

- 27.32 Tests to determine performance of the system.
- 27.33 Tests to determine explosion-proof construction.
- 27.34 Test for intrinsic safety.
- 27.35 Tests to determine life of critical components and subassemblies.
- 27.36 Test for adequacy of electrical insulation and clearances.
- 27.37 Tests to determine adequacy of safety devices for bulbs.
- 27.38 Tests to determine adequacy of windows and lenses.
- 27.39 Tests to determine resistance to vibration.
- 27.40 Test to determine resistance to dust.
- 27.41 Tests to determine resistance to moisture.

AUTHORITY: 30 U.S.C. 957, 961.

SOURCE: 31 FR 10607, Aug. 9, 1966, unless otherwise noted.

Subpart A—General Provisions

§ 27.1 Purpose.

The regulations in this part set forth the requirements for methane-monitoring systems or components thereof to procure certification for their incorporation in or with permissible equipment that is used in gassy mines, tunnels, or other underground workings and procedures for applying for such certification.

[31 FR 10607, Aug. 9, 1966, as amended at 52 FR 17515, May 8, 1987]

§ 27.2 Definitions.

As used in this part:

(a) *MSHA* means the United States Department of Labor, Mine Safety and Health Administration.

(b) *Applicant* means an individual, partnership, company, corporation, association, or other organization that designs, manufactures, or assembles and that seeks certification or preliminary testing of a methane-monitoring system or component.

(c) *Methane-monitoring system* means a complete assembly of one or more methane detectors and all other components required for measuring and signalling the presence of methane in the atmosphere of a mine, tunnel, or other underground workings, and shall include a power-shutoff component.

(d) *Methane detector* means a component for a methane-monitoring system that functions in a gassy mine, tunnel,

or other underground workings to sample the atmosphere continuously and responds to the presence of methane.

(e) *Power-shutoff component* means a component of a methane-monitoring system, such as a relay, switch, or switching mechanism, that will cause a control circuit to deenergize a machine, equipment, or power circuit when actuated by the methane detector.

(f) *Flammable mixture* means a mixture of a gas, such as methane, natural gas, or similar hydrocarbon gas with normal air, that can be ignited.

(g) *Gassy mine or tunnel* means a mine, tunnel, or other underground workings in which a flammable mixture has been ignited, or has been found with a permissible flame safety lamp, or has been determined by air analysis to contain 0.25 percent or more (by volume) of methane in any open workings when tested at a point not less than 12 inches from the roof, face, or rib.

(h) *Letter of certification* means a formal document issued by MSHA stating that a methane-monitoring system or subassembly or component thereof:

(1) Has met the requirements of this part, and

(2) Is certified for incorporation in or with permissible or approved equipment that is used in gassy mines and tunnels.

(i) *Component* means a part of a methane-monitoring system that is essential to its operation as a certified methane-monitoring system.

(j) *Explosion-proof* means that a component or group of components (subassembly) is so constructed and protected by an enclosure with or without a flame arrester(s) that, if a flammable mixture of gas is ignited within the enclosure, it will withstand the resultant pressure without damage to the enclosure and/or flame arrester(s). Also the enclosure and/or flame arrester(s) shall prevent the discharge of flame from within either the enclosure or the flame arrester, or the ignition of any flammable mixture that surrounds the enclosure and/or flame arrester.¹

¹ Explosion-proof components or subassemblies shall be constructed in accordance with

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