

resistant. Sections 520.5, 520.10, and 525.3 shall apply as appropriate when the following conditions exist:

- (1) Where equipment racks include audio and lighting and/or power equipment
- (2) When using or constructing cable extensions, adapters, and breakout assemblies

640.43 Wiring of Equipment Racks. Equipment racks fabricated of metal shall be bonded and grounded. Nonmetallic racks with covers (if provided) removed shall not allow access to Class 1, Class 3, or primary circuit power without the removal of covers over terminals or the use of tools.

Wires, cables, structural components, or other equipment shall not be placed in such a manner as to prevent reasonable access to equipment power switches and resettable or replaceable circuit overcurrent protection devices.

Wiring that exits the equipment rack for connection to other equipment or to a power supply shall be relieved of strain or otherwise suitably terminated such that a pull on the flexible cord or cable will not increase the risk of damage to the cable or connected equipment such as to cause an unreasonable risk of fire or electric shock.

640.44 Environmental Protection of Equipment. Portable equipment not listed for outdoor use shall be permitted only where appropriate protection of such equipment from adverse weather conditions is provided to prevent risk of fire or electric shock. Where the system is intended to remain operable during adverse weather, arrangements shall be made for maintaining operation and ventilation of heat-dissipating equipment.

640.45 Protection of Wiring. Where accessible to the public, flexible cords and cables laid or run on the ground or on the floor shall be covered with approved nonconductive mats. Cables and mats shall be arranged so as not to present a tripping hazard. The cover requirements of 300.5 shall not apply to wiring protected by burial.

640.46 Equipment Access. Equipment likely to present a risk of fire, electric shock, or physical injury to the public shall be protected by barriers or supervised by qualified personnel so as to prevent public access.

requirements for the protection of information technology equipment and information technology equipment areas.

The term *information technology equipment* (ITE) is also used by UL 60950-1, *Information Technology Equipment — Safety — Part 1: General Requirements*, as well as by international standards, as a more inclusive term for the equipment addressed by Article 645.

Article 645 applies only to equipment and systems, including the associated wiring, located within the ITE room. An ITE room is an enclosed area that contains computer-based business and industrial equipment. It is designed to comply with the special construction and fire protection provisions of NFPA 75 as well as by 645.4.

Small terminals, such as remote telephone terminal units, remote data terminals, personal computers, and cash registers in stores and supermarkets, are not covered by Article 645.

645.3 Other Articles. Circuits and equipment shall comply with 645.3(A) through (I), as applicable.

(A) Spread of Fire or Products of Combustion. Sections 300.21, 770.26, and 800.26 shall apply to penetrations of the fire-resistant room boundary.

Δ (B) Wiring and Cabling in Other Spaces Used for Environmental Air (Plenums). The following sections and tables shall apply to wiring and cabling in other spaces used for environmental air (plenums) above an information technology equipment room:

- (1) Wiring methods: 300.22(C)(1)
- (2) Class 2, Class 3, and PLTC cables: 722.135(B)
- (3) Fire alarm systems: 760.53(B)(2) and Table 760.154
- (4) Optical fiber cables: 770.113(C) and Table 770.154(a)
- (5) Communications circuits: 800.133(C) and Table 800.154(a)
- (6) CATV and radio distribution systems: 800.113(C) and Table 800.154(a)

(C) Bonding and Grounding. The non-current-carrying conductive members of optical fiber cables in an information technology equipment room shall be bonded and grounded in accordance with 770.114.

Δ (D) Electrical Classification of Data Circuits. Section 725.60(A)(4) shall apply to the electrical classification of listed information technology equipment signaling circuits.

(E) Fire Alarm Cables and Equipment. Parts I, II, and III of Article 760 shall apply to fire alarm systems cables and equipment installed in an information technology equipment room. Only fire alarm cables listed in accordance with Part IV of Article 760 and listed fire alarm equipment shall be permitted to be installed in an information technology equipment room.

Δ (F) Cable Routing Assemblies, Communications Wires, Cables, Raceways, and Equipment. Sections 800.110, 800.113, and 800.154 shall apply to cable routing assemblies and communications raceways. Parts I, II, III, IV, and V of

ARTICLE 645 Information Technology Equipment

Δ 645.1 Scope. This article covers equipment, power-supply wiring, equipment interconnecting wiring, and grounding of information technology equipment and systems in an information technology equipment room.

Informational Note: See NFPA 75, *Standard for the Fire Protection of Information Technology Equipment*, which covers the