

**Subpart K—Electricity**

SURFACE AND UNDERGROUND

**§ 57.12001 Circuit overload protection.**

Circuits shall be protected against excessive overloads by fuses or circuit breakers of the correct type and capacity.

**§ 57.12002 Controls and switches.**

Electric equipment and circuits shall be provided with switches or other controls. Such switches or controls shall be of approved design and construction and shall be properly installed.

**§ 57.12003 Trailing cable overload protection.**

Individual overload protection or short circuit protection shall be provided for the trailing cables of mobile equipment.

**§ 57.12004 Electrical conductors.**

Electrical conductors shall be of a sufficient size and current-carrying capacity to ensure that a rise in temperature resulting from normal operations will not damage the insulating materials. Electrical conductors exposed to mechanical damage shall be protected.

**§ 57.12005 Protection of power conductors from mobile equipment.**

Mobile equipment shall not run over power conductors, nor shall loads be dragged over power conductors, unless the conductors are properly bridged or protected.

**§ 57.12006 Distribution boxes.**

Distribution boxes shall be provided with a disconnecting device for each branch circuit. Such disconnecting devices shall be equipped or designed in such a manner that it can be determined by visual observation when such a device is open and that the circuit is deenergized, and the distribution box shall be labeled to show which circuit each device controls.

**§ 57.12007 Junction box connection procedures.**

Trailing cable and power-cable connections to junction boxes shall not be made or broken under load.

**§ 57.12008 Insulation and fittings for power wires and cables.**

Power wires and cables shall be insulated adequately where they pass into or out of electrical compartments. Cables shall enter metal frames of motors, splice boxes, and electrical compartments only through proper fittings. When insulated wires, other than cables, pass through metal frames, the holes shall be substantially bushed with insulated bushings.

**§ 57.12010 Isolation or insulation of communication conductors.**

Telephone and low-potential signal wire shall be protected, by isolation or suitable insulation, or both, from contacting energized power conductors or any other power source.

**§ 57.12011 High-potential electrical conductors.**

High-potential electrical conductors shall be covered, insulated, or placed to prevent contact with low potential conductors.

**§ 57.12012 Bare signal wires.**

The potential on bare signal wires accessible to contact by persons shall not exceed 48 volts.

**§ 57.12013 Splices and repairs of power cables.**

Permanent splices and repairs made in power cables, including the ground conductor where provided, shall be—

- (a) Mechanically strong with electrical conductivity as near as possible to that of the original;
- (b) Insulated to a degree at least equal to that of the original, and sealed to exclude moisture; and,
- (c) Provided with damage protection as near as possible to that of the original, including good bonding to the outer jacket.

**§ 57.12014 Handling energized power cables.**

Power cables energized to potentials in excess of 150 volts, phase-to-ground, shall not be moved with equipment unless sleds or slings, insulated from such equipment, are used. When such energized cables are moved manually, insulated hooks, tongs, ropes, or slings shall be used unless suitable protection