



**GCC Electrical  
Testing Laboratory**  
المفتبر الفليبي لفمص المعدات الكهربائية

## Electrical Equipment for Potentially Explosive Atmosphere

European directive ATEX and the IECEx certification scheme are covering the main and essential health and safety requirements any equipment must comply with in order to be sold and used in a potentially explosive environment.



**GCC Electrical  
Testing Laboratory**  
المفتبر الفليبي لفمص المعدات الكهربائية

Education  
Course Code: **M14**



**GCC Electrical  
Testing Laboratory**  
المفتبر الفليبي لفمص المعدات الكهربائية

## Electrical Equipment for Potentially Explosive Atmosphere

AUGUST  
**5 - 9**  
2018



# GCC Electrical Testing Laboratory

المختبر الفليبي لفحص المعدات الكهربائية

## Objectives

To familiarize with and educated selection of equipment to be used in electrical power plants or, in general, where the directive can be applied.

### Addressed to:

Engineers operating in the maintenance of industrial or electrical power plant and procurement officers

### Duration:

3 Full Days

### Location/Venue:

GCCIA HQ, Dammam

### Course Fees:

## PROGRAM

The Course program contains the following training outline:

### DAY 1

#### DAY 1: The ATEX directive

- Basic requirement included in the directive
- scope, application range, CE marking
- main features of the protection against explosion hazards
  - EX equipments
  - Gas classification
  - Temperature classes
  - Protection modes
  - Protection level
  - Marking

### DAY 2



#### DAY 2: Equipment and protection modes

- Basics of classification of hazardous areas
  - Definitions and processes to be used for area classification
- Application of the standard EN 60079-10
  - Application of the standard EN 61241
- Manufacturing techniques and testing procedure for Electrical apparatus in explosive gas atmospheres o Enclosure explosion proof (Ex-d)
  - Intrinsic safety (Ex-i)
  - Electrical equipment for zone 0

### DAY 3

#### DAY 3: Safe operation and Maintenance procedures in potentially explosive atmosphere

- Installation procedures of electrical equipment in hazardous area
  - Selection according to zones
  - Protection from dangerous sparking
  - Emergency switch-off
  - Type of protection “e” – Increased safety o type of protection “i” – Intrinsic safety
  - Electrical installations inspection and maintenance according IEC 60079

 **Classification of hazardous areas (1999/92/EC)** 

- > **Zone 20** a place in which an explosive atmosphere in form of a cloud of combustible dust in air is present continuously, or for long periods
- > **Zone 21** a place in which an explosive atmosphere in form of a cloud of combustible dust in air is likely to occur in normal operation occasionally
- > **Zone 22** a place in which an explosive atmosphere in form of a cloud of combustible dust in air is not likely to occur in normal operation but, if it does occur, will persist for a short period only



**Danger**  
Explosive atmosphere