

SECTION 26 05 19
LOW VOLTAGE ELECTRICAL CONDUCTORS AND CABLES

PART 1 – GENERAL

1.1 WORK INCLUDED

- A. Conditions of the Contract and Division One apply to all work of this Section.
- B. Contractor shall provide all materials, labor, and the means and methods to complete the installation defined by the plans and these specifications.

PART 2 – PRODUCTS

2.1 CONDUCTORS

- A. Conductors for power, lighting, control, and signals shall be in raceway and shall be as follows:
 - 1. #10 AWG and smaller shall be solid copper, 98% conductivity except for signal and control cables which may be stranded. (Stranded conductors may be used for #10 and smaller if wiring devices [switches, receptacles, etc.] are equipped with terminals specifically designed to accommodate stranded wire.)
 - 2. #8 AWG and larger shall be stranded copper, 98% conductivity.
 - 3. Minimum size branch circuit shall be #12 AWG.
 - 4. Signal and control circuits shall be as indicated on Drawings or as required by equipment manufacturers. Where specialty cables are required for signal systems (such as for fire alarm, intrusion alarm), Contractor must coordinate cable types with system supplier to insure proper cable type is provided (shielded, non-shielded, etc.).
 - 5. All insulation shall be 600 volt THHN/THWN except for low voltage control and signal cable.
 - 6. Conductors shall be color coded. Refer to Part 3 of this section.
 - 7. Conductor markers - T&B vinyl, Brady Permashield, or equal.
 - 8. Control wiring smaller than #12 AWG shall be type TFF or THWN.
- B. Splices:
 - 1. #10 and smaller, including fixture taps - pre-insulated coiled-spring type connectors, 3M Scotchloks, T&B Piggys, or equal.
 - 2. #8 to #4, Split bolt service connectors, T&B locktite, Burndy Servit, or equal, insulated with Scotch #88, Okoweld four purpose tape, or equal.

PART 3 – EXECUTION

3.1 WIRING AND RACEWAY SYSTEMS

- A. Tests: Test all wiring and connections for continuity and grounds before any fixtures or equipment are connected, and where such tests indicate faulty insulation or other defects, they shall be located, repaired, and retested at the Contractor's expense. Rotation of all motors shall be checked and corrected, if necessary, after final connections are made.

3.2 CONDUCTORS

- A. Phasing: Terminals in panelboards, switchboards, and other equipment shall be phased A, B, C, reading left to right or top to bottom looking into the front of the equipment.
- B. Conductors shall be coded as follows:

<u>Voltage</u>	<u>Phase A</u>	<u>Phase B</u>	<u>Phase C</u>	<u>Neutral</u>	<u>Ground</u>
120/208V	Black	Red	Blue	White	Green

Direct current - positive is red, negative is black.

Control conductors, other than branch circuits, shall be black.

Conductors in sizes up through #6 AWG shall have solid color finish as listed above. #4 AWG and larger shall be coded by application of phase tape for minimum of 6" length on conductor. Coding shall occur at all splices, terminations, and pullboxes.

Color coding shall be continuous and consistent throughout the work. Do not use different colors for switch legs, fixture taps, travelers, etc.

END OF SECTION