

These boxes shall be loaded in motor vehicle so that contents of the box will be immediately accessible for removal.

(10) Explosives may be transported on any truck or any semi-trailer attached to a tractor. Under no conditions shall explosives be transported in any "full" trailer, or any form of "pole" trailer.

(11) Cases of explosives shall not be dropped, slid, or otherwise roughly handled.

Ind 5.12 Certificates of competency. (1) No person shall be permitted to prepare explosive charges or conduct blasting operations, and no employer shall employ any person for such purposes unless such person holds a valid certificate of competency issued by the industrial commission after a determination of fitness by examination.

(2) Persons authorized to prepare explosive charges or conduct blasting operations shall comply with all provisions of the general orders on explosives, and shall use every reasonable precaution to insure the safety of the workmen and general public. They shall not delegate the work of preparing explosive charges or conducting blasting operations to a person who does not hold a certificate of competency, except under their direct supervision. A person not holding a certificate of competency may act only as a helper.

(3) The certificate of competency shall be cancelled by the industrial commission in cases of violations of safety practices.

Ind 5.13 Detonators and primers. (1) Only a crimper shall be used for attaching fuse to blasting caps. The employer shall furnish and keep in accessible places, ready for use, crimpers in good repair. Capped fuses shall be made up only as required.

(2) No fuses shall be capped with blasting caps in any magazine, but approved benches shall be provided at a safe distance from such storage place where all fuses shall be capped. All fuse ends shall be trimmed immediately before capping.

(3) All cap and fuse and electric primers shall be made as recommended by the manufacturer. Primers consisting of less than one cartridge shall be made by inserting the cap in the end of the cartridge. They shall be made just prior to loading in borehole.

Note: The manufacturer's recommendations are found on "case inserts" in every case of explosives.

Ind 5.14 Use of explosives. (1) Explosives shall be handled in a careful manner as described in this section.

(2) There shall be one blaster in charge of blasting in each section of any operation. He shall enforce these orders and directions and personally supervise the fixing of all charges and all other blasting operations and shall use every precaution to insure safety.

(3) Explosives shall not be distributed or handled during the known approach or progress of an electrical storm. If work has been started it shall be stopped and employees shall go to a safe distance from the blast area until the storm has passed.

(4) Explosives shall be conveyed in original shipping containers, in approved covered wooden boxes or sacks provided for that purpose.

(5) Detonators shall be conveyed separately from other explosives in approved containers provided for that purpose. The carrying container for capped fuses shall be of rigid construction and provided with a hinged cover. If containers are of metal, a lining of felt, or similar material, shall be provided.

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(6) After loading is completed, all surplus explosives and supplies shall be returned at once to the daily supply magazine as specified in section Ind 5.08, observing the rules used for distribution.

(7) Special orders for use of explosives in tunnels.

(a) Explosives used in tunneling shall be Fume Class 1 as classified by the Institute of Makers of Explosives and the users shall post evidence in a conspicuous place showing compliance with this order.

(b) Explosives shall not be lowered into any tunnel on the same conveyance with detonators or primers.

(c) While explosives are being taken through air locks, no men other than the lock tender and the carrier shall be permitted in the lock.

(d) Explosives shall not be left or placed near electric wires.

(e) Before explosives or detonators are delivered to a tunnel face, all power current shall be cut off within 50 feet of the face. All illumination shall be by battery lamps or floodlights only.

(f) In a tunnel or shaft no blast hole shall be loaded until a round of holes is completely drilled.

(8) Before loading any blast holes, they shall be checked with a tamping pole or other equivalent device to make sure they are in proper condition and proper size for loading of explosives.

(9) There shall be no smoking, open flames, sparks, or use of matches or lighters within 100 feet of place where explosive charges are being prepared with the exception of carbide lamps where this is the type of illumination used in mines.

(10) All tamping poles and dollies shall be constructed of wood or flexible plastic pipe with no exposed metal parts, except that non-sparking metal spikes may be used where necessary to load rough holes and that non-sparking metal connectors may be used for extending the length of tamping poles.

(11) Explosives shall be tamped only by light taps of the tamping rod. Excessive ramming shall be avoided. The primer shall not be tamped.

(12) A blast hole shall not be loaded adjacent to a hole being drilled. In a mine drift or crosscut heading, no blast hole shall be loaded until a round of holes is completely drilled.

(13) All blast holes shall be stemmed to the collar wherever practicable. Otherwise, they shall be stemmed sufficiently to minimize possibility of injury to personnel from flying materials.

(14) Before drilling is commenced on any shift, all remaining holes shall be examined with a wooden stick for unexploded charges or cart-ridges, and if any are found, same shall be refired before work proceeds.

(15) Blast holes shall not be started in bootlegs or at location of holes previously blasted.

(16) All explosives cases, wooden and fibreboard, and all liners and packing material shall be destroyed by burning twice weekly at a distance not less than 200 feet from magazines, dwellings and other structures. All persons shall retire to a place of safety as soon as the pile is ignited.

Ind 5.15 Firing blasts with cap and fuse. (1) The use of any fuse having a nominal burning rate of less than one foot in 40 seconds is