

Part 1 General

1.1 SCOPE OF WORK

- .1 Materials and requirements for the identification of equipment, piping systems, valves and controllers, including the installation and location of identification systems.

1.2 REFERENCES

- .1 Canadian Gas Association (CGA)
 - .1 CSA/CGA B149.1, Natural Gas and Propane Installation Code.
- .2 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-1.60, Interior Alkyd Gloss Enamel.
 - .2 CAN/CGSB-24.3, Identification of Piping Systems.
- .3 National Fire Protection Association (NFPA)
 - .1 NFPA 13, Standard for the Installation of Sprinkler Systems.

1.3 SUBMITTALS

- .1 Product data to include paint colour chips, other products specified in this section.

Part 2 Products

2.1 MANUFACTURER'S EQUIPMENT NAMEPLATES

- .1 Metal or plastic laminate nameplate mechanically fastened to each piece of equipment by manufacturer.
- .2 Lettering and numbers raised or recessed.
- .3 Information to include, as appropriate:
 - .1 Equipment: manufacturer's name, model, size, serial number, capacity.
 - .2 Motor: voltage, Hz, phase, power factor, duty, frame size.

2.2 SYSTEM NAMEPLATES

- .1 Provide nameplates for all equipment designated by Tags as indicated in the drawings. e.g. PU-1, EF-2.
- .2 Colours:
 - .1 Hazardous: red letters, white background.
 - .2 Elsewhere: black letters, white background (except where required otherwise by applicable codes).
- .3 Construction:

- .1 3 mm thick laminated plastic or white anodized aluminum, matte finish, square corners, letters accurately aligned and machine engraved into core.

.4 Sizes:

- .1 Conform to following table:

Type	Sizes (mm)	No. of Lines	Height of Letters (mm)
1	10 x 50	1	3
2	13 x 75	1	5
3	13 x 75	2	3
4	20 x 100	1	8
5	20 x 100	2	5
6	20 x 200	1	8
7	25 x 125	1	12
8	25 x 125	2	8
9	35 x 200	1	20

- .2 Use maximum of 25 letters/numbers per line.

.5 Locations:

- .1 Terminal cabinets, control panels: use Type 5.
- .2 Equipment in Mechanical Rooms: use Type 8.
- .3 Equipment elsewhere: sizes as appropriate.

2.3 EXISTING IDENTIFICATION SYSTEMS

- .1 Apply existing identification system to new work.
- .2 Where existing identification system does not cover for new work, use identification system specified this section.

2.4 PIPING SYSTEMS GOVERNED BY CODES

- .1 Identification:
 - .1 Natural gas: to CSA/CGA B149.1.

2.5 IDENTIFICATION OF PIPING SYSTEMS

- .1 Identify contents by background colour marking, pictogram (as necessary), legend; direction of flow by arrows in accordance with CAN/CGSB 24.3 except where specified otherwise.
- .2 Pictograms:
 - .1 Where required: Workplace Hazardous Materials Information System (WHMIS) regulations.
- .3 Legend:
 - .1 Block capitals to sizes and colours listed in CAN/CGSB 24.3.
- .4 Arrows showing direction of flow:

- .1 Outside diameter of pipe or insulation less than 75 mm: 100 mm long x 50 mm high.
- .2 Outside diameter of pipe or insulation 75 mm and greater: 150 mm long x 50 mm high.
- .3 Use double-headed arrows where flow is reversible.
- .5 Extent of background colour marking:
 - .1 To full circumference of pipe or insulation.
 - .2 Length to accommodate pictogram, full length of legend and arrows.
- .6 Materials for background colour marking, legend, arrows:
 - .1 Pipes and tubing 20 mm and smaller: waterproof and heat-resistant pressure sensitive plastic marker tags.
 - .2 Other pipes: pressure sensitive vinyl with protective overcoating, waterproof contact adhesive undercoating, suitable for ambient of 100% RH and continuous operating temperature of 150 degrees C and intermittent temperature of 200 degrees C.
- .7 Colours and Legends:
 - .1 Colours for legends, arrows: to following table:

Background colour:	Legend, arrows:
Yellow	BLACK
Green	WHITE
Red	WHITE

- .2 Background colour marking and legends for piping systems (confirm colours with Contract Administrator before application to pipe covering):

Contents	Background colour marking:	Legend
Domestic water	Dark Green	DCW
Domestic hot water supply	Light Green	DHW
Dom. HWS recirculation	Light Green	DRW
Hot water supply	Red (existing colour)	HWS
Hot water return	Red (existing colour)	HWR
Pool water supply	Light Blue	
Pool water return	Light Blue	

Acceptable Material: W.H. Brady, Seton Name Plate Corporation, Setmark Pipe Markers.

Acceptable Paint: low VOC, industrial quality and suitable for environment being applied (high temperature, humidity, chlorine, etc.).

2.6 VALVES, CONTROLLERS

- .1 Brass tags with 12 mm stamped identification data filled with black paint.

2.7 CONTROLS COMPONENTS IDENTIFICATION

- .1 Identify all systems, equipment, components, controls, sensors with system nameplates specified in this section.
- .2 Inscriptions to include function and (where appropriate) fail-safe position.

2.8 LANGUAGE

- .1 Identification in English.

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

- .1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheet.

3.2 TIMING

- .1 Provide identification only after painting specified Section 09 91 00 - Painting has been completed.

3.3 INSTALLATION

- .1 Perform work in accordance with CAN/CGSB-24.3 except as specified otherwise.
- .2 Provide ULC or CSA registration plates as required by respective agency.
- .3 Perform pipe identification as piping is installed and insulated. All identification must be performed before the installation of T-bar ceiling.

3.4 NAMEPLATES

- .1 Locations:
 - .1 In conspicuous location to facilitate easy reading and identification from operating floor.
- .2 Standoffs:
 - .1 Provide for nameplates on hot and/or insulated surfaces.
- .3 Protection:
 - .1 Do not paint, insulate or cover.

3.5 LOCATION OF IDENTIFICATION ON PIPING SYSTEMS

- .1 On long straight runs in open areas in boiler rooms, equipment rooms, galleries, tunnels: at not more than 10 m intervals and more frequently if required to ensure that at least one is visible from any one viewpoint in operating areas and walking aisles.
- .2 At least once in each small room through which piping or ductwork passes.
- .3 On both sides of visual obstruction or where run is difficult to follow.
- .4 On both sides of separations such as walls, floors, partitions.
- .5 Where system is installed in pipe chases, ceiling spaces, galleries, confined spaces, at entry and exit points, and at access openings.

- .6 At beginning and end points of each run and at each piece of equipment in run.
- .7 Identify branch, equipment, or building served after each valve.
- .8 At point immediately upstream of major manually operated or automatically controlled valves, and dampers. Where this is not possible, place identification as close as possible.
- .9 Identification easily and accurately readable from usual operating areas and from access points.

3.6 VALVES, CONTROLLERS

- .1 Valves and operating controllers, except at plumbing fixtures, radiation, or where in plain sight of equipment they serve: Secure tags with non-ferrous chains or closed "S" hooks.
- .2 Install one copy of flow diagrams, valve schedules mounted in frame behind non-glare glass where directed by Contract Administrator. Provide one copy (reduced in size if required) in each operating and maintenance manual.
- .3 Number valves in each system consecutively.

END OF SECTION