 5. Minimum Label Size: Length and width vary for required label content, but not less than 2-1/2 by 3/4 inch.
 6. Minimum Letter Size: 1/4 inch for name of units if viewing distance is less than 24 inches, 1/2 inch for viewing distances of up to 72 inches, and proportionately larger lettering for greater viewing distances. Include secondary lettering two-thirds to three-fourths the size of principal lettering.
 7. Fasteners: Stainless steel rivets or self-tapping screws.
 8. Adhesive: Contact-type permanent adhesive, compatible with label and with substrate.
- B. Label Content: Include equipment's Drawing designation or unique equipment number, Drawing numbers where equipment is indicated (plans, details, and schedules), and the Specification Section number and title where equipment is specified.

2.2 WARNING SIGNS AND LABELS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Brady Corporation.
 2. Carlton Industries, LP.
 3. Champion America.
 4. Craftmark Pipe Markers.
 5. emedco.
 6. LEM Products Inc.
 7. Marking Services Inc.
 8. National Marker Company.
 9. Pipemarket.com; Brimar Industries, Inc.
 10. Seton Identification Products; a Brady Corporation company.
 11. Stranco, Inc.
- B. Material and Thickness: Multilayer, multicolor, plastic labels for mechanical engraving, 1/16 inch thick, with predrilled holes for attachment hardware.
- C. Letter and Background Color: As indicated for specific application under Part 3.
- D. Maximum Temperature: Able to withstand temperatures of up to 160 deg F.
- E. Minimum Label Size: Length and width vary for required label content, but not less than 2-1/2 by 3/4 inch.
- F. Minimum Letter Size: 1/4 inch for name of units if viewing distance is less than 24 inches, 1/2 inch for viewing distances of up to 72 inches, and proportionately larger lettering for greater viewing distances. Include secondary lettering two-thirds to three-fourths the size of principal lettering.
- G. Fasteners: Stainless steel rivets or self-tapping screws.
- H. Adhesive: Contact-type permanent adhesive, compatible with label and with substrate.

- I. Arc-Flash Warning Signs: Provide arc-flash warning signs in locations and with content in accordance with requirements of OSHA and NFPA 70E, and other applicable codes and standards.
- J. Label Content: Include caution and warning information plus emergency notification instructions.

2.3 PIPE LABELS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Actioncraft Products, Inc.; a division of Industrial Test Equipment Co., Inc.
 - 2. Brady Corporation.
 - 3. Carlton Industries, LP.
 - 4. Champion America.
 - 5. Craftmark Pipe Markers.
 - 6. emedco.
 - 7. Kolbi Pipe Marker Co.
 - 8. LEM Products Inc.
 - 9. Marking Services Inc.
 - 10. Pipemarket.com; Brimar Industries, Inc.
 - 11. Seton Identification Products; a Brady Corporation company.
- B. General Requirements for Manufactured Pipe Labels: Preprinted, color coded, with lettering indicating service and showing flow direction in accordance with ASME A13.1.
- C. Letter and Background Color: As indicated for specific application under Part 3.
- D. Pretensioned Pipe Labels: Precoiled, semirigid plastic formed to cover full circumference of pipe and to attach to pipe without fasteners or adhesive.
- E. Self-Adhesive Pipe Labels: Printed plastic with contact-type, permanent-adhesive backing.
- F. Pipe Label Contents: Include identification of piping service using same designations or abbreviations as used on Drawings. Also include:
 - 1. Pipe size.
 - 2. Flow-Direction Arrows: Include flow-direction arrows on main distribution piping. Arrows may be either integral with label or applied separately.
 - 3. Lettering Size: Size letters in accordance with ASME A13.1 for piping

2.4 WARNING TAGS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Brady Corporation.
 - 2. Champion America.

3. Craftmark Pipe Markers.
4. emedco.
5. Kolbi Pipe Marker Co.
6. LEM Products Inc.
7. Marking Services Inc.
8. Pipemarket.com; Brimar Industries, Inc.
9. Seton Identification Products; a Brady Corporation company.

- B. Description: Preprinted **or** partially preprinted accident-prevention tags of plasticized card stock with matte finish suitable for writing.

1. Size: **[3 by 5-1/4 inches minimum] [Approximately 4 by 7 inches] <Insert size>**.
2. Fasteners: **[Brass grommet and wire] [Reinforced grommet and wire or string]**.
3. Nomenclature: Large-size primary caption, such as "DANGER," "CAUTION," or "DO NOT OPERATE."
4. Letter and Background Color: As indicated for specific application under Part 3.

2.5 CEILING MARKERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Brady Corporation.
2. Carlton Industries, LP.
3. Craftmark Pipe Markers.
4. Kolbi Pipe Marker Co.
5. LEM Products Inc.
6. Marking Services Inc.
7. Pipemarket.com; Brimar Industries, Inc.
8. Seton Identification Products; a Brady Corporation company.

- B. General Requirements for Ceiling Markers: 3/4" diameter, adhesive backing, color coded in accordance with ASME A13.1.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Clean piping and equipment surfaces of incompatible primers, paints, and encapsulants, as well as dirt, oil, grease, release agents, and other substances that could impair bond of identification devices.

3.2 INSTALLATION, GENERAL REQUIREMENTS

- A. Coordinate installation of identifying devices with completion of covering and painting of surfaces where devices are to be applied.
- B. Coordinate installation of identifying devices with locations of access panels and doors.

- C. Install identifying devices before installing acoustical ceilings and similar concealment.
- D. Locate identifying devices so that they are readily visible from the point of normal approach.

3.3 INSTALLATION OF EQUIPMENT LABELS, WARNING SIGNS, AND LABELS

- A. Permanently fasten labels on each item of plumbing equipment.
- B. Sign and Label Colors.
 - 1. White letters on an ANSI Z535.1 safety-green background.
- C. Locate equipment labels where accessible and visible.
- D. Arc-Flash Warning Signs: Provide arc-flash warning signs on electrical disconnects and other equipment where are-flash hazard exists, as indicated on Drawings, and in accordance with requirements of OSHA and NFPA 70E, and other applicable codes and standards.

3.4 INSTALLATION OF PIPE LABELS

- A. Install pipe labels showing service and flow direction with permanent adhesive on pipes.
- B. Pipe-Label Locations: Locate pipe labels where piping is exposed or above accessible ceilings in finished spaces; machine rooms; accessible maintenance spaces such as shafts, tunnels, and plenums; and exterior exposed locations as follows:
 - 1. Within 3 ft. of each valve and control device.
 - 2. At access doors, manholes, and similar access points that permit view of concealed piping.
 - 3. Within 3 ft. of equipment items and other points of origination and termination.
 - 4. Spaced at maximum intervals of 25 ft. along each run. Reduce intervals to 10 ft. in areas of congested piping and equipment.
 - 5. Pipe labels shall be coordinated and aligned with other systems (Mechanical, Plumbing, etc) pipe labels.
- C. Do not apply plastic pipe labels or plastic tapes directly to bare pipes conveying fluids at temperatures of 125 deg F or higher. Where these pipes are to remain uninsulated, use a short section of insulation or use stenciled labels.
- D. Flow-Direction Flow Arrows: Use arrows, in compliance with ASME A13.1, to indicate direction of flow in pipes, including pipes where flow is allowed in both directions.
- E. Pipe-Label Color Schedule (ASME A13.1):

PIPING SYSTEM <i>(text on pipe label)</i>	BACKGROUND COLOR	LETTER COLOR
DOMESTIC COLD WATER	Green	White

DOMESTIC HOT WATER	Green	White
DOMESTIC HOT WATER RETURN	Green	White
NON-POTABLE WATER	Purple	White
NATURAL GAS (LOW PRESSURE)	Yellow	Black
NATURAL GAS (2 PSI)	Yellow	Black
SANITARY	White	Black
WASTE	White	Black
VENT	White	Black
STORM	White	Black

3.5 INSTALLATION OF WARNING TAGS

- A. Warning Tag Color: Black letters on an ANSI Z535.1 safety-yellow background.
- B. Attach warning tags, with proper message, to equipment and other items where indicated on Drawings.

3.6 INSTALLATION OF CEILING MARKERS

- A. Install ceiling markers on acoustical ceiling grid t-bar below valves that are located above the ceiling grid.
- B. Color of ceiling marker to match 'BACKGROUND COLOR' noted above in the pipe label schedule for the corresponding valve and its service.

END OF SECTION 220553