SECTION 26 05 19

LOW VOLTAGE POWER CONDUCTORS AND CABLES: 600 V AND BELOW

PART 1 - DESIGN DIRECTIVES

1.1 DESIGN CRITERIA

A. Multi-Wire-Branch Circuits (Shared Neutral): Not allowed except for street and site lighting.

B. MI Cable Use: For required ratings of feeders is highly discouraged.

C. Provide Ratings by locations; rated stacked closets, under-slab, installation in fire-protected locations etc.

PART 2 - PRODUCTS

2.1 PRODUCT REQUIREMENTS

A. Power and Lighting Conductors: Copper with Class B Concentric Stranding.

1. Solid Conductors: Not allowed.

B. Minimum Conductor Size for Power and Lighting: #12 AWG.

C. System Conductor Color-Coding: Conform to these conventions. Includes factory supplied cable assemblies such as type MC cable,

a. Volt Systems: 208/120
b. (A)-Black
c. (B)-Red.
d. (C)-Blue
e. White: conductor
f. Green: Grounding conductors

2. Volt Systems: 480/277.

a. (A)-Brown
b. (B)-Orange
c. (C)-Yellow
d. Grey: Neutral conductors
e. Green with Yellow Stripe: Grounding conductors

D. Conductor Types: Suitable for their installed environment.

1. Follow listed guidelines:

a. THHN/THWN: Indoor branch circuits and feeders. #8 and smaller
b. THHN/THWN or XHHW: Indoor branch circuits and feeders larger than #8
c. XHHW-2: Outdoor and underground branch circuits and feeders in conduit. No substitute will be approved.

E. MC Cable (where allowed):

1. MC Conductors for Power and Lighting Wiring:

    a. Copper with Class B Concentric Stranded Conductors. No solid conductors allowed.
    b. Size: #12 AWG minimum
    c. MC Jacket: Lightweight steel
    d. MC Jacket Color: Identifies voltage

2. MC Cable Conductors for Fire Alarm Wiring:

    a. Solid, copper conductors
    b. MC Jacket: Lightweight steel
    c. MC Jacket Color: Red

3. MC Cable and MC Luminaire:

    a. For whips connecting light fixtures from local junction box above a suspended ceiling.
    b. Luminaire Type MC cable with Two Control Conductors: Light fixture whips.
    c. MC Jacket: May be lightweight aluminum.

4. MC Cable for Power, Lighting and Fire Alarm by Exception Only Where Approved by DC FO&M Engineering. Conditions which allow the exceptions are: locations such as small wood-framed buildings and/or existing renovations where conduit installation is not feasible.

    a. Power and Lighting branch circuit wiring within the room/area served may be MC cable. The home run wiring to the room/area served shall be in conduit (EMT).
    b. Fire Alarm wiring of circuits on the floor served. Risers shall be installed in conduit. See Fire Alarm Section.

F. Medium Voltage Distribution Equipment: See Section 26 10 00 - Medium-Voltage Electrical Distribution and Feeder Entrance, for 5 kV/15 kV cables.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Pull conductors simultaneously where more than one is being installed in the same raceway. Utilize a wire pulling lubricant when required.

1. Pulling Lubricants:

    a. Prohibited Pulling Lubricant: Ideal Yellow 77

B. Conductors Size:

1. Home Runs Over 100 Feet: Use the next larger size of conductor from panel to first device served by the circuit.
2. Home Runs Over 150 Feet: Strongly discouraged. Must be approved by DC FO&M Engineering

END OF SECTION