

# Directive 2014/34/EU (ATEX) Non-electrical equipment

## Types of protection for non-electrical equipment in explosive atmospheres

Type of protection	Symbol	Standard
Constructional safety „c”	h	EN ISO 80079-37
Control of ignition sources „b”	h	EN ISO 80079-37
Liquid immersion „k”	h	EN ISO 80079-37
Flameproof enclosures „d”	h	EN 60079-1
Protection by enclosure „t”	h	EN 60079-31
Pressurized enclosure „p”	h	EN 60079-2

## Explosive gas atmospheres:

Temperature class	Maximum surface temperature in °C
T1	450
T2	300
T3	200
T4	135
T5	100
T6	85

## Explosive dust atmospheres:

Indication of the maximum surface temperature e.g.: T 135 °C.

### Equipment category 1:

Very high degree of safety –  
Use in **zone 0/20** (permanent)  
1/21 (occasionally)  
2/22 (rare)

### Equipment category 2:

High degree of safety –  
Use in **zone 1/21** (occasionally)  
2/22 (rare)

### Equipment category 3:

Standard degree of safety –  
Use in **zone 2/22** (rare)

### Equipment group I:

Equipment intended for use in underground mining works and surface mining works that may be exposed to the hazard of firedamp and/or combustible dust.

### Equipment group II:

Equipment for use outside mining which may be endangered by explosive dust and gas atmospheres.

## Gas











## Dust











### ATEX-Sign:

Explosion-protected equipment is designed in one or more types of ignition protection.

### Type of explosive atmosphere:

**G** = Mixture of air and gases, vapours or mists  
**D** = Dust-air mixtures

### Group Explosive gas atmospheres

IIA	Propane Ammonia Methane Ethane
IIB	Ethylene Ethyl glycol Hydrogen sulphide
IIC	Hydrogen Acetylene Carbon disulphide

### Group Explosive dust atmospheres

IIIA	Combustible flyings
IIIB	Non-conductive dust
IIIC	Conductive dust

### Equipment Protection Level EPL

**EPL Ga/Da:** Equipment with a very high level of protection (corresponds to the category 1G/1D)  
**EPL Gb/Db:** Equipment with a high level of protection (corresponds to the category 2G/2D)  
**EPL Gc/Dc:** Equipment with extended level of protection (corresponds to the category 3G/3D)

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