§ 27.22 Methane detector component.

(a) A methane detector component shall be suitably constructed for incorporation in or with permissible and approved equipment that is operated in gassy mines and tunnels.

(b) A methane detector shall include:

1. A method of continuous sampling of the atmosphere in which it functions.

2. A method for actuating a warning device which shall function automatically at a methane content of the mine atmosphere between 1.0 to 1.5 volume percent. The warning device shall also function automatically at all higher concentrations of methane in the mine atmosphere.

3. A method for actuating a power-shutoff component, which shall function automatically when the methane content of the mine atmosphere is 2.0 volume percent and at all higher concentrations of methane.

4. A suitable filter on the sampling intake to prevent dust and moisture from entering and interfering with normal operation.

Note: This requirement for the methane detector may be waived if the design is such as to preclude the need of a filter.

(c) A methane detector may provide means for sampling at more than one point; provided, the methane detector shall separately detect the methane in the atmosphere at each sampling point with, in MSHA’s opinion, sufficient frequency.

§ 27.23 Automatic warning device.

(a) An automatic warning device shall be suitably constructed for incorporation in or with permissible and approved equipment that is operated in gassy mines and tunnels.

(b) An automatic warning device shall include an alarm signal (audible or colored light), which shall be made to function automatically at a methane content of the mine atmosphere between 1.0 to 1.5 volume percent and at all higher concentrations of methane.

Note: This requirement for the automatic warning device may be supplemented by a meter calibrated in volume percent of methane.

§ 27.24 Power-shutoff component.

(a) A power-shutoff component shall be suitably constructed for incorporation in or with permissible and approved equipment that is operated in gassy mines and tunnels.

(b) The power-shutoff component shall include:

1. A means which shall be made to function automatically to deenergize the machine or equipment when actuated by the methane detector at a methane concentration of 2.0 volume percent and at all higher concentrations in the mine atmosphere.

2. An arrangement for testing the power-shutoff characteristic to determine whether the power-shutoff component is functioning properly.