

www.MINEPORTAL.in

(All Mining Solutions)

- **ONLINE TEST SERIES FOR**
 - **DGMS COAL/METAL FIRST & SECOND CLASS**
 - **GATE MINING**
 - **COAL INDIA EXAMS**
 - **OTHER MINING EXAMS**
- **ONLINE ORDER MINING BOOKS AT GREAT DISCOUNT**
- **FREE STUDY MATERIAL**
- **WHATSAPP CHAT SUPPORT FOR MINING EXAMS & QUERY RELATED TO MINING**

VISITING SITE- www.MINEPORTAL.in

CALL/WHATSAPP- 8804777500

fb- [www.fb.com/mineportal.in](https://www.facebook.com/mineportal.in)

EMAIL- INFO@MINEPORTAL.IN

Measures against ignition of flammable firedamp mixtures

- (i) All persons should be prohibited from carrying smoking articles (pipes, cigars, cigarettes, tobacco other than chewing tobacco or snuff), matches or other spark-or flame-making devices into the workings. All men entering the mine should be searched for contraband.
- (ii) All coal mines should be treated as safety-lamp mines as a number of explosion in the past had occurred in the so-called naked-light mines. In short-life naked-lamp mines where naked lights are to be retained, special attentions should be paid to ventilation, gas-testing, and to precautions against coal dust.
- (iii) Only certified flame-proof and intrinsically-safe apparatus should be used in coal mines.
- (iv) If, in a district or a part of a mine, electrically - operated equipment is not required for immediate use and men are not working there, power should be cut-off in the district or part of the mine.
- (v) Trailing cables which are vulnerable to damage should be suspended from hangers, specially provided for the purpose, and if they are present in the face area, should be suitable protected against damage from any cause.
- (vi) To prevent ignition from electrostatic charges, all ventilation ductings should be earthed and only antistatic polythene sheeting, hoses and belts are used.

- (vii) A reliable methane monitor or cut-out that will automatically cut off power supply to the electrical equipment when the methane concentration reaches the prescribed maximum percentage may be installed in endangered mine workings.
- (viii) A methane monitor should be installed, when available, on any electrical face-cutting equipment, continuous miner, longwall face equipment and loading equipment to automatically de-energise equipment or give a warning automatically when the concentration of methane reaches the maximum prescribed limit.
- (ix) When a main fan is stopped for any reason, electrical power should be immediately cut off in return air ways. After the fan has been restarted, the power shall not be switched on unless normal ventilation and safe working conditions have been restored.
- (x) In places, where auxiliary fans are used, these should not operate during stoppage of normal mine ventilation. Accumulations of methane should be removed after restoration of normal mine ventilation before the fans are operated.
- (xi) Changes in ventilation affecting the main current or any split thereof should be made only when the mine is idle. The power supply should be cut off from the affected area before changes are made.
- (xii) Production of excessive frictional heat with conveyors, brakes and bearings should be avoided by good installation and proper maintenance.

(xiii) The production of frictional sparks, especially by metal-to-rock contact as with face-cutting, drilling, continuous mining and longwall powerloading equipment should be avoided as far as possible.

(xiv) Besides producing frictional sparks, cutting bits for mining machines, when they are worn or broken, are specially hazardous if they scrape against each instead of cutting into the material.

(xv) In shearer point - attack picks cause more ignitions than radial or forward – attack picks and the risk of ignition diminishes significantly below pick linear cutting speed of 1.5 m/s.

(xvi) Use of materials constructed of light alloys should be prohibited to eliminate incendive sparking.

(xvii) Spontaneous heating of coal should be controlled by proper planning of mine development as well as coal extraction, good ventilation system and inspection. Mine fires should be detected in their early stages.

(xviii) Blasting with explosive should be restricted to a minimum. Immediately before firing a shot or a group of multiple shots and after blasting is completed, examination for methane should be made.

- (xix) Welding, flame-cutting, grinding and soldering operations must be done only after taking extreme precautions. Examination for methane should be made immediately before and periodically, during such work.
- (xx) All mobile diesel – powered equipment must be inspected and maintained in the approval condition in accordance with the instructions furnished by the manufacturer. Particular attention should be paid to the flame arresters in the intake and exhaust systems and the surface temperature of the engine and components of the exhaust system