

## SECTION E — FIXED CONSTRUCTIONS

### E21 EARTH OR ROCK DRILLING; MINING

#### E21F SAFETY DEVICES, TRANSPORT, FILLING-UP, RESCUE, VENTILATION, OR DRAINAGE IN OR OF MINES OR TUNNELS [2]

##### Subclass index

VENTILATION.....	1/00, 3/00
DRAINAGE.....	16/00
SAFETY DEVICES, RESCUE DEVICES.....	5/00-11/00
TRANSPORT; FILLING-UP.....	13/00, 15/00
OTHER METHODS OR DEVICES.....	17/00

##### Ventilation of mines or tunnels

- 1/00 Ventilation of mines or tunnels; Distribution of ventilating currents** (ventilating rooms or spaces in general F24F) [1, 2, 2006.01]
- 1/02 • Test models (analogue computers therefor G06G 7/50) [1, 2006.01]
- 1/04 • Air ducts (suspension devices E21F 17/02) [1, 2006.01]
- 1/06 • • Duct connections (tube connections in general F16L) [1, 2006.01]
- 1/08 • Ventilation arrangements in connection with air ducts, e.g. arrangements for mounting ventilators (ventilators *per se* F04D) [1, 2006.01]
- 1/10 • Air doors (doors in general E06B) [1, 2006.01]
- 1/12 • • Devices for automatically opening air doors [1, 2006.01]
- 1/14 • Air partitions; Air locks (dams E21F 17/103; air locks for foundations E02D) [1, 6, 2006.01]
- 1/16 • Shaft covers [1, 2006.01]
- 1/18 • Gravity-flow ventilation (E21F 1/02-E21F 1/16 take precedence) [2, 2006.01]
- 3/00 Cooling or drying of air** (air-conditioning rooms or spaces in general F24F) [1, 2006.01]

##### Safety devices; Rescue devices

- 5/00 Means or methods for preventing, binding, depositing or removing dust; Preventing explosions or fires** (dams E21F 17/103; applying liquids or other fluent materials to surfaces in general B05; flue-gas indicators G01N) [1, 6, 2006.01]
- 5/02 • by wetting or spraying [1, 2006.01]
- 5/04 • • Spraying barriers (spray nipples, spraying in general B05B, B05D; picks with arrangement of fluid-spraying nozzles E21C 35/187) [1, 2006.01]
- 5/06 • • Fluids used for spraying [1, 2006.01]
- 5/08 • Rock dusting; Depositing other protective substances [1, 2006.01]
- 5/10 • • Devices for rock dusting [1, 2006.01]

- 5/12 • • Composition of rock dust [1, 2006.01]
- 5/14 • Fluid barriers or rock dusters made to work by, or at the same time as, shots or explosions [1, 2006.01]
- 5/16 • Layers of hygroscopic or other salts deposited on floors, walls, or the like, for binding dust; Deposition of such layers (dust-absorbing materials in general C09K 3/22) [1, 2006.01]
- 5/18 • Impregnating walls, or the like, with liquids for binding dust [1, 2006.01]
- 5/20 • Drawing-off or depositing dust (methods or apparatus for flushing boreholes E21B 21/00; while slitting E21C 35/22) [1, 7, 2006.01]
- 7/00 Methods or devices for drawing-off gases with or without subsequent use of the gas for any purpose** [1, 2006.01]
- 9/00 Devices preventing sparking of machines or apparatus** (preventing sparking of electric machines or apparatus H01K, H02K) [1, 2006.01]
- 11/00 Rescue devices or other safety devices, e.g. safety chambers or escape ways** (breathing aids for curative purposes A61H 31/00; respiratory apparatus A62B 7/00; breathing apparatus for accidentally buried persons A62B 33/00) [1, 2006.01]
- 13/00 Transport specially adapted to underground conditions** (mine cars B61D; transport in general, loading B65G) [1, 2006.01]
- 13/02 • in galleries [1, 2006.01]
- 13/04 • in gravity inclines; in staple or inclined shafts [1, 2006.01]
- 13/06 • at or adjacent to the working face [1, 2006.01]
- 13/08 • Shifting conveyors or other transport devices from one location at the working face to another (guiding mining machines along conveyors for the cut mineral E21C 35/12; in combination with mine roof supports for step-by-step movement E21D 23/00) [1, 2006.01]
- 13/10 • Anchorings for conveyors [2, 2006.01]

## E21F

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|-------|---|--------|---|
| 15/00 | <b>Methods or devices for placing filling-up materials in underground workings</b> (dams E21F 17/103) <b>[1, 6, 2006.01]</b>  | 17/04  | • Distributing means for power supply <b>[1, 2, 2006.01]</b>  |
| 15/02 | • Supporting means, e.g. shuttering, for filling-up materials <b>[1, 2006.01]</b>   | 17/06  | • • Distributing electric power; Cable networks; Conduits for cables (circuit arrangements for supplying or distributing electric power in general H02J) <b>[1, 2006.01]</b>                                |
| 15/04 | • • Stowing mats; Goaf wire netting; Partition walls <b>[1, 2006.01]</b>  | 17/08  | • • Distributing hydraulic power; Pipe networks for hydraulic liquid (pipe-line systems in general F17D) <b>[1, 2006.01]</b>  |
| 15/06 | • Filling-up mechanically <b>[1, 2006.01]</b>   | 17/10  | • • Distributing pneumatic power; Pipe networks for compressed air (pipe-line systems in general F17D) <b>[1, 2006.01]</b>  |
| 15/08 | • Filling-up hydraulically or pneumatically (hydraulic or pneumatic transport devices B65G; pipes, pipe couplings F16L) <b>[1, 2006.01]</b>                               | 17/103 | • Dams, e.g. for ventilation <b>[6, 2006.01]</b>  |
| 15/10 | • • Hydraulic or pneumatic filling-up machines <b>[1, 2006.01]</b>  | 17/107 | • • inflatable <b>[6, 2006.01]</b>  |
| 16/00 | <b>Drainage</b> (keeping dry foundation sites or other areas in the ground E02D 19/00) <b>[2, 2006.01]</b>  | 17/12  | • • Dam doors <b>[1, 2006.01]</b>   |
| 16/02 | • of tunnels <b>[2, 2006.01]</b>  | 17/16  | • Modification of mine passages or chambers for storage purposes, especially for liquids or gases (storing fluids in natural or artificial cavities or chambers in the earth B65G 5/00) <b>[1, 2006.01]</b> |
| 17/00 | <b>Methods or devices for use in mines or tunnels, not covered elsewhere</b> (mine lighting F21, H05B) <b>[1, 2, 2006.01]</b>   | 17/18  | • Special adaptations of signalling or alarm devices (for elevators, escalators or moving walkways B66B; gas-sensitive devices <u>per se</u> G01N) <b>[1, 2006.01]</b>                                      |
| 17/02 | • Suspension devices for tubes or the like, e.g. for ventilating ducts (supporting pipes, cables or protective tubing in general F16L 3/00-F16L 7/00) <b>[1, 2006.01]</b> |        |   |