

SECTION 26 05 34 - LOW VOLTAGE RACEWAYS

PART I - GENERAL

1.1 SUMMARY

- A. The purpose of this Section is to set forth raceway requirements for permanently installed "low voltage circuits" in campus buildings. Compliance with this Section will promote reliability, improve aesthetics, minimize damage to buildings, and reduce maintenance expense and outages due to accidents and vandalism. This Section is not intended to cover technical aspects such as conductor sizing and terminations, nor is it intended to limit use of low voltage cords that have been manufactured specifically for use to and between pieces of equipment in a room.

1.2 DEFINITIONS

- A. In this Section, the term "low voltage circuits" includes all wiring not connected to a building power and lighting system, and includes wires, cables and circuits for communications, radio, television, telephone and similar systems.

PART 2 - PRODUCTS

2.1 NEW BUILDINGS

- A. NEC Compliance: All work shall be in compliance with applicable portions of the current National Electric Code regarding low voltage circuits.
- B. Concealed Raceways: All wiring shall be installed in metallic raceways, and in finished areas the raceways shall be concealed.
- C. Fire Stopping: Shall be accomplished by a UL listed system/assembly at each location where raceway or cable penetrates a fire rated barrier.

2.2 EXISTING BUILDINGS *[Note to AE: Incorporate the following requirements into the Contract Documents.]*

- A. Fire Alarm and Emergency Lighting system changes and additions shall meet requirements for new buildings, with each system having its own metallic raceway system.
- B. Low Voltage Systems: For other low voltage systems and low voltage wiring in existing buildings, the National Electric Code shall be followed with the following exceptions:
 - 1. Existing Raceways: The first choice for installation of low voltage circuits for other than fire alarms and emergency lighting shall be to meet the requirements for new buildings. Existing raceways, except as indicated above, may be used where possible. Care shall be exercised to prevent disruption of existing systems when using common raceways.
 - 2. Finished Areas: Where it is difficult to use existing concealed raceways as described above, surface metallic or plastic raceways and boxes shall be installed. All holes through walls and floors shall have galvanized or plastic sleeves and shall be finished in a neat manner. Patching and refinishing shall match that of existing adjacent construction with regard to both material and appearance. Holes, sleeves and cables in exterior walls and foundations shall be permanently sealed on the outside to prevent entrance of water and insects. Surface raceways and boxes must be firmly and permanently attached to walls and ceilings by use of mechanical anchors. The use of adhesive backed tape is not permitted. Sleeves through floors shall extend at least 3/8 inches above the floor line and be sealed to prevent leaks to the floor below.
 - 3. Unfinished Areas, and above removable ceilings, raceways and boxes shall be provided for mechanical protection. Rigid conduit, EMT, IMC, surface metallic or plastic raceway and boxes may be used.

4. Raceways: EMT raceways shall be used in existing building interiors. Connectors shall be steel, compression, insulated throat.

2.3 SPECIAL CONSIDERATIONS:

- A. Fire Stopping: In compliance with the NEC, fire stopping shall be provided at each location where any raceway penetrates a fire rated barrier. Fire-Stopping shall be accomplished by a UL Listed system/assembly.
- B. Airtight Seal: An airtight seal shall be provided to positively prevent airflow *within* any raceway that terminates at one end within a warmer environment and at the other end within a colder environment. This seal is needed to prevent condensation from occurring on electrical equipment within the colder environment. This requirement only applies to those raceways that are exposed to a “mechanism” or “driving force” to do one of the following.
 - a. Move airflow from the warmer to the colder environment due to differential air pressure such as in an air handling unit, air distribution plenum/housing or air distribution duct application.
 - b. Move humidity from the warmer to the colder environment due to differential water vapor pressure such as in a cold room application. This seal is needed to prevent condensation from occurring on electrical equipment/devices within the colder environment.

PART 3 - EXECUTION

3.1

END OF SECTION **26** 05 34

This section of the *U of I Facilities Standards* establishes minimum requirements only.
It should not be used as a complete specification.