

switch or circuit breaker shall be installed so it is accessible readily and can be operated without danger of contact with moving or live parts.

(b) Disconnecting switches shall be installed in each main power circuit at the bottom of the shaft, bore hole, or any other place where a main power circuit enters the mine. Underground electric equipment and circuits shall be provided with switches or other controls of safe design and construction. They shall be installed in a safe manner.

(c) A power circuit shall be protected against short circuit or excessive overload. Wire or other conducting material may not be used as a substitute for a properly designed fuse. If a circuit breaker is used it shall be maintained in a proper operating condition. A dry wooden platform, rubber mat, or other electrically nonconductive material shall be kept in place at each switchboard, power-control switch, and stationary machinery where shock hazards exist.]

[7-438.

(a) Each signal wire shall be supported on insulators and insulated properly where it crosses any power line.

(b) Bare signal wire readily accessible to personal contact shall not carry more than 30 volts. This does not apply to a block-signal system.]

[7-439.

(a) Any electric face equipment taken into a gassy mine shall be permissible equipment approved by the United States Bureau of Mines, except that an explosion-tested cable-reel locomotive and a shuttle car may be used.

(b) Power connections shall be made in intake air or a permissible junction or distribution box shall be used to make every multiple-power connection in any place where a dangerous quantity of methane may be present, or enter the air current.

(c) Permissible equipment shall be maintained in a good state of repair and in permissible condition. Explosion-tested equipment shall be maintained in a good state of repair and in explosion-tested condition.

(d) No electrically driven equipment may be taken into or operated in a working place where one percent or more methane can be detected at any point not less than 12 inches from the roof, face, or rib. In any face working of a gassy mine, inspection for methane shall be made before electric equipment is taken into or operated in the face region. Frequent tests shall be made for methane while the equipment is operated in the face region.

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