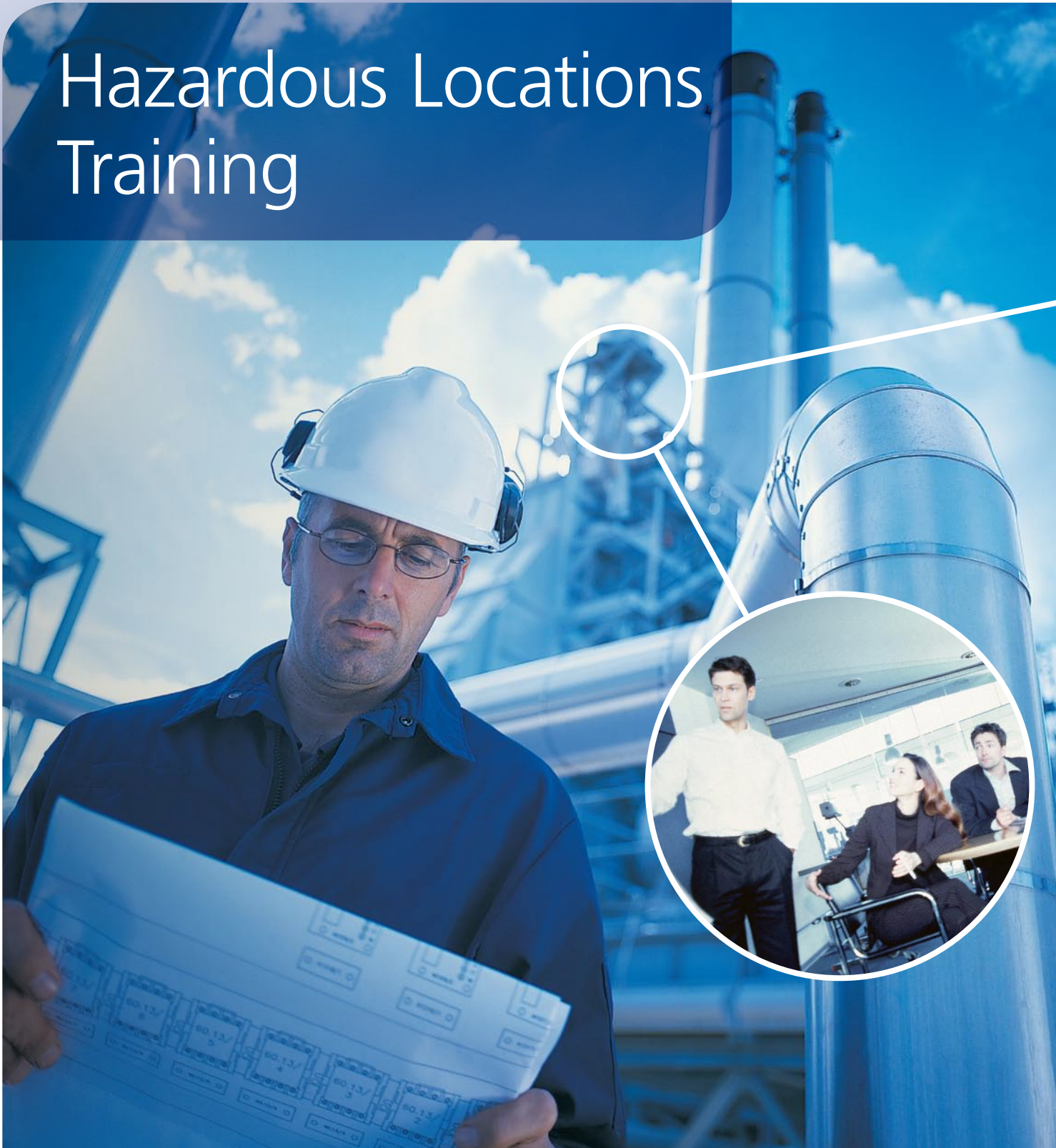





Valued Quality. Delivered.

Hazardous Locations Training





If you are involved with projects associated with hazardous locations, which involves the installation or inspection and maintenance of electrical or non-electrical e.g. mechanical; equipment that is in accordance with EN or IEC standards associated with potentially explosive atmospheres, it is likely that the new training and competence requirements will affect you.

The electrical installation standard IEC 60079-14: 2007 specifies in detail the competency levels and the requirements for people involved in the manufacture and installation of equipment or plant designed for use in hazardous (potentially explosive) atmospheres.

The requirement for competency of installers applies to persons installing equipment on a plant and is equally applicable to many manufacturers who assemble certified ATEX or IEC/EN equipment to form an assembly. Management and Design personnel also have specified training requirements listed in the standard.

Related services

Intertek is a global leading provider of professional assessment and certification services for hazardous locations. We are a Notified Body under the ATEX Directive for the UK Government and a UKAS accredited certification body. We can assess and certify sites and staff and we issue certification for products designed to be used in potentially explosive atmospheres under the IECEx scheme for Europe and the ETL listed scheme in the US - as well as providing CE Marking support services.

As a full scope ATEX Notified body, we are able to offer our clients a turnkey 'product to market' certification. We can conduct the full range of product tests under the ATEX Standard as we have fully equipped laboratories and highly trained and experienced staff, committed to providing the highest quality of service to our clients. Our facility in Chester boasts the biggest dedicated explosion safety training facility – covering COMPEX and DSEAR in the UK and our sister office in Leatherhead has a purpose built EMC test facility.

Our wide, proven range of compliance services gives us the knowledge and experience to provide assistance for any company that uses or creates flammable substances, and as such we are trusted by some of the worlds leading brands to deliver the safety solutions they need.

Intertek is also one of the UK's largest DSEAR implementation companies and has developed in-house software "Explosion Assessment and Management Software" (EXAM) for recording and tracking equipment located in potentially explosive atmospheres.

When products or assemblies are compliant, Intertek can certify your Quality Systems to the necessary levels (for example, ISO9001:2000, IECEx QAR and ATEX Quality Modules) as well as offering the full range of environmental product and management systems services to meet the latest directives.

What is CompEx?

CompEx is a nationally recognised course and qualification in explosive atmospheres installation and inspection. It provides competence based training and assessment for electrical and instrumentation technicians working in hazardous areas in offshore and onshore industrial environments.



If you would like information on our open or bespoke courses - or would like to book, please call our training coordinator, Sam Fox on +44 1244 882590, sam.fox@intertek.com

How Intertek can help?

Intertek is an ATEX Notified Body, DSEAR/ATEX 137 implementation specialist and CompEx Training Centre. We have the largest set of CompEx Training facilities associated with hazardous locations in the UK and have a satellite training facility in Sasolburg South Africa. Intertek also offers a global training solution with the CompEx mobile facility, designed for our customers outside the UK, we bring the training to you.

CompEx is a recognised qualification for ATEX and IEC electrical installation and inspection. It consists of practical training and assessment and is rapidly becoming a required qualification worldwide. Intertek offers both open and bespoke training. All our courses include the latest IEC standards and up-to-date information. We take great pride in the enthusiasm and knowledge of our lecturers who can draw from practical experience at all times to keep the courses interesting, relevant and practical.

CompEx is ideally suited for ATEX and DSEAR as it is a Nationally Recognised Qualification supported by the HSE, NICIEC and EEMUA and is fast becoming a mandatory requirement on many plants. The standard CompEx courses offered are for responsible persons, for designers, for operatives (installers), hazardous area classification plus bespoke courses to suite your specific needs.

COMPEX UNIT Ex F

'Hazardous Area Foundation Course'



A nationally recognised qualification in the theory of hazardous areas.

This unit is part of the national scheme for the training and certification of core competence of personnel who work on equipment for use in explosive atmospheres. Such training provides companies with a target for their employees, which is recognised by the self-regulated sector of this industry as a necessary component of their Personnel Competency Matrix. For this reason, it is considered that assessment of the knowledge imparted by the training will be an essential part of any programme.

Intertek ensures that this course is up-to-date with the latest requirements of the European Directives, ATEX and IEC Standards.

Who should attend?

This course contains no practical skills training or assessment and is therefore more suited to designers, project engineers, managers and anyone involved in Hazardous Area work that does not actually conduct installation or inspection of electrical equipment. Unlike the other CompEx units, no prior knowledge of the requirements of safe use of 'Dangerous' materials or flammable atmospheres is required for full participation in this unit.

The course can be delivered as an OPEN course at our training Centre or delivered at your location, minimising travel and disturbance to the people attending the course.

Syllabus

- National core competence certificate for hazardous locations
- Directives and regulations
- Hazardous areas
- DSEAR
- Ignition sources of gas and dust
- Area classification
- Signage
- Categories and EPLs
- Equipment for use in hazardous areas
- Types of protection, electrical and non-electrical
- Ingress protection (IP rating)
- Marking
- Maintenance work
- Repairs
- Modifications
- Portable equipment
- Miscellaneous

Course Options

- Duration: Hazardous Area Foundation Course - Ex F
- Duration: 2 Days
- Examined: Yes
- Certificate Issued: National core competence certificate for hazardous locations



Duration: 2 Days
Cost: £415 + VAT

* Prices valid until end of 2012

Electrical/Instrumentation installation, maintenance & inspection



Operatives are considered to be people who are involved in the selection, installation and inspection of equipment. The Installation Standard IEC 60079-14 requires an assessment of the delegates practical 'skills' in addition to theoretical training. This necessitates practical training and evaluations such as the 'CompEx' scheme where trainees are expected to assemble equipment (for example glands) that will then be taken apart and examined by assessors. The course consists of classroom based theoretical training (50%) and 'hands on' training in a purpose built plant simulation room with practical training and examinations (50%).

Who should attend?

Anyone who conducts electrical installation or inspection of hazardous areas, normally practitioners with an electrical installation background.

Syllabus

- Understanding of the general principles of explosion protection;
- Understanding of the general principles of types of protection and marking;
- Understanding of those aspects of equipment design which affect protection concept;
- Understanding of content of certificates and relevant parts of IEC/EN 60079-14;
- General understanding of inspection and maintenance requirements of IEC/EN 60079-17;
- Familiarity with the particular techniques to be employed in the selection and erection of equipment referred to in IEC/EN 60079-14;
- Understanding of the additional importance of permit to work systems and safe isolation in relation to explosion protection.
- Use and availability of documentation;
- Practical skills necessary for the preparation and installation of relevant concepts of protection (hands on training, live work, installation and inspection)

Course Options

- Gas & Vapours Modules Ex01 - Ex04
Duration: 5 days
- Dust Only Modules Ex05 - Ex06
Duration: 3 days
- Refresher (required within 5 years of certification)
Duration: 3 days
- Examined: Yes



Gas & Vapours (Modules Ex01 - Ex04)
Duration: 5 days. Cost: £980.00 + VAT

Dust Only (Modules Ex05 - Ex06)
Duration: 3 days. Cost: £660.00 + VAT

Refresher
Duration: 3 days. Cost: £660.00 + VAT

* Prices valid until end of 2012

Mobile CompEx



Our focus is not just on training, but also on competency assessment through a candidate's demonstration of those practical skills necessary to work safely in hazardous areas. Historically CompEx has been delivered from a number of fixed centres based mainly within the United Kingdom.

Designed for use outside of the United Kingdom, Intertek is the first centre to offer CompEx to a global market through their mobile CompEx Assessment Rigs. Based closely on our principal centre in the UK our mobile rigs are transported in a 20ft container and assembled at a suitable location on or near your site.

Who should attend?

Designed for larger groups of candidates who are unable for economic/logistical reasons to attend a course at a fixed CompEx training centre.

see our mobile CompEx demonstration video:

www.intertek.com/hazardous-locations/compex/video/

Syllabus

The syllabus and assessment is identical to our standard CompEx courses (Ex01 – Ex04 and Ex05 – Ex06).

Please note, through discussions with our CompEx team there exists the opportunity to extend the time allocated for the training element of the course, if appropriate to the target audience (e.g. if English is not a candidates first language)

Course Options

- Gas & Vapours (Modules Ex01 - Ex04)
Duration - minimum 5 days but can be extended
- Dust Only (Modules Ex05 - Ex06)
Duration - minimum 3 days but can be extended
- Examined: Yes



Due to logistical considerations and variable numbers of candidates course costs are quoted separately.

CompEx Non-Electrical (Mechanical) Course Ex11 (coming soon)



Since the introduction of ATEX (DSEAR) users must identify all possible ignition sources that could arise in hazardous areas. The identification of these ignition sources includes electrical and non-electrical (mechanical) items of equipment.

In addition to the existing safety measures applied to ensure safety of electrical equipment in hazardous areas measures for explosion safety now apply to non-electrical equipment.

The safety measures for non-electrical equipment used in hazardous areas not only include the design of equipment but also those aspects required for safe selection, installation, maintenance, inspection and repair.

Developed in conjunction with CompEx and closely aligned to the principles used for existing CompEx courses Intertek will soon be able to offer a new Ex11 training and assessment module. Leading to a certificate of core competence, this new module targets mechanical technicians and engineers.



Coming soon

CompEx Module Ex12: Explosive Atmospheres Application Design Engineers



When designing an electrical installation for use in explosive atmospheres there is a requirement to consider the design, selection and erection of the overall system.

The Ex12 course is intended to give an in-depth awareness to the candidate with regard to explosive atmospheres formed by gases, vapours, mists and combustible dusts. It covers the application design and selection of electrical equipment, along with the requirements of IEC 60079-14: Electrical installations design, selection and erection, this includes but not limited to the selection of equipment, cabling and cable glands etc.

The course consists of classroom based theoretical training. There are a number of individual exercises and group exercises covering equipment selection, labelling, environmental conditions etc. The course also covers intrinsically safe systems and the necessary parameters required to ensure correct and safe installation is achieved.

Who should attend?

Electrical engineers including; maintenance engineers, project engineers etc.

Syllabus

- ATEX 1999/92/EC
- Explosive atmospheres
- Area Classification
- Ignition Sources, identify and review the thirteen ignition sources as identified in EN 1127-1
- Ingress Protection
- ATEX 94/9/EC – Equipment and equipment marking
- Equipment Protection levels
- Documentation reviews
- Cables
- Cable Glands
- Overview Installation Practices (Electrical and I.S. concepts)
- Overview Inspection Practices and guidance
- A review of a selection of electrical and I.S. equipment and systems

Course Options

- CompEx Ex12: Gas, Vapour & Combustible Dust atmospheres
- Duration: 5 days
- Examined: Yes, four multi-choice examinations



Duration: 5 days
Cost: £1,700 + VAT

* Prices valid until end of 2012

Hazardous Area Classification

Who should attend?

Engineers wishing to undertake or participate in hazardous area classification.

What is DSEAR?

DSEAR stands for the Dangerous Substances and Explosive Atmospheres Regulations 2002.

Dangerous substances can put peoples' safety at risk from fire and explosion. DSEAR puts duties on employers and the self-employed to protect people from risks to their safety from fires, explosions and similar events in the workplace, this includes members of the public who may be put at risk by work activity.

Syllabus

- Introduction to area classification and what it means for site safety, e.g. DSEAR/ATEX.
- IEC (EN) 60079-10-1
- IEC (EN) 60079-10-2
- Use of IGE/SR/25 and recent advances in zoning for natural gas
- Use of EI (IP)15
- Syndicate exercise on gases – including examples of circumstances where other standards are recommended
- Syndicate exercise on dusts

Course Options

- Hazardous Area Classification
- Duration: 2 days
- Examined: No
- Delegates will need calculators; all other materials will be provided
- Certificate of Attendance issued upon completion



Duration: 2 days
Cost: £980 + VAT

* Prices valid until end of 2012

ModulEx Modular training programme for designers and manufacturers of hazardous area equipment

Intertek's training courses are designed to meet the needs of the manufacturer who is facing a continual struggle with the ever-changing raft of standards applicable to hazardous area equipment.

Not all designers, engineering managers and technicians want the same set of knowledge as not all manufacturers make the same equipment with the same protection methods. This is why we have taken the knowledge we have and split the training out into modules that fit with your needs, whether that is a basic introduction, or designing for Intrinsic Safety, you choose the modules that fit with your needs and time constraints.

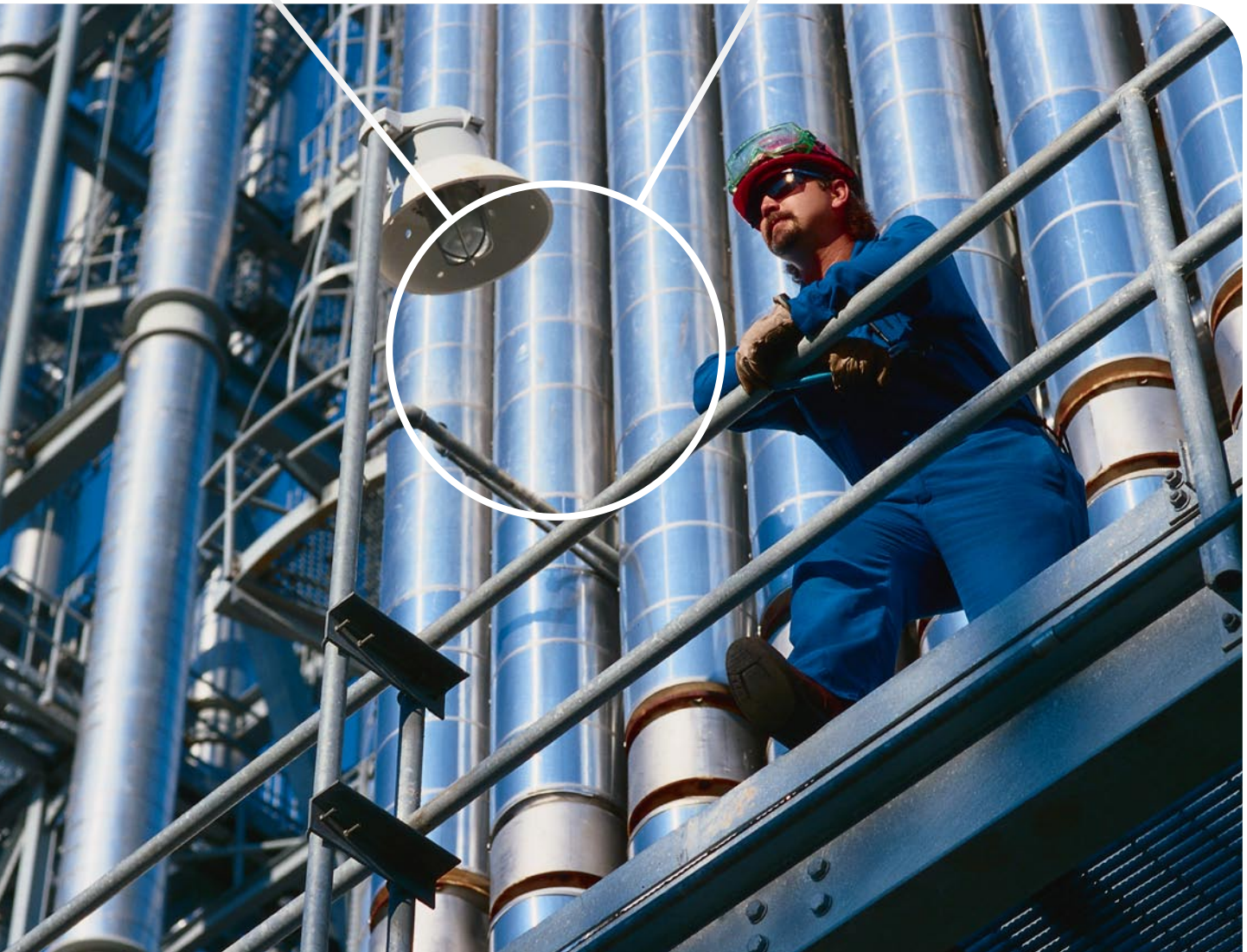
Available Courses in 2012

- ModulEx Ex01: Foundation Overview
- ModulEx Ex02: Intrinsic Safety
- ModulEx Ex03: Dust Ignition Protection
- ModulEx Ex04: Flameproof, purged and pressurised
- ModulEx Ex05: Reliability and encapsulation methods of protection



Find out more?

If you would like information on our open or bespoke courses - or would like to book, please call our training coordinator, Sam Fox on +44 1244 882590, sam.fox@intertek.com



Explosive Atmospheres ModulEx Ex01: Foundation Overview

Principles of explosion protection methods applied to equipment for use in explosive atmospheres.

This course is intended to give an overview and awareness to the candidate with regard to explosive atmospheres formed by gases, vapours, mists and combustible dusts, and the methods of protection applied by Certification Bodies or Notified Bodies. It covers the fundamental of explosion protection, the Essential Health and Safety Requirements (EHSR) of the ATEX Directive (94/9/EC), and how the concepts of protection from the IEC standards are used. This will ensure equipment design manager, engineers and similar can come to the best rationale for selection of concepts of protection for their equipment.

This course consists of classroom based theoretical training. There will be a number of individual exercises and group exercises covering selection of concepts of protection, ATEX Directive coding requirements, and equipment identification.

Who should attend?

Electrical engineers, engineering managers, design engineers.

Syllabus

- History of explosive atmospheres
- Nature of Explosive atmospheres
- ATEX (94/9/EC) requirements
- Ignition Sources, identify and review the thirteen ignition sources as identified in EN 1127-1
- Concepts of protection overview
- Equipment marking
- Equipment Protection Levels (EPLs)
- Documentation requirements

Course Options

- ModulEx Ex01: Gas, Vapour & Combustible Dust Atmospheres – Equipment design, foundation overview
- Duration: 1 day
- Examined: No
- Certificate of Attendance issued upon completion



ModulEx Ex01
Duration: 1 day
Cost: £390 + VAT

ModulEx Complete (Modules Ex01 - Ex05)
Duration: 5 days
Cost: £1700 + VAT

* Prices valid until end of 2012

Explosive Atmospheres ModulEx Ex02: Intrinsic Safety for Design Engineers

What is Intrinsic Safety (IS) CAT1/Z0?

This course is intended to give a detailed awareness to the candidate with regard to the concept of protection, Intrinsic Safety, and where and how it is used with respect to explosive atmospheres formed by gases, vapours, mists and combustible dusts. Intrinsic Safety is generally regarded as the safest of explosion protection concepts. It covers the fundamental of explosion protection, the Essential Health and Safety Requirements (EHSR) of the ATEX Directive (94/9/EC), and how the concepts of protection from the IEC standards are used. This will ensure equipment design manager, engineers and similar can come to the best rationale for selection of concepts of protection for their equipment.

This course consists of classroom based theoretical training. There will be a number of individual exercises and group exercises covering selection of concepts of protection, ATEX Directive coding requirements, and equipment identification.

Who should attend?

Electrical engineers, engineering managers, design engineers.

Syllabus

- Introduction to I.S.
- Power supplies
- Basic energy limitation methods
- Energy storage considerations (inductance, capacitance)
- Creepage, clearance and separation distances
- Safety component rating
- Batteries
- Testing (thermal, breakflash, piezo discharge, small component ignition)
- Certification documentation

Course Options

- ModulEx Ex02: Gas, Vapour & Combustible Dust Atmospheres – Equipment design, Intrinsic Safety (IS)
- Duration: 1 day
- Examined: No
- Certificate of Attendance issued upon completion



ModulEx Ex02
Duration: 1 day
Cost: £390 + VAT

ModulEx Complete (Modules Ex01 - Ex05)
Duration: 5 days
Cost: £1700 + VAT

* Prices valid until end of 2012

Explosive Atmospheres ModulEx Ex03: Dust Ignition Protection for Design Engineers

How do I design equipment for dust explosive atmospheres?

This course is intended to give a detailed awareness to the candidate with regard to the concepts of protection related to prevention of explosion caused by equipment for use in dust explosive atmospheres. It covers the fundamentals of dust explosion protection, the Essential Health and Safety Requirements (EHSR) of the ATEX Directive (94/9/EC), and how the concepts of protection from the IEC standards are used. This will ensure equipment design managers, engineers and similar can come to the best rationale for selection of concepts of protection for their equipment.

This course consists of classroom based theoretical training. There will be a number of individual exercises and group exercises covering selection of concepts of protection, ATEX Directive coding requirements, IECEx coding requirements and equipment identification.

Who should attend?

Electrical engineers, engineering managers, design engineers.

Syllabus

- Introduction to dust explosive atmospheres
- Mechanisms of ignition in dust explosive atmospheres
- Selection of concept of protection (e.g. energy limitation versus dust exclusion)
- Basic I.S. for dust
- Dust exclusion methodologies
- Testing (thermal, endurance, , small component ignition)
- Certification documentation

Course Options

- ModulEx Ex03: Combustible Dust Atmospheres – Equipment design, protection against dust ignition
- Duration: 1 day
- Examined: No
- Certificate of Attendance issued upon completion



ModulEx Ex03
Duration: 1 day
Cost: £390 + VAT

ModulEx Complete (Modules Ex01 - Ex05)
Duration: 5 days
Cost: £1700 + VAT

* Prices valid until end of 2012

Explosive Atmospheres ModulEx Ex04: Flameproof, purged and pressurised for Design Engineers

How do I design Ex d – Flameproof CAT2/Z1, or Ex p – Purged/pressurised CAT2/Z1 & CAT3/Z2 equipment for explosive atmospheres?

This course is intended to give a detailed awareness to the candidate with regard to the above concepts of protection related to prevention of explosion caused by equipment for use in gas, vapour, mist or dust explosive atmospheres. It covers the fundamentals of explosion protection, the Essential Health and Safety Requirements (EHSR's) of the ATEX Directive (94/9/EC), and how the concepts of protection from the relevant EN/IEC standards are used. This will ensure equipment design manager, engineers and similar can come to the best rationale for selection of concepts of protection for their equipment.

Who should attend?

Electrical engineers, engineering managers, design engineers.

Syllabus

- Introduction to flameproof
- Types of flamepath
- Standard requirements with regard to flamepaths
- Standard requirements with regard to flameproof enclosures general
- Introduction to purge
- Meeting the requirements of the standard
- Testing
- Pitfalls
- Certification documentation

Course Options

- ModulEx Ex04: Gas, Vapour & Combustible Dust Atmospheres – Equipment design, protection using Ex d and Ex p
- Duration: 1 day
- Examined: No, Certificate of Attendance



ModulEx Ex04
Duration: 1 day
Cost: £390 + VAT

ModulEx Complete (Modules Ex01 - Ex05)
Duration: 5 days
Cost: £1700 + VAT

* Prices valid until end of 2012

Explosive Atmospheres ModulEx Ex05: Reliability and encapsulation methods of protection for Design Engineers

How do I design Ex n/N – normally non-incendive CAT3/Z2, Ex e – increased safety CAT2/Z1 or Ex m – Encapsulated mb CAT2/Z1 ma CAT1/Z0 equipment for explosive atmospheres?

This course is intended to give a detailed awareness to the candidate with regard to the above concepts of protection related to prevention of explosion caused by equipment for use in gas, vapour, mist or dust explosive atmospheres. It covers the fundamentals of explosion protection using these concepts of protection, and how best to use these concepts. This will ensure equipment design manager, engineers and similar can come to the best rationale for selection of concepts of protection for their equipment.

This course consists of classroom based theoretical training. There will be a number of individual exercises and group exercises covering concepts of protection, ATEX Directive coding requirements, IECEx coding requirements and equipment identification.

Who should attend?

Electrical engineers, engineering managers, design engineers.

Syllabus

- Introduction to Ex n, Ex e and Ex m concepts of protection
- How the concepts protect against ignition of explosive atmospheres
- Selection of materials based on essential parameter
- Ex ma, Ex mb, Ex mc
- Ex nA, Ex nR, Ex nC
- Rotating machine protection methods including HV risk assessments
- Testing (thermal, endurance, and mechanical)
- Certification documentation

Course Options

- ModulEx Ex05: Combustible Gas, Vapour, Mist and Dust Atmospheres – Equipment design, protection using Ex n, Ex e, Ex m
- Duration: 2 days
- Examined: No
- Certificate of Attendance upon completion



ModulEx Ex05
Duration: 2 days
Cost: £660 + VAT

ModulEx Complete (Modules Ex01 - Ex05)
Duration: 5 days
Cost: £1700 + VAT

* Prices valid until end of 2012

Bespoke hazardous area training

Intertek have been the ATEX and DSEAR training provider of choice for major blue chip companies that require custom, relevant courses that minimise the impact on production or shift patterns.

By analysing your company needs, culture and environment we can dramatically reduce the course durations and maximize retention of information.

We have specified, managed and delivered ATEX and DSEAR training to businesses or institutions such as the MoD, Public Utilities and Rolls Royce, some with over 800 delegates!

We have delivered bespoke training in countries from Portugal to Singapore, South America to North America

Our training is truly 'bespoke' and delivered by practitioners and industry experts in the field of ATEX and DSEAR.

Bespoke Training typically works out to be more cost effective for larger numbers or where the duration of the training needs to be minimised. If you only have a few delegates, it may be worth considering open training.



For more information please contact our Training Co-ordinator, Sam Fox:

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