

SECTION 16120 (26 05 21)

WIRES AND CABLES 600V and below

Part 1 -Design Directives

All conductors shall be made of copper with class B concentric stranding. (exception is for fire alarm conductors, see Fire Alarm System Guidelines)

MC cable conductors shall have stranded conductors, no solid conductors allowed (exception is for fire alarm conductors).

The use of multi-wire branch circuits is not allowed. Exception is for street/site lighting.

Conductor color-coding throughout the system, including factory manufactured cable assemblies such as type MC cable, shall conform to the conventions listed below:

208/120 Volt Systems – (A)-Black, (B)-Red, (C)-Blue, White for neutral conductor and Green for grounding conductors

480/277 Volt Systems – (A)-Brown, (B)-Orange, (C)-Yellow, Grey for neutral conductors. Use Green with Yellow stripe for grounding conductors.

Provide conductors suitable for the environment into which they are to be installed following the minimum guidelines listed below:

THHN/THWN for indoor branch circuits and feeders #8 and smaller

THHN/THWN or XHHW for indoor branch circuits and feeders larger than #8

XHHW-2 for outdoor and underground branch circuits and feeders in conduit (no substitutes)

MC cable shall be used only for whips to connect light fixtures from a local junction box above a suspended ceiling. In some cases where a project is performed in an older wooden structure the use of MC cable will be allowed for branch circuit and feeder wiring beyond the home-run to the room/area served, which shall remain in conduit.

MC cable shall be properly supported above suspended ceiling when used to connect to and between lighting fixtures. College staff will closely monitor this issue.

MI cable may be used to supply the alternate source of fire pumps when necessary to meet the separation criterion of the NEC.

See Medium Voltage Distribution Equipment Section for 5 kV/15 kV cables.

Part 2 -Products

No designated manufacturers

Part 3 -Execution

Every effort shall be made to insure the integrity of the insulation when installing conductors. Pull all conductors simultaneously where more than one is being installed in the same raceway. When wire pulling, a lubricant is required... Ideal yellow 77 shall never be used as a wire pulling lubricant.

Conductors used in home runs serving 15 and 20 amp branch circuits shall be a minimum of number 12 AWG copper. If a home run is over 100 feet the contractor shall use the next larger size of conductor from the panel to the first device served by the circuit. Homeruns longer than 150 feet are strongly discouraged.