

Technical Information: ATEX Directive and IECEx Scheme

A.5 ATEX Directives and IECEx Scheme

The ATEX Directives

In order to remove barriers trading via “New Approach” laying down Essential Health and Safety Requirements (EHSRs), and to ensure free movement for the products to which it applies in the EU territory, many directives are adopted into national law by individual member states. Conformity assessment procedures must be applied to equipment within its scope before being placed on the European market.

The directive which provides the technical requirements to be applied to equipment intended for use in potentially explosive atmospheres is so-called ATEX Directives. It is named after the French “*ATmosphere EXplosible*”. The relevant directives of ATEX are:

- 94/9/EC (until April 19th, 2016) Equipment and protective system intended for use in potentially explosive atmospheres
- 2014/34/EU (from April 20th, 2016) will be replaced 94/9/EC
- 1999/92/EC Minimum requirements for improving the safety and health protection of workers potentially at risk from explosive atmospheres



Potentially explosive atmosphere within a process area

The ATEX equipment directive and the accompanying health and safety directive, specifying the protection of workers, apply to the European Union. The safety directive requires hazardous areas to be subjected to a risk analysis, classified into “Zones” and suitably equipped with conformable equipment and protective system. More information, see http://ec.europa.eu/enterprise/sectors/mechanical/documents/guidance/atex/index_en.htm

Equipment Group and Category for ATEX Directive:

The directive divides equipment into two groups, Group I for underground part of mines and Group II for other places those become endangered by explosive atmospheres. The Group I is categorized to M1 and M2, also Group II is categorized into 1, 2 and 3 for the respective present of potentially explosive atmospheres and the level of protection.

The category for Group II shall be followed with character “G” for gas, vapor or mist and/or “D” for dust whether such equipment may be installed.

Categories of equipment and level of protection

Zone areas acc. to Directive 1999/92/EC	Presence of potentially explosive atmospheres	Level of device protection	Equipment category acc. to Directive 2014/34/EU
Zone 0 Zone 20	Continuously, for long period, frequently	Very high level of protection (2-faults protection)	Category 1G Category 1D
Zone 1 Zone 21	Occasionally	High level of protection (1-fault protection)	Category 2G Category 2D
Zone 2 Zone 22	Not occur in normal operation, only for short period	Normal level of protection	Category 3G Category 3D

The IECEx System

The IECEx is a multilateral certification scheme based on the use of IEC’s international standards for explosive atmospheres. It caters for different countries whose national standards are either identical to those of the IEC or else very close to IEC standards. The IECEx is global in concept and practice, reduces trade barriers caused by different conformity assessment criteria in various countries, and helps industries open up to new markets. The goal is to help manufacturers reduce costs and time while developing and maintaining uniform product evaluation to protect user with the required level of safety.

The IECEx System comprises the following

- IECEx Certified Equipment Scheme
- IECEx Certified Service Facilities Scheme
- IECEx Conformity Mark Licensing System
- IECEx Certification of Personal Competencies (CoPC)

For certified equipment scheme, it is covered to test and assess the sample products for compliance with standards, assessment and auditing of Ex-manufacturer premises, and on-going surveillance audits of manufacturer premises. It is a “fast-track” process for countries where regulations still require the issuing of national approval or certificates. Certificates by the IECEx system are issued as “Electronic Certificates” and are live on the IECEx website. More information, see <http://www.iecex.com>