

**§ 75.516-2 Communication wires and cables; installation; insulation; support.**

(a) All communication wires shall be supported on insulated hangers or insulated J-hooks.

(b) All communication cables shall be insulated as required by § 75.517-1, and shall either be supported on insulated or uninsulated hangers or J-hooks, or securely attached to messenger wires, or buried, or otherwise protected against mechanical damage in a manner approved by the Secretary or his authorized representative.

(c) All communication wires and cables installed in track entries shall, except when a communication cable is buried in accordance with paragraph (b) of this section, be installed on the side of the entry opposite to trolley wires and trolley feeder wires. Additional insulation shall be provided for communication circuits at points where they pass over or under any power conductor.

(d) For purposes of this section, communication cable means two or more insulated conductors covered by an additional abrasion-resistant covering.

[38 FR 4975, Feb. 23, 1973]

**§ 75.517 Power wires and cables; insulation and protection.**

[STATUTORY PROVISIONS]

Power wires and cables, except trolley wires, trolley feeder wires, and bare signal wires, shall be insulated adequately and fully protected.

**§ 75.517-1 Power wires and cables; insulation and protection.**

Power wires and cables installed on or after March 30, 1970, shall have insulation with a dielectric strength at least equal to the voltage of the circuit.

**§ 75.517-2 Plans for insulation of existing bare power wires and cables.**

(a) On or before December 31, 1970, plans for the insulation of existing bare power wires and cables installed prior to March 30, 1970, shall be filed with the District Manager of the Coal Mine Safety District in which the mine is located to permit approval and prompt implementation of such plans.

(b) The appropriate District Manager shall notify the operator in writing of the approval of a proposed insulation plan. If revisions are required for approval, the changes required will be specified.

(c) An insulation plan shall include the following information:

(1) Name and address of the company, the mine and the responsible officials;

(2) Map or diagram indicating location of power wires and cables required to be insulated;

(3) Total length of bare power wires and cables required to be insulated;

(4) Schedule for the replacement or insulation of bare power wires and cables;

(5) Type of insulation to be used and the voltage rating as indicated by the manufacturer.

(d) The District Manager shall be guided by the following criteria in approving insulation plans on a mine-by-mine basis. Insulation not conforming to these criteria may be approved provided the operator can satisfy the Mine Safety and Health Administration that the insulation will provide no less than the same measure of protection.

(1) Insulation shall be adequate for the applied voltage of the circuit.

(2) When tubing is used to insulate existing power wires and cables, it shall have a dielectric strength at least equal to the voltage of the circuit. When the tubing is split for purposes of installation, the joints shall be effectively sealed. The butt ends may be sealed with a moisture resistant insulating tape.

(3) When tape is used to insulate existing power wires and cables, it shall be applied half-lapped and one thickness of the tape shall have a dielectric strength at least equal to the voltage of the circuit. The tape shall be self-adhesive and moisture resistant.

**§ 75.518 Electric equipment and circuits; overload and short circuit protection.**

[STATUTORY PROVISION]

Automatic circuit-breaking devices or fuses of the correct type and capacity shall be installed so as to protect all electric equipment and circuits against short circuit and overloads.

**Mine Safety and Health Admin., Labor**

**§ 75.522-1**

Three-phase motors on all electric equipment shall be provided with overload protection that will deenergize all three phases in the event that any phase is overloaded.

**§ 75.518-1 Electric equipment and circuits; overload and short circuit protection; minimum requirements.**

A device to provide either short circuit protection or protection against overload which does not conform to the provisions of the National Electric Code, 1968, does not meet the requirement of § 75.518. In addition, such devices on electric face equipment and trailing cables that are required to be permissible must meet the requirements of the applicable schedules of the Bureau of Mines.

**§ 75.518-2 Incandescent lamps, overload and short circuit protection.**

Incandescent lamps installed along haulageways and at other locations, not contacting combustible material, and powered from trolley or direct current feeder circuits, need not be provided with separate short circuit or overload protection, if the lamp is not more than 8 feet in distance from such circuits.

**§ 75.519 Main power circuits; disconnecting switches.**

[STATUTORY PROVISION]

In all main power circuits, disconnecting switches shall be installed underground within 500 feet of the bottoms of shafts and boreholes through which main power circuits enter the underground area of the mine and within 500 feet of all other places where main power circuits enter the underground area of the mine.

**§ 75.519-1 Main power circuits; disconnecting switches; locations.**

Section 75.519 requires (a) that a disconnecting switch be installed on the surface at a point within 500 feet of the place where the main power circuit enters the underground area of a mine, and (b) that, in an instance on which a main power circuit enters the underground area through a shaft or borehole, a disconnecting switch be in-

stalled underground within 500 feet of the bottom of the shaft or borehole.

**§ 75.520 Electric equipment; switches.**

[STATUTORY PROVISION]

All electric equipment shall be provided with switches or other controls that are safely designed, constructed, and installed.

**§ 75.521 Lightning arresters; ungrounded and exposed power conductors and telephone wires.**

Each ungrounded, exposed power conductor and each ungrounded, exposed telephone wire that leads underground shall be equipped with suitable lightning arresters of approved type within 100 feet of the point where the circuit enters the mine. Lightning arresters shall be connected to a low resistance grounding medium on the surface which shall be separated from neutral grounds by a distance of not less than 25 feet.

[38 FR 4975, Feb. 23, 1973]

**§ 75.522 Lighting devices.**

[STATUTORY PROVISION]

No device for the purpose of lighting any coal mine which has not been approved by the Secretary or his authorized representative shall be permitted in such mine.

**§ 75.522-1 Incandescent and fluorescent lamps.**

(a) Except for areas of a coal mine inby the last open crosscut, incandescent lamps may be used to illuminate underground areas. When incandescent lamps are used in a track entry or belt entry or near track entries to illuminate special areas other than structures, the lamps shall be installed in weather-proof sockets located in positions such that the lamps will not come in contact with any combustible material. Lamps used in all other places must be of substantial construction and be fitted with a glass enclosure.

(b) Incandescent lamps within glass enclosures or fluorescent lamps may be used inside underground structures (except magazines used for the storage of