

Hazardous Areas Awareness (2 days course)



BACKGROUND:

We all know that several industries are used, produced, and stored flammable or combustible substances; such locations are petrochemical plants, chemical process and storage areas, gas stations, printing industries, surface coating industries, paper, and textiles industries, etc. Within the areas where dangerous quantities of flammable gas, vapor, combustible dust, or fiber may arise, suitable protective measures and equipment shall be applied to reduce the risk of explosions. Not only the special protected equipment is needed to be concerned, but also personnel must be aware of the danger and possess the proper knowledge and competencies for safe working on their duties within such environments.

Moreover, the technical standards relevant to hazardous areas applied in Europe and other parts of the world are affected directly to the manufacturing of Ex equipment, machines, and instrument, as well as their installations, inspections, and end-users. These standards are reviewed and updated periodically; it is necessary for people who work in hazardous areas to be up-to-date with such changes.

LEARNING OBJECTIVE:

Attendants will gain knowledge about basic principles of explosion protection, Ex-equipment, basic requirements of IEC and EN 60079 standards for operation with explosive atmospheres.

AGENDA:

- Regulations and Guidance for Working with Explosive Atmospheres
- General Principles
 - Principles of an Integrated Approach to Explosion Safety
 - Definitions, Properties of Flammable Materials
 - Overview of Hazardous Areas Classification (Zones)
 - Ignition sources
 - Equipment Groups, Temperature Classes
 - Ingress Protection (IP code)
- Standards, Certification & Markings
 - EN/ IEC Standards for Explosion Protection
 - Types of Protection for Equipment
 - Equipment Categories
 - Equipment Protection Levels (EPL)
 - ATEX/ IECEx Equipment Certification and Markings
- Types of Protection: Major Techniques
 - Flameproof (Ex d)
 - Increased Safety (Ex e)
 - Type of Protection 'n' (Ex n)
 - Pressurization (Ex p)
 - Intrinsic Safety (Ex i)
 - Dust Explosion Protection (Ex t)
 - Other types
- Qualifications of Personnel
 - Knowledge, Skills and Competencies acc. to IEC 60079-14/ -17
 - IECEx Certification of Personnel Competencies (IECEx CoPC)
- Basic of Ex Equipment Installation Requirement for Ex d, Ex e, Ex n, Ex p, Ex i
- Basic of Ex Installations Inspection & Maintenance
 - Types & Grades, Inspection schedules
 - Maintenance requirement
 - Documentation
- Permit to Work & Safe Isolation

TARGET AUDIENCE:

People who work with or are related to Ex equipment and explosive atmospheres for all duties i.e. equipment operator, electrical installer, electrical inspector and maintenance operator, technical supervisor, plant manager, equipment manufacturer, and other functions.

No minimum level of technical education is required. However, those who have a basic knowledge of electrical equipment, electrical installations, and applications are useful.

METHODOLOGIES:

A classroom presentation, video, question & answer, discussion, and tests (multi-choices and written answers) are applied to ensure effective understanding.

Theory session:	80%
Quiz and exam:	20%
Duration:	2 days, 08:30 - 16:30 hrs.
Lunch/ break:	12:00 - 13:00 hrs./ 2-coffee breaks
Language:	Present in Thai and/or English
Material:	Training material in English, hard copy only
Certificate:	Certificate of Attendance by JTE _x , upon 100% attendance and pass a post-course exam

Remark: If required, a Certificate of Attendance issued by TÜV Rheinland is an option with an additional fee.

INSTRUCTOR/ TRAINER:

Jumpol Thojun has graduated with a Bachelor of Electrical Engineering (EE), a Master of Engineering Management (EM), and a Master of Business Administration (MBA). He holds a professional engineer license from the Council of Engineers-Thailand, and international certified personnel competencies for working with Ex-equip. and explosive atmospheres i.e. IECEx CoPC (9 units) from Baseefa-UK, CompEx from JT Limited-UK. With over 29 years of experience in electrical engineering, Ex-equipment manufacturing, testing, and certification for ATEX-IECEX, QMS audit for ISO 9001 and ISO/IEC 80079-34, he had been authorized by TÜV Rheinland Industrie Service GmbH as an auditor, expert, trainer, and examiner for ATEX-IECEX explosion protection services. Jumpol is senior expert of JTE_x, he is stationed in Bangkok for servicing through the Asia Pacific region.

PERSONNEL COMPETENCE CERTIFICATION:



To ensure a suitable knowledge, skills, and experience of your people for each duty in hazardous areas, the IECEx Certificate of Personnel Competence (CoPC) provides an internationally recognized scheme of competence for assessment and certification of personnel associated with the design, installation, inspection, operation and maintenance services for E&I equipment and system in hazardous areas. All CoPCs are available online on the IECEx website www.iecex-certs.com for searching.

TÜV Rheinland Industrie Service GmbH is an IECEx Recognized Training Provider (RTP) and an IECEx Certification Body (ExCB) for this scheme. The CoPC examination by TÜV Rheinland is normally arranged in Germany, however now this can extend the service locally for applicants in Asia Pacific countries.

WHY TÜV RHEINLAND:

TÜV Rheinland is a global leader in independent testing, inspection, certification, training, and personnel qualification services. Founded in Germany in 1872, the Group employs over 19,000 people in 69 countries around the globe. As a notified body for ATEX Directive and a certification body for IECEx scheme, TÜV Rheinland offers services for the test and certification of equipment, and protective system as well as certification for personnel competence to those who require for working with explosive atmospheres. For more information: <https://www.tuv.com/world/en/atex-directive.html>

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