# ATEX DIRECTIVE 2014/34/EU (EXTRACT)

By implementing the ATEX Directive 2014/34/EU for the manufacturer and the ATEX Directive for the operator, the European Community established a basis for a uniform european explosion protection.

| Manufacturer | Operator |
|---|---|
| According to the ATEX directive 2014/34/EU the manufacturer has to meet the following requirements:<br>• Conformity assessment procedure<br>• Classification of equipment groups and categories<br>• Manufacturing and testing of the equipment<br>• Marking of the equipment<br>• Issuing the declaration of conformity | According the ATEX directive 99/92/EC, the operator has to comply with the following obligations:<br>• Issuing the explosion protection document<br>• Definition of the zones<br>• Equipment risk assessment<br>• Assign the equipment to the zone<br>• Approval of the equipment |

| ATEX | II | 2G | Ex | h | IIC | T6 | Gb |
|---|---|---|---|---|---|---|---|
| Marking according to the directive 2014/34/EU | Equipment group | Category | Norm | Non-electrical equipment | Explosion group | Temperature class | Equipment Protection Level (EPL) |

| Equipment group I (mining) | | Equipment group II (industry, ...) | | |
|---|---|---|---|---|
| **Category M1** | **Category M2** | **Category 1G** | **Category 2G** | **Category 3G** |
| very high safety level, even in the event of two independent incidents | high safety level | safe, also in the event of rare incidents | safe, also in the event of frequent incidents | safe in normal operation |
| **EPL (Equipment Protection Level)** | | | | |
| Ma | Mb | Ga | Gb | Gc |
| permissible ex-zone (at 0-constantly, 1-some times or 2-rarely upcoming explosive atmosphere) | | | | |
| - | - | 0 | 1 | 2 |

## Gases and vapours

| Explosion groups | | | Temperature classes | | | |
|---|---|---|---|---|---|---|
| **IIA** | **IIB** | **IIC** | Ignition temperature | Temperatue class | Max. permissible surface temperature | Permissible equipment group |
| Acetone, Ammonia<br>Benzol - pure,<br>Acetic acid, Ethane,<br>Ethyl acetate,<br>Ethyl chloride,<br>Carbon monoxide,<br>Methane, Methanol,<br>Methylene chloride,<br>Naphthalene, Phenol,<br>Propane, Toluol | Illuminating gas<br>Composition:<br>e.g.<br>Hydrogen (51%)<br>Methane (21%)<br>Nitrogen (15%)<br>Carbon monoxide (9%) | Hydrogen | > 450 °C | T1 | 450 °C | T1 to T6 |
| Ethyl alcohol,<br>i-Amyl acetate,<br>n-Butane,<br>n-Butyl alcohol,<br>Cyclohexane,<br>Acetic anhydride | Ethylene,<br>Ethylene oxide | Ethine (Acetylene) | > 300 °C to < 450 °C | T2 | 300 °C | T2 to T6 |
| Petrol - general,<br>Diesel fuel,<br>jet fuel,<br>heating oil DIN 51603,<br>n-Hexane | Ethylene glycol,<br>Hydrogen sulphide | | > 200 °C to < 300 °C | T3 | 200 °C | T3 to T6 |
| Acetaldehyde | Ethyl ether | | > 135 °C to < 200 °C | T4 | 135 °C | T4 to T6 |
| | | | > 100 °C to < 135 °C | T5 | 100 °C | T5 to T6 |
| | | Sulphide of carbon | > 85 °C to < 100 °C | T6 | 85 °C | only T6 |

| Permissible equipment groups | | | | | |
|---|---|---|---|---|---|
| **IIA** | **IIB** | **IIC** | **IIB** | **IIC** | **only IIC** |

Example:
Tool with II 2G EX h IIB T4 Gb can be used in all Zone 1 and 2 areas with IIA and IIB - T1/T2/T3/T4. Tool with II 2G EX h IIC T6 Gb can be used in all Zone 1 and 2 areas (IIC T6 is the highest classification).

Subject to changes.