



European Commission

ENTERPRISE AND INDUSTRY DIRECTORATE GENERAL

# **ATEX “Product” Directive 94/9/EC**

of the European Parliament and the Council of 23 March 1994  
on the approximation of the laws of the Member States  
concerning equipment and protective systems intended for use  
in potentially explosive atmospheres



# Scope of Directive 94/9/EC

- Equipment
  - Protective systems
- when intended for **use in a**  
potentially explosive atmosphere
- and
- Devices according to Art. 1(2)
  - Components

Must comply when  
placed on the market  
or put into service



# Potentially Explosive Atmosphere

- flammable substance (gas, vapour, mist or dust)
- mixed with air
- under atmospheric conditions<sup>\*)</sup>
- after ignition, combustion spreads to entire mixture.

<sup>\*)</sup> atmospheric conditions according to standards:

$T = -20\text{ }^{\circ}\text{C}$  to  $+40\text{ }^{\circ}\text{C}$ ,  $p = 0,8\text{ bar}$  to  $1,1\text{ bar}$ ,

$dT/dt < 0,5\text{ K/min}$ ,  $RH = 5\%$  to  $85\%$ ,  $O_2 = 20,9 \pm 0,2\text{ Vol}\%$



# Equipment

- Intended for use **in** a potentially explosive atmosphere
- Must have its **own** potential source of ignition

# Protective System

Intended to **halt** an incipient explosion and/or to **limit** the effective range of an explosion

- When placed on the market **separately as autonomous system**: Protective system in the sense of the Directive
- When **integrated into equipment**: To be assessed with the complete equipment (no own CE-mark)



# Device according to Art. 1(2)

Safety-, controlling- or regulating devices which are:

- Situated **outside** the potentially explosive atmosphere
- Essential to the safe functioning of equipment or protective systems with respect to the risk of explosion

## Component

- Items essential to the safe functioning of equipment or protective systems but with **no autonomous function**
- Placed on the market with the **explicit intention of integration** into ATEX equipment or protective systems



# Classification of Equipment: Groups and Categories

- **Group I:** intended for use in the underground parts of mines, likely to become endangered by firedamp and/or combustible dust
- **Group II:** intended for use in other places, likely to become endangered by explosive atmospheres

**These groups are subdivided into categories.**

The way in which this categorisation has been developed highlights one of the main distinctions of groups I and II



## Equipment - Group I

- Category M1: for use in mines **endangered** by firedamp and/or combustible dust
- Category M2: for use in mines **likely to be endangered** by firedamp and/or combustible dust

## Equipment - Group II

- Category 1: for use in areas in which explosive atmospheres are **present continuously**, for long periods or frequently
- Category 2: for use in areas in which explosive atmospheres are **likely to occur**
- Category 3: for use in areas in which explosive atmospheres are **unlikely** or occur only **infrequently** and for **a short period**.



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# Modules for conformity assessment

**Council Decision 93/465/EEC**

**Directive 94/9/EC**

Module A - Internal Production Control

Annex VIII

Module B - EC Type-Examination

Annex III

Module C - Conformity to Type

Annex VI

Module D - Production Quality Assurance

Annex IV

Module E - Product Quality Assurance

Annex VII

Module F - Product Verification

Annex V

Module G - Unit Verification

Annex IX





<b>Involvement of Notified Bodies</b>	Equipment of category M1 & 1 ; autonom. protective systems	Electrical equipment and internal combustion engines of cat. M2 & 2	Other equipment of category M2 & 2	Equipment of category 3
Notified Body involved in the <b>PRODUCT DESIGN</b> phase	X	X		
Notified Body involved in the <b>PRODUCTION</b> phase	X	X		
<b>COMMUNICATION</b> of <b>TECHNICAL FILE</b> to Notified Body			X	
<b>SELF DECLARATION</b> of the manufacturer			X	X



# Exclusions

- Medical devices intended for use in medical environment
- Equipment for use in the presence of explosives or unstable chemical substances
- Personal Protective Equipment
- Seagoing vessels, mobile offshore units
- Means of transport except vehicles intended for use in an explosive atmosphere
- Equipment for military use covered by Art. 223 (1b) of the Treaty



# Installations

- Directive does **not** regulate “installations” or “plants”, which are subject to workplace directives or national legislation
- Not always a clear line between installation and “assembly”

The plant will **usually** be an installation if the **end user or an installer** e.g.:

- purchases parts from different manufacturers to install them **under his responsibility**
- carries out a whole series of **different** processes, requiring the integration of ATEX certified equipment installed according to a **unique layout on site**
- commissions the installation off-site, which may certainly not be a production run, **under his direct responsibility**, or indirectly through a contractor



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# Some of many difficult issues

- Assemblies
  - Interface to potentially explosive atmospheres
  - Different categories within one product
  - Marking of components, assemblies
- 

## Guidelines

« **Consideration Papers** » of the Standing Committee

**ExNBG Clarification Sheets**



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**Thank you  
for the attention**

**<http://europa.eu.int/comm/enterprise/atex/index.htm>**

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