

(b) Welding and cutting shall not be done within 50 feet of a mine opening unless all persons are out of the mine and the mine opening is covered. The cover shall be a substantial material, such as metal or wood, topped with a layer of wetted material to prevent sparks and flames from entering the mine opening.

**§ 57.22105 Smoking and open flames (IV mines).**

Smoking or open flames shall not be permitted in a face or raise, or during release of gas from a borehole until tests have been conducted in accordance with § 57.22226 and the methane level has been determined to be below 0.5 percent.

**§ 57.22106 Dust containing volatile matter (I-C mines).**

Dust containing volatile matter shall not be allowed to accumulate on the surfaces of enclosures, facilities, or equipment used in surface milling in amounts that, if suspended in air, would become an explosive mixture. An explosive mixture of dust containing volatile matter is 0.02 ounce or more per cubic foot of air.

VENTILATION

**§ 57.22201 Mechanical ventilation (I-A, I-B, I-C, II-A, II-B, III, IV, V-A, and V-B mines).**

All mines shall be ventilated mechanically.

**§ 57.22202 Main fans (I-A, I-B, I-C, II-A, III, V-A, and V-B mines).**

- (a) Main fans shall be—
  - (1) Installed on the surface in noncombustible housings provided with noncombustible air ducts;
  - (2) Except in Subcategory I-A mines, provided with an automatic signal device to give an alarm when the fan stops. The signal device shall be located so that it can be seen or heard by a person designated by the mine operator.
- (b) Fan installations shall be—
  - (1) Offset so that the fan and its associated components are not in direct line with possible explosive forces;
  - (2) Equipped with explosion-doors, a weak-wall, or other equivalent devices located to relieve the pressure that

would be created by an explosion underground. The area of the doors or weak-wall shall be at least equivalent to the average cross-sectional area of the airway.

(c) (1) All main fan-related electrical equipment and cables located within or exposed to the forward or reverse airstream shall be approved by MSHA under the applicable requirements of 30 CFR part 18;

(2) Drive belts and nonmetallic fan blades shall be constructed of static-conducting material; and

(3) Aluminum alloy fan blades shall not contain more than 0.5 percent magnesium. [Paragraph (c)(3) of this section does not apply to Subcategory I-C mines].

(d) When an internal combustion engine is used to power a main fan or as standby power, the engine shall be—

- (1) Installed in a noncombustible housing;
- (2) Protected from a possible fuel supply fire or explosion; and
- (3) Located out of direct line with the forward and reverse airstream provided by the fan. Engine exhaust gases shall be vented to the atmosphere so that exhaust cannot contaminate mine intake air.

(e) For Subcategory I-A mines only: Main exhaust fans shall be equipped with methane monitors to give an alarm when methane in the return air reaches 0.5 percent. The alarm shall be located so that it can be seen or heard by a person designated by the mine operator.

[52 FR, 24941, July 1, 1987, as amended at 52 FR 41397, Oct. 27, 1987]

**§ 57.22203 Main fan operation (I-C mines).**

Main fans shall be operated continuously while ore production is in progress.

**§ 57.22204 Main fan operation and inspection (I-A, II-A, III, and V-A mines).**

- Main fans shall be—
  - (a) Provided with a pressure-recording system; and
  - (b) Inspected daily while operating if persons are underground. Certification