

Informational Note: See NFPA 40-2019, *Standard for the Storage and Handling of Cellulose Nitrate Film*, for methods of protecting against cellulose nitrate film hazards.

The requirements for motion picture studios and those for television studios are virtually the same and are intended to apply only to those locations presenting special hazards, for example, where film is handled or for temporary structures constructed of wood or other combustible material. It is important to note that Article 530 considers these occupancies specialized workplaces, not assembly occupancies, unless an audience is present. If an audience is present, the requirements of Article 520 apply to audience seating areas. Equipment listed for use under Article 520 is often listed for use under Article 530.

See also

NFPA 140, *Standard on Motion Picture and Television Production Studio Soundstages, Approved Production Facilities, and Production Locations*, which addresses additional aspects of these facilities

530.3 Restricted Public Access.

(A) Studios. The electrical equipment covered in this article shall be used in motion picture or television studios with restricted public access.

(B) Remote Locations. Where the equipment is deployed on remote locations, restricted public access shall be provided in the form of physical barriers or other access control measures.

530.4 Supervision by Qualified Personnel. Portable electrical equipment, including distribution systems, generators, battery systems, and other power sources, shall be deployed, energized, and, while energized, operated and continuously supervised by trained, qualified, and employer-authorized personnel.

530.5 Wiring Methods. Wiring methods for permanent installations shall be in accordance with 530.5(A) or (B).

(A) General. The permanent wiring shall be permitted to be any of the following:

- (1) Metal raceways
- (2) Nonmetallic raceways encased in not less than 50 mm (2 in.) of concrete
- (3) Type MI cable, Type MC cable, or Type AC cable containing an insulated equipment grounding conductor sized in accordance with Table 250.122

(B) Communications, Signaling Systems, Data Systems, Fire Alarm Systems, and Systems Less than 120 Volts, Nominal. Permanent wiring methods for communications, signaling, data, fire alarm systems, and systems operating at less than 120 volts, nominal, shall be in accordance with the following:

- (1) Audio signal processing, amplification, and reproduction equipment — 640.9
- (2) Communications systems — Parts I and IV of Article 800; Part IV of Article 805; and Part IV of Article 840

(3) Class 2 and Class 3 remote control and signaling circuits — Part III of Article 725

(4) Class 2 circuits that transmit power, data or both to a powered device

Informational Note: See ANSI/NEMA C137.3-2017, *American National Standard for Lighting Systems — Minimum Requirements for Installation of Energy Efficient Power over Ethernet (PoE) Lighting Systems*, for information on installation of cables for PoE lighting systems. See Part III of Article 760 for information on fire alarm circuits.

530.7 Sizing of Feeder Conductors for Motion Picture and/or Television Studio Sets. Applying the demand factors listed in Table 530.7 to the portion of the maximum possible connected load for studio or stage set lighting for all permanently installed feeders between substations and stages and to all permanently installed feeders between the main stage switchboard and stage distribution centers shall be permitted.

TABLE 530.7 Demand Factors for Stage Set Lighting

Portion of Stage Set Lighting Load to Which Demand Factor Applied (volt-amperes)	Feeder Demand Factor (percent)
First 50,000 or less at	100
From 50,001 to 100,000 at	75
From 100,001 to 200,000 at	60
Remaining over 200,000 at	50

530.8 Equipment Grounding Conductor. Permanent wiring systems shall include an equipment grounding conductor of a type in accordance with 250.118 installed with the supply conductors and connected to the building or structure disconnecting means and the grounding electrode(s). The grounding electrode(s) shall also be connected to the building or structure disconnecting means. Equipment grounding conductors shall be sized in accordance with 250.122. This shall not apply to pendant and portable stage lighting, stage sound equipment, or other special stage equipment operating at not over 150 volts dc to ground.

530.9 Plugs and Receptacles. Plugs and receptacles shall be in accordance with 530.9(A), (B), and (C).

(A) Rating. Plugs and receptacles, including cord connectors and flanged surface devices, shall be rated in amperes. The voltage rating of the plugs and receptacles shall not be less than the nominal circuit voltage. Plug and receptacle ampere ratings for ac circuits shall not be less than the feeder or branch-circuit overcurrent device ampere rating. Table 210.21(B)(2) shall not apply.

The occupancies referenced in Article 530 are excluded from all the general requirements relating to connector rating and branch-circuit loading found elsewhere in the NEC®, such as in Table 210.21(B)(2). Connectors must be rated for the parameters involved, thus permitting connectors with voltage and current ratings higher than the branch-circuit rating to be used.