

TABLE 1: LEGAL PROVISIONS OF THE GUIDELINES ATEX 100A AND 137

| Guideline | ATEX 100a | ATEX 137 |
|-----------------------|---|--|
| Contents | Regulates the characteristics of devices and protective systems for applications in areas with potentially explosive atmospheres. | Regulates the application of devices and protective systems in areas with potentially explosive atmospheres. |
| Valid as of... | 1 July 2003 | 1 July 2006 |

TABLE 2: DEFINITION OF TERMS

| Term | Definition |
|--------------------------------------|---|
| Devices | Devices are machines, means of production, operating material, stationary or mobile appliances, control and equipment parts as well as alarm and prevention systems, which individually or combined generate, transfer, store, measure, control, transform or consume power or which are intended for the processing of materials and which have their own potential ignition sources and thus are able to cause an explosion. <i>Examples: mills, centrifuges, tube extruders, lamps, presses</i> |
| Protective Systems | Protective systems are all appliances—with the exception of components of the above defined devices—which immediately stop explosions or limit the area affected by an explosion. They are separate systems that act on their own. <i>Examples: explosion suppression systems, pressure relief systems, emergency trip slide</i> |
| Components | Components are required for the safe operation of devices and protective systems but they do not operate on their own. <i>Examples: pressure-tight enclosures, bearings, sensors</i> |
| Explosive atmosphere | Composition of air and flammable gases, vapours, mists or dusts under atmospheric conditions, in which the combustion process spreads once it is ignited. |
| Hazardous area | Area where the atmosphere is explosive due to the local and operational circumstances. |
| Devices groups and categories | Device group I means devices for the use in underground operation of mines as well as their open-cast plants, which can be endangered by pit gas and/or flammable dusts. Device group II means devices for the use in other areas which can be endangered by an explosive atmosphere. In addition to the device group the specification of the device category is given. From the category the zones can be deduced. (see Table 3). |
| Normal use | Use of devices, protective systems and appliances (see paragraph 'Scope of Application,' point 2) according to the device groups and categories and with all manufacturing data which are necessary for the safe operation of the device in mind. |
| Notified body | The agency that examines a product or process and certifies it according to ATEX guidelines |

TABLE 3: CONNECTION BETWEEN DEVICE GROUP, CATEGORY AND ZONE

| Device group | Device category | Zone |
|--|-------------------------------|----------------------------|
| I Mining pit gas &/or flammable dusts | M = mining M 1 M 2 | – – – |
| II Other areas Explosive atmosphere | G = gas 1 G 2 G 3 G | 0, 1, 2 1, 2 2 |
| | D = dust 1 D 2 D 3 D | 20, 21, 22 21, 22 22 |

Explanation of the categories:

- 1 very high safety = device safety must be guaranteed even in case of rare device failures, e.g. simultaneous failure of two components.
- 2 high safety = device safety must be guaranteed if frequent failures can be expected, e.g. failure of one component.
- 3 safe in normal operation = device safety must be guaranteed in normal operation.

Explanation of the zones:

- 0 and 20:** a steady, frequent and long-term explosive atmosphere is to be expected.
- 1 and 21:** an occasional explosive atmosphere is to be expected.
- 2 and 22:** an explosive atmosphere needn't be expected and in exceptional cases only a short-term explosive atmosphere may occur.