

Temporary Wiring

Low-Voltage Electrical Safety Orders

§2405.1. Scope.

Except as specifically modified in this Article, all other requirements of this Order for permanent wiring shall also apply to temporary wiring installations.

(a) Temporary electrical power and lighting installations of 600 volts, nominal, or less may be used only as follows:

(1) During and for the period of construction, remodeling, maintenance, repairs, or demolition of buildings, structures, equipment or similar activities; or

(2) For a period not to exceed 90 days for work associated with non-permanent work locations, such as carnivals, music festivals, Christmas decorative lighting, Christmas tree lots, and similar purposes; or

(3) For the period of work associated with experimental or developmental work and during emergencies.

(b) Temporary wiring shall be removed immediately upon completion of the project or purpose for which the wiring was installed.

(c) Temporary electrical installations of more than 600 volts shall be in accordance with the High-Voltage Electrical Safety Orders.

§2405.2. General.

(a) Feeders. The following requirements apply to feeders:

(1) Feeders shall originate in an approved distribution center.

(2) Conductors shall be run as multi-conductor cord or cable assemblies. However, if installed as permitted in Section 2405.1(a)(3), and if accessible only to qualified persons, feeders may be run as single insulated conductors.

(b) Branch Circuits. The following requirements apply to branch circuits:

(1) Branch circuits shall originate in an approved power outlet or panelboard.

(2) Conductors shall be multiconductor cord or cable assemblies or open conductors. If run as open conductors, they shall be fastened at ceiling height every 10 feet (3.05 m).

(3) No branch-circuit conductor may be laid on the floor.

(4) Each branch circuit that supplies receptacles or fixed equipment shall contain a separate equipment grounding conductor if run as open conductors.

(c) Receptacles. Receptacles shall be of the grounding type. Unless installed in a continuous grounded metallic raceway or metallic covered cable, each branch circuit shall contain a separate equipment grounding conductor and all receptacles shall be electrically connected to the grounding conductor.

(d) No bare conductors nor earth returns shall be used for the wiring of any temporary circuit.

(e) Disconnecting means. Suitable disconnecting switches or plug connectors shall be installed to permit the disconnection of all ungrounded conductors of each temporary circuit. Multiwire branch circuits shall be provided with a means to disconnect simultaneously all ungrounded conductors at the power outlet or panelboard where the branch circuit originated.

NOTE for Section 2405.2(e): Circuit breakers with their handles connected by approved handle ties are considered a single disconnecting means for the purpose of this requirement.

(f) Lamps.

All lamps for general illumination shall be protected from accidental contact or breakage by a suitable fixture or lampholder with a guard. Brass shell, paper-lined sockets, or other metal-cased sockets may not be used unless the shell is grounded.

(g) Physical Protection. Flexible cords and cables shall be protected from accidental damage. Sharp corners and projections shall be avoided. When passing through doorways or other pinch points, protection shall be provided to avoid damage.

(h) Multi-conductor cords and cables shall be hard service type or equivalent, with multi-conductor fittings.

(i) Cable assemblies and flexible cords and cables shall be supported in place at intervals that ensure that they will be protected from physical damage. Support shall be in the form of staples, cables ties, straps, or similar type fittings installed so as not to cause damage.

§2405.3. Temporary Poles.

The minimum size of a temporary wood pole shall be 6 inches by 6 inches (nominal) if square, or have a top diameter of at least 5 inches if round, and be of sufficient length to maintain all required overhead clearances specified in Section 2375.18, but not less than 20 feet long. The lower end shall be embedded not less than 4 feet in the ground. A pole of a material other than wood, if of equivalent strength, may be used.

EXCEPTION: For distribution poles in areas accessible to pedestrians only, a 4-inch x 4-inch (nominal) wood pole, or equivalent (embedded 4 feet in the ground), shall be permitted, provided that a minimum overhead conductor clearance of 10 feet is maintained.

§2405.4. Ground-Fault Circuit Protection-Construction Site.

(a) General. For purposes of this Section, a construction site is a place of employment where erection, demolition, alteration or excavation is being performed on a building, structure or underground facility, other than mining.

(b) Construction Sites. To protect employees on construction sites, the employer shall use either or both ground-fault circuit interrupters as specified in Subsection (c) of this Section or an assured equipment grounding conductor program as specified in Subsection (d) of this Section. These requirements are in addition to any other requirements for equipment grounding conductors.

(c) Ground-Fault Circuit Interrupters. All 120-volt, AC, single-phase, 15- and 20-ampere receptacle outlets on construction sites, which are not a part of the permanent wiring of the building or structure and which are in use by employees, shall have approved ground-fault circuit interrupters for personnel protection. Receptacles on a two-wire, single phase portable or vehicle-mounted generator rated not more than 5 KW, where the circuit conductors of the generator are insulated from the generator frame and all their grounded surfaces, need not be protected with ground-fault circuit interrupters.

Feeders supplying 15- and 20-ampere receptacle branch circuits shall be permitted to be protected by a ground-fault circuit interrupter approved for the purpose in lieu of the above provisions.

(d) Assured Equipment Grounding Conductor Program. The employer shall establish and implement an assured equipment grounding conductor program on construction sites covering all cord sets, receptacles which are not a part of the permanent wiring of the building or structure and equipment connected by cord and plug, which are available for use or used by employees. This program shall comply with the following minimum requirements:

(1) A written description of the program, including the specific procedures adopted by the employer shall be available at the job site for inspection and copying by the Division of Occupational Safety and Health and any affected employee.

(2) The employer shall designate one or more qualified persons as defined in Section 2300 to implement the program.

(3) Each cord set, attachment cap, plug and receptacle of cord sets, and any equipment connected by cord and plug including these which are not required to be grounded, except cord sets and receptacles which are fixed and not exposed to damage, shall be visually inspected before each day's use for external defects, such as, deformed or missing pins or insulation damage, and for indication of possible internal damage. Equipment found damaged or defective shall not be used until repaired.

(4) The following tests shall be performed on all cord sets and receptacles which are not a part of the permanent wiring of the building or structure, and cord- and plug-connected equipment required to be grounded:

Note: Double-insulated tools or other similar equipment are not required to be grounded. See Section 2395.45 Exception 2.

(A) All equipment grounding conductors shall be tested for continuity and shall be electrically continuous.

(B) Each receptacle and attachment cap or plug shall be tested for correct attachment of the equipment grounding conductor. The equipment grounding conductor shall be connected to its proper terminal.

(5) All tests required in Subsection (d)(4) shall be performed:

(A) Before first use for newly acquired equipment;

(B) Before equipment is returned to service following any repairs;

(C) Before equipment is used after any incident which can be reasonably suspected to have caused damage (for example, when a cord set is run over); and

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(D) At intervals not to exceed three (3) months, except that cord sets and receptacles which are fixed and not exposed to damage shall be tested at intervals not exceeding 6 months.

(6) The employer shall not make available or permit the use by employees of any equipment which has not met the requirements of Subsection (d) of this Section.

(7) Receptacles, cord sets and cord- and plug-connected equipment passing the tests required in Subsection (d) shall be identified. Identification may be made by means of logs, color coding or other effective means, shall be maintained until replaced by a more current identification, and shall indicate the last test date or the interval for which the tests were performed. These dates or intervals shall be readily available to the Division of Occupational Safety and Health and affected employees.

EMPLOYEE TRAINING AND INSTRUCTION RECORD

Subject: Temporary Wiring

Location: _____

Instructor's name & Signature: _____

Date of Session: / / Time Started : am / pm Time Finished : am / pm

Please print your name and job title. Then sign your name.

ATTENDEES:

| Print Name | Job Title | Signature |
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