



# Hazardous Areas & Intrinsic Safety

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## **COURSE CONTENT**

### **Aim**

The aim of this course is to introduce the trainee to the British Standards related to electrical apparatus used in potentially explosive atmospheres.

### **Pre-requisite**

The delegate should be of Electrical or Instrumental background, or have an understanding of one of them.

### **Course Duration**

The course is of two day duration.

### **Optimum Number**

The optimum number on this course is 6.

### **Training Aids**

Lectures and course notes.

### **Assessment**

Each course participant will be subjected to a written test to determine achievement of objectives.

### **Course Objectives**

On completion of this course the trainee should be able to:

- Define zones under area classification.
- Be aware of area classification procedures.
- Understand causes of fire or explosion.
- Understand temperature classification.
- Be aware of apparatus grouping.
- Understand types of protection.
- Recognise making of equipment.

## COURSE SYLLABUS

Definition of:

- Zone 0
- Zone 1
- Zone 2

Details of flammable materials

Explosive limits of vapours and gases

Flashpoint

Ignition temperature

Temperature classification and surface temperature relationship.

Apparatus grouping:

- Group 1
- Group II A
- Group II B
- Group II C

Protection types

Intrinsic safety

Flameproof d

Pressurised purge p

Increased safety e

Special protection s

Oil filled o

Powder filled q

Encapsulation m

Type of protection n

Proposed ATEX 100 directive.

Making requirements for apparatus.

Identification of type of protection.

Ingress protection code.

IS apparatus fundamental requirements.

IS certificates.

Identification codes.

Use of zenner systems.

Opto-isolater systems.

Conformity of loop to drawings.

Reporting and recording of faults.

**Dates available on request**