

Hazardous Area Awareness

Course Price

£2950

Course Description

This intensive 5-day Course provides delegates with a sound underpinning knowledge and understanding of all types of EEx equipment, Statutory Regulations, Standards and codes of practice. The course also covers area classifications, types of equipment used and protection methods. Inspection and maintenance of EEx equipment in hazardous areas is explained giving inspection and maintenance requirements.

Course Objectives

At the end of this training course, participants will be able to:

- Explain the concept of the fire triangle.
- Describe the properties of hazardous products
- Describe hazardous area classifications
- Describe the main types of electrical and test equipment protection
- Describe how to select equipment appropriate to zone classification
- Describe the levels and methods of inspections of electrical equipment
- Describe the types of portable equipment utilized within hazardous areas
- Manage the Inspection and Maintenance requirements relevant to Hazardous Area Electrical Equipment.
- Participate positively in safety inspections, task risk assessments and incident/accident investigation.
- Prepare for Complex competency qualification

Who Should Attend

Supervisory personnel requiring a good level understanding to be able to manage the mandatory requirements for Maintenance of Hazardous Area equipment under their responsibility. Give essential knowledge to Safety personnel enabling full participation in Safety risk assessments, Safety Audits and Accident / Incident Investigations. Provide Instrument technicians and engineers with effective preparation for Complex qualification avoiding unnecessary re-sits due to lack of preparation.

Course Content

- Statutory and non-statutory requirements
- Characteristics of gas, subdivisions, explosive limits, flash points, ignition temperatures
- Area Classifications zone 0, 1 and 2, Temperature classifications
- Concept of gas ignition protection, EExia,b,c, EExd, EExe, EExp, EExn, EExm, EExO
- Selection of apparatus, type of construction, IP protection, Glanding requirements, associated apparatus
- Maintenance, Schedules and grades of Inspection and testing
- Types and methods of protection for equipment in a Hazardous area

Day 1

- Fire Triangle
- Properties of Hazardous Products
- Gas Subdivisions
- Explosive Limits
- Flash Point
- Ignition Temperature
- Flash Points and Ignition Temperatures of Gases
- Temperature Classification: T Class
- Area Classification
- Zones
- The Standards
- Equipment Construction and Protection Equipment
- Ingress Protection

There will be a PowerPoint presentation on Hazardous Area Electrical Equipment Requirements and two videos, one on The Fundamentals of Hazardous Area Classifications and one on Hazardous Area Protection Overview. There will also be an oral quiz to assess delegate's level of understanding.

Day 2

- Explosion Protection Concepts
- Type of Protection 'd' Flameproof enclosure
- Fixing Holes, Fastenings & Covers
- Cable Glands & Cable Entries
- Selection of Flameproof Glands
- Type of Protection 'e' Increased Safety
- Glanding of EExe Apparatus
- Termination in Exe Apparatus
- Multiple Method of Protection
- EExe Lighting
- Induction Motors EExe
- Non Incendive EExn
- Installation of EExn Equipment

There will be a PowerPoint presentation Hazardous Area Electrical Equipment Requirements and Hawke Glands. There will also be two videos, one on EExd Explosion proof enclosure

And the other on Installation of Hawke Cable Glands 501.453/421/423, Barrier Gland 65. There will also be an oral quiz to assess delegate's level of understanding

Day 3

- Glanding into EExn Enclosures
- Common Use of Type EExn Apparatus
- Light Fittings
- Rotating Machines
- Non Incendive EExnL
- Encapsulation Protection EExm
- Oil Immersed Apparatus EExO
- Circuit Protection
- Pressurized Apparatus EExp
- Protective Gas
- Purge System Operating Conditions
- Static Pressurization System
- Leakage Compensation System
- Continuous Flow Purge System

There will be a PowerPoint presentation Hazardous Area Electrical Equipment requirements, a video on Hazardous Area Standards and oral quiz to assess delegate's level of understanding

Day 4

- Powder Filled Apparatus EExq
- Intrinsic Safety EExi
- Intrinsically Safe Categories
- Apparatus Marking
- Associated Apparatus
- Simple Electrical Apparatus & Components
- Segregation
- Test Equipment
- Earthing Arrangements
- I.S. Loops Diagram
- Typical Labeling

There will be a PowerPoint presentation on Hazardous Area Electrical Equipment requirements, a video titled Intrinsic Safety Explained and oral quiz to assess delegate's level of understanding

Day 5

- Inspection of Hazardous Area Equipment
- Grades of Inspection
- Visual Inspections
- Close Inspections
- Detailed Inspections
- Inspection Schedule of Electrical Apparatus

- Inspection Tables
- Portable Equipment in Hazardous Areas
- Summary of Topic Hazardous Areas
- Review and question / answer
- Written multiple choice test
- Written course feedback

CPD Unit

Continuing Professional Development

35 HOURS CPD