**Part 1**       **General**

**1.1**          **COORDINATION**

.1       Coordinate colour coding of piping and equipment with Division 9.

**1.2**          **QUALITY ASSURANCE**

.1       Provide labels to CSA and ANSI Standards.

**1.3**          **REFERENCE DOCUMENT**

.1       Comply with requirements of latest edition of "Colour Coding Requirements for Mechanical and Electrical Systems" (Alberta Infrastructure and Transportation), hereinafter referred to as Alberta Infrastructure and Transportation Colour Coding Requirements.

.2       Obtain copy of Alberta Infrastructure and Transportation Colour Coding Requirements document from the Minister prior to starting work.

**Part 2**       **Products**

**2.1**          **TAGS, LABELS AND BANDING**

.1       Valve Tags:  tags with 12 mm high lettering and brass jack chain for fastening to valve. Following types of valve tags are acceptable:

.1       Brass tags:  40 mm diameter.

.2       Fibreglass tags:  50 mm x 50 mm.

.3       Anodized aluminum tags:  40 mm diameter.

.2       EMCS Identification Tags:  0.75 mm thick plastic laminated luggage style tags containing imprinted information label.  Supply tag with brass jack chain or nylon cable tie for attachment to device.  Include following minimum information:

.1       Logical Point Name.

.2       Point Hardware Address (RCU/TCU and connection terminal identifiers).

.3       Associated System Identification.

.4       Point Description.

.3       Laminated Plastic Nameplate:  self-adhesive composite laminated plastic nameplates with one smooth white surface and core of black plastic.  Designed to leave black lettering on a white background when engraved.

.1       Mechanical Equipment:  engraved lettering 20 mm high.

.2 EMCS Panels and Panel Mounted Equipment: engraved lettering 20 mm high.

.3 EMCS Equipment Cabinet front mounted switches and displays: engraved lettering 8 mm high.

.4 Colour Banding Tape: adhesive backed plastic tape, integrally coloured.

## 2.2 EMCS DIRECTORIES

.1 EMCS Laminated Directories: laminated, permanently mounted sheets:

.1 EMCS Equipment Panel Directory: graphically show locations of each transducer, relay or other piece of equipment in panel. Label each device and provide a cross-reference listing between device label and function.

.2 EMCS Wiring Panel Directory: in each panel where control wiring terminates, provide a cross-reference listing between key name, descriptors, hardware address and wiring labels.

## 2.3 VALVE DIRECTORY

.1 Provide typewritten list of all valves identifying the following information:

.1 Valve number

.2 Location

.3 Service

.4 Make/model/size

.5 With/without handwheel

.6 Type of control.

.2 Relate valve number to a schematic presentation of the systems.

## 2.4 ADHESIVE LOCATION DISCS

.1 Colour coded adhesive discs to identify concealed mechanical equipment, coded as follows:

.1 Yellow - HVAC equipment

.2 Red - Fire dampers/smoke dampers

.3 Green - Plumbing valves

.4 Blue - Heating valves

**Part 3**          **EXECUTION**

**3.1**          **LABELS**

.1          Use identification labels or stencils to apply legends and direction of flow arrows, as detailed in Alberta Infrastructure and Transportation Colour Coding Requirements, and as follows:

.1          Apply to full colour coded mechanical piping and to mechanical ductwork in sufficient numbers of locations to provide easy identification.

.2          Apply to intermittent colour coded mechanical piping wherever colour coding bands occur.

.2          Adhere labels with sufficient coat of contact cement to ensure permanent adhesion. Seal with two coats of clear lacquer.

.3          Identify major mechanical equipment with laminated plastic nameplates. Rivet in place where possible.

.4          Identify electric starting switches, electric disconnects and remote push buttons with laminated plastic nameplates.

**3.2**          **EMCS IDENTIFICATION**

.1          Use EMCS mnemonics specified in Division 25 on tags and nameplates to identify EMCS physical points and equipment.

.2          Identify the following EMCS output controls and input sensor devices with EMCS Identification Tags:

.1          Field points.

.2          Sensors.

.3          Actuators.

.4          Devices.

.3          Identify the following EMCS components with Laminated Plastic Nameplates:

.1          Panels.

.2          Subpanels.

.3          Associated equipment panels.

.4          Panel mounted valves; identify function of each valve.

.5          Pneumatic switch valves.

**3.3        TAGS**

.1        Tag automatic controls, instruments and relays.  Key to control schematics on which instruments are numbered in sequence.

.2        Tag all valves in mechanical rooms, and all circuit balancing and isolating valves external to mechanical room except valves at terminal heating and cooling equipment.

.3        Identify and tag air terminal boxes and radiator valves with numbers or EMCS mnemonic, as applicable.

.4        Identify and tag thermostats relating to terminal boxes and valve numbers.

.5        Identify and tag EMCS temperature sensors or EMCS intelligent thermostats by mnemonic and related terminal box and valve numbers.

**3.4        LOCATION IDENTIFICATION**

.1        Provide equipment, valve and damper location adhesive disks at access door locations, colour coded as follows:

.1        Yellow – HVAC Equipment

.2        Red – Fire Dampers/Smoke Dampers

.3        Green – Plumbing Valves

.4        Blue – Heating Valves

.2        Locate disks on access door frame.

**3.5        DIRECTORIES**

.1        Install valve tag directory on walls within each separate mechanical room.

.2        Permanently mount EMCS Laminated Directories on door inside surface in the following panels:

.1        EMCS Equipment Panels.

.2        Other EMCS Wiring Panels.

**3.6        SECONDARY COLOUR BANDING FOR MECHANICAL PIPING**

.1        Full Colour Coded Piping:  apply 50 mm wide secondary colour banding tape over primary colour coded piping identifying hazard level for each type of service, where applicable, in accordance with Alberta Infrastructure and Transportation Colour Coding Requirements.  Apply to piping in sufficient numbers of locations to provide easy identification.

.2      Intermittent Colour Coded Piping:  apply 50 mm wide secondary colour banding tape on intermittent colour coded piping to identify hazard level for each service, where applicable.  Apply over 450 mm long primary colour coding bands, as detailed in Alberta Infrastructure and Transportation Colour Coding Requirements.

**END OF SECTION**