Experts in Safety

Training Locations

Arco
Chainbridge Road Estate
Tindley Way
Blaydon-on-Tyne
NE21 5TP

Arco
Aven Mill Industrial Estate
Mill Road
Mill Road Industrial Estate
Lintleftow
West Lothian
EH49 7QY

CSTS (Head Office)
Warrington Business Park
Long Lane
Warrington
WA2 8TX

CSTS (Southern Office)
25 Jute Lane
Brimsdown, Enfield
London
EN3 7PF

CSTS
Barne Court, Turners Hill Road
Crawley Down
West Sussex
RH10 4HQ

Total Access (UK) Ltd
Unit 5
Raleigh Hall Industrial Estate
Eccleshall
Staffordshire
ST21 6JL

Arco Limited
Blackness Road
Alters Industrial Estate
Aberdeen
AB12 3LH

Arco Limited
Texas Circle
Trafford Park
Manchester
M17 1EZ

Arco Limited
Unit 8A, Point 4 Second Way
Avonmouth
Bristol
BS11 8DF

Arco Limited
1 Oakwood Court
Little Oak Drive
Sherwood Park
Nottingham
NG15 0DR

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Arco’s mission is to keep people safe at work.

Our fourth generation, family owned business is now firmly established as the market leader in the provision of confined space safety solutions. These include training, consultancy and advice, site services such as rescue teams, inspections, survey and mapping and cleaning, and equipment sale, hire and maintenance. We have enhanced our offering through the acquisitions of specialist services providers Confined Space Training Services Limited (CSTS) and Total Access (UK) Limited. We can now offer a comprehensive range of confined space solutions.

Our Accreditations
City and Guilds
The City and Guilds 6150 Scheme is the most widely recognised nationwide competency assessment scheme for confined spaces in the UK. These qualifications are for those who have to enter, supervise or manage confined spaces. They are short course single unit qualifications and are supported by the Health and Safety Executive.

NCFE
NCFE are a national awarding organisation, who offer diverse, nationally recognised qualifications. NCFE accredited courses are designed and bespoke to fit a client needs and can be amended by Arco and revalidated by NCFE.

The NCFE Investing in Quality (IIQ) Licence is designed to give formal recognition to an organisation’s bespoke courses that fall outside ‘regulated provision’ such as that on a national framework. The licence is based on a number of Quality Statements which provide a quality assurance framework for the development, delivery and evaluation of their programmes. NCFE hasn’t accredited courses under this provision as ‘Ofqual regulated qualifications’ but through the IIQ Licence gives formal recognition to courses which result in a certificate of achievement from NCFE. The NCFE certificate of achievement is not for a nationally regulated qualification.

CABWI Awarding Body for water, multi-utility and highways
CABWI Awarding Body is nationally-recognised, specialising in vocational qualifications for the water and wider utilities sectors. CABWI offers multi-utility and highways based qualifications are designed to be undertaken in the workplace. They allow learners to demonstrate their skills by producing evidence from their work activities.

The Energy and Utility Skills Register (EUSR)
EUSR is designed to support industry employers and add value to the sector. As the Sector Skills Council (SSC) for the gas, power, waste management and water industries, Energy & Utility Skills (EU Skills) operates an independent skills platform, referred to as EUSR, which provides recognised standards for the utility sector.
Training Delivery Methods

Our flexible approach to the delivery of confined space training is designed to suit you and gives you the choice of whether you would like to have your training at one of our specialist training facilities or at your premises utilising either your facility (based on set criteria), one of our relocatable units or through our award winning mobile confined space unit.

Specialist Facilities

We run both open courses and company courses at our network of specialist training facilities. Courses take place every month, throughout the year. You can enrol individual delegates, make multiple bookings or, hire units exclusively for a team of up to 10 people.

We have facilities at:

- **Warrington**
- **Enfield**
- **Linlithgow**
- **Eccleshall**
- **Crawley**
- **Blaydon**

Semi Relocatable Units

Our semi relocatable units can be brought to clients’ sites and can remain in-situ on site for an extended shutdown period or training cycle.

Each of the semi relocatable training units offers delegates different scenarios including sloping floors, narrow access hatches, sharp bends, multi-landings, davit/tripod access, horizontal shafts and tunnels featuring creating a network of scrambling tunnels varying layout and create alternative training scenarios a flexible configuration with removable ladders and panels to provide a varying layout and create alternative training scenarios Constructed over two levels: creating a network of scrambling tunnels Emergency escape doors and hatches: are located throughout the tunnel system Isolation points: the unit contains features which may need to be located in a real situation, such as isolation for electricity, and mechanical isolation for chemicals

Mobile Confined Space Units

Our award winning fleet of mobile confined space training units enable confined space, face fit and breathing apparatus training with both theoretical and practical training to take place at your site.

The unit incorporates state of the art technologies throughout to simulate different industrial settings in a safe environment. The flexible and controlled environment ensures trainees are immersed in a highly realistic and effective learning experience. The unit is completely customisable to create a wide variety of industrial settings and to deliver training suitable to any level of experience.

- **Cost saving**: no expense incurred of trainees attending an external venue.
- **Minimal disruption**: time that trainees are away from site is minimised.
- **Rapid set up**: from arrival on site the self-sufficient unit can be up and running in 15 minutes.

Mobile Confined Space Units

- **1. Rapid set-up of self-sufficient unit**
  - 240v internal and external power supply: powers all facilities in the fully contained unit
  - 110v power for lighting and equipment
  - Automatic, retractable handrail system: safety handrail around top of vehicle ensures speedy set-up and a safe working environment
  - Retractable, extendable support legs: ensure a stable working platform
  - External awning: provides weather protection at the exterior of the unit

- **2. Live monitoring and videoing of training**
  - Infra-red cameras: are installed in the training tunnels, feeding to onboard internal and external LCD viewing screens
  - Internal and external viewing screens: allow continual monitoring of all activity and shared learning with delegates outside the tunnel system
  - Colour video recording: all training within the unit is recorded to allow for post-training debriefing and discussion. Recorded content can be downloaded and supplied if required
  - Microphone address system: enables live instruction from the trainer to the delegates whilst in the unit

- **3. Realistic simulation of industrial environments**
  - Onboard sound system and noise programmes: feeding simulated background noise, such as running water, into all tunnel areas enables the demonstration of model scenarios and creates a realistic environment
  - Different light levels: dimmable LED lights throughout, to simulate different environments and to facilitate training of both novice and advanced users
  - Smoke: spaces can be filled with smoke to facilitate training that will simulate conditions where rescue from fire may be likely

- **4. Vertical entry**
  - Over three metre vertical access shaft: to meet all current accreditation standards
  - Tripod and winch: with full harness and rescue system
  - Internal stairway access: to roof-mounted external training platform
  - Safety handrail system: creates a fully enclosed, safe platform for training
  - Non-slip safety deck: allows training to be undertaken safely in wet or damp conditions

- **5. Horizontal entry**
  - 30 metres of internal tunnels: horizontal shafts and tunnels featuring a flexible configuration with removable ladders and panels to provide a varying layout and create alternative training scenarios
  - Constructed over two levels: creating a network of scrambling tunnels
  - Emergency escape doors and hatches: are located throughout the tunnel system
  - Isolation points: the unit contains features which may need to be located in a real situation, such as isolation for electricity, and mechanical isolation for chemicals

- **6. Face fit testing and breathing apparatus**
  - Face fit testing area
  - Respiratory protection and breathing apparatus maintenance area
  - Onboard locker storage for breathing apparatus and training equipment

- **7. Equipment supplied**
  - Life-size training dummy
  - Breathing apparatus
  - Gas monitors
  - Rescue equipment for stretcher rescue

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Legislation

The Confined Space Regulations 1997 defines a confined space as a place which is substantially (though not always entirely) enclosed and there is a reasonably foreseeable risk of serious injury from hazardous substances or conditions within the space or nearby.

UK Legislation

Under The Management of Health and Safety at Work Regulations 1999 a risk assessment must be completed to identify the risks of the work activity and the measures that need to be implemented to ensure a safe working environment and to eliminate entry into the confined space by reviewing a different approach.

The Personal Protective Equipment Guidance HSG53 stipulate that PPE and RPE is to be supplied and used anywhere there are risks to health and safety that cannot be adequately controlled in other ways. It is essential that anyone using PPE and RPE understand why they require the equipment, when and how it should be used, repaired or replaced and if there are any limitations. The employer is duty bound to provide training on all PPE and RPE equipment.

In the UK the Confined Space Regulations 1997 is the legislation specifically pertaining to the identification and management of confined space working and the regulations are published with an accompanying Guidance and Approved Code of Practice (ACOP) (HSE L101). The L101 ACOP was revised, updated and re-issued by the Health and Safety Executive (HSE) in December 2014.

The regulations apply to all premises covered by the Health and Safety at Work etc. Act 1974 with the exception of mines and diving operations, noting that all shore based preparation and maintenance work in enclosed diving equipment is under the control of the Confined Spaces Regulations 1997 where the specified risks identified in the regulations exist or are reasonably foreseeable. The regulations and the Approved Code of Practice must be considered before any attempt to enter a confined space. One of the key requirements of the regulations is for employers to find a reasonably practicable method of completing the work in the confined space without entry.

The revised ACOP pays particular attention to competency, identifying confined spaces, changing conditions, oxygen depletion, training and rescue arrangements and rescue specific training.

The requirements of the Health and Safety at Work Act 1974 and the Management of Health and Safety at Work Regulations 1999 would also have to be considered in the preparation of any risk assessment and safe system of work including training.

Other legislation that need to be taken into consideration when working in confined spaces are:

- The Confined Space Regulations 1997
- The Health and Safety at Work etc. Act 1974
- The Management of Health and Safety at Work Regulation 1999
- The PPE Regulation (EU) 2016/425
- The Control of Substances Hazardous to Health Regulations 2002 and ACOP L5 (Sixth Edition) 2013
- ACOP L8 Control of Legionella in Water Systems
- The Provision and Use of Work Equipment Regulations 1998
- Electricity at Work Regulations 1989
- Workplace (Health, Safety and Welfare) Regulations 1992
- Control of Noise at Work Regulations 2005
- Control of Lead at Work Regulations 2002
- Control of Asbestos Regulations 2012
- Construction (Design and Management) Regulations 2015
- HSE ‘Take Care with Oxygen’ HSE 8 (rev2)

Ireland Legislation

The Safety, Health and Welfare at Work (Confined Spaces) Regulations 2001 and the Code of Practice for Working in Confined Spaces cover all work in relation to confined spaces.

It is the duty of every employer or self-employed person to comply and implement the provisions of these regulations in respect to any work being carried out in a confined space. The regulations do not apply to any place below ground in a mine (as defined by the Mines and Quarries Act 1965) or to any diving operations.

The regulations and ACOPs state:

- Confined space entry is prohibited, providing the work can be carried out in a reasonably practicable way and by other means
- A risk identification and evaluation must be carried out before entering a confined space detailing the purpose of the work involved
- A safe system of work must be completed before entry into the confined space
- The person conducting the safe system of work needs to be experienced, trained and suitably informed about the work involved
- It is imperative that a rescue plan is in place, detailing the arrangements in case of an emergency
- The emergency arrangements will need to demonstrate how to raise the alarm and the type of rescue equipment, resuscitation equipment and rescue teams provided. The provision of correct information, instruction and training is required on all these elements identified
- Implementation of the rescue plan

Confined Space Identification

The Regulations identify confined spaces primarily as somewhere that is substantially, but not always entirely, enclosed and the presence, or reasonably foreseeable presence, of one or more of the ‘specified risks’ detailed in the Regulations and the L101 ACOP.

Consideration should be given to the possibility that a confined space may not necessarily be small, enclosed on all sides or difficult to get into or out of and it may be a place where people work on a regular basis.

RISK ASSESSMENT

Where entry into an area that might be classified as a confined space is being contemplated then a risk assessment is always the starting point for developing a safe system of entry and work in the confined space. This must be completed under the requirements of Regulation 3 of the Management of Health and Safety at Work Regulations 1999.

Who can undertake a risk assessment?

The risk assessment must be carried out by someone with the necessary competency. This will mean having skills, knowledge and experience in confined space work along with knowledge of the particular processes and the areas to be entered and experience of any equipment that is involved.

Is the space a confined space?

The first step in the risk assessment will be to identify if the area to be entered is a confined space, taking into account the requirements of the regulations:

1. Enclosed, or substantially enclosed.

2. The presence or reasonably foreseeable presence of one of the specified risks. It must be remembered that both parameters must be met to be a confined space under the regulations. If the Confined Spaces Regulations don’t apply then the hazards and risks are managed under their own relevant regulations, approved codes of practice and guidance.

All the available information about the confined space, including its contents etc. should be considered and employees who may have experience or information about entering or working in the confined space should be consulted.

Can the work be done without entering into the confined space?

The main factor to consider, after identifying that a confined space exists, is to find a way of doing the work successfully without entry. The parameters for making the decision to enter or employ an alternative external method are reasonably practicable’. This means balancing the risk of someone entering the confined space and carrying out the work against, broadly, the time, trouble, effort and cost required to provide the external method. Examples of alternative reasonably practicable external methods are automatic tank cleaning systems or electronic survey equipment for inspections; there are many more.

The risk assessment should consider conditions and potential hazards in three general areas:

1. The general condition existing in the confined space, such as corrosion, areas that might be unstable, the previous contents and residues, contamination from other areas which can often be some distance away, any condition that may cause oxygen deficiency or enrichment and the physical layout of the area, identifying low areas that might contain heavier than air gases.

2. Hazards and conditions created by the work in the confined space. This might include fumes or vapours from cleaning materials, the introduction of a source of ignition such as electrical equipment, work that increases the temperature; this might be simply exertion or could be a process such as steam cleaning.

3. Hazards that are outside the space but can create a danger to people working in the area. Examples might include the unintended release of gases or liquids through pipe-work that is not adequately isolated, gases that drift in from adjacent plant and processes, or the unintended activation of any machinery in the confined space that isn’t adequately isolated.

Are the conditions in the confined space likely to change during work?

One of the major problems in managing safe confined space entry is where circumstances change during the work; there are many recorded instances of unsafe situations arising, often with tragic consequences. Examples of changing conditions could be the release of toxic or flammable gases into the area that were not identifiable before entry; this could be carbon dioxide from wet chalk in an excavation, the uncovering of contaminated land in an excavation, the introduction of cleaning chemicals, sealants or paints, and the commencement of processes that use up oxygen such as welding.

The risk assessment must always look ahead throughout the intended time in the confined space to identify what might be introduced to change the atmosphere or conditions in there. This highlights the importance of gathering information from everyone likely to be involved if a reasonably foreseeable judgement is to be made.

Other factors detailed in the approved code of practice and to be dealt with in turn where applicable are:

- Communication
- Testing and monitoring the atmosphere
- Gas purging
- Ventilation
- Removal of residues
- Isolation from gases, liquids, other flowing materials
- Isolation from electrical and mechanical equipment and stored energy
- Selection and use of suitable equipment
- Personal Protective Equipment and Respiratory Protective Equipment (PPE and RPE)
- Gas cylinders and internal combustion engines
- Gas supplied by pipes and hoses
- Safe way in and out
- Fire prevention
- Lighting
- Static electricity
- Smoking
- Emergencies and rescue
- Limiting working time
Experts in Safety

Confined Space
Hazards to consider before entry

The main points to be considered before entering confined spaces are as follows, and include the ‘specified risks’ detailed in the regulations.

Enclosed or ‘substantially’ enclosed areas, which can in themselves, be hazardous simply because they can make the way in and out of a confined space difficult to negotiate and similarly make movement inside restrictive and increase exertion levels. There is also the possibility of gases being trapped in low lying areas inside the confined space, for example, where ventilation may be difficult to achieve or maintain. Consideration should always be given to the possibility of an incapacitated person having to be rescued from inside the confined space. The use of breathing apparatus and rescue stretchers and equipment becomes much more difficult in areas of smaller confined spaces and specifying the right equipment and having it to hand before the first entry is very important.

Flammable substances and oxygen enrichment, which may be present in the confined space, and could cause fire or explosion if ignited. These can be gases, fumes, vapours and dusts and may come from the confined space contents or from materials being used to clean the confined space which have a flammable liquid base or from the propellant gases of aerosol sprays for example. Consideration must also be given to clearing waste materials, such as aerosol sprays and rags from maintenance operations, from the confined space regularly. These materials could be ignited by any ongoing or subsequent hot-work in the confined space. Where there is a possibility of flammable substances being present in a confined space then suitable equipment, including electrical equipment, will have to be specified to eliminate the risk of a spark or ignition source. Static electricity can also be a source of ignition in confined space operations where flammable gases and vapours are present and will have to be managed by the selection of suitable equipment, personal protective equipment and the development of suitable safe working systems including training.

Oxygen enrichment in the atmosphere, can increase the risk of fire, particularly in clothing and make it burn more furiously. The excess of oxygen can be caused by leaking oxy/fuel gas cutting and welding equipment, for example. In the regulations and the ACOP HSE don’t specify how much oxygen is required in the atmosphere to be considered ‘oxygen enrichment’ but in HSE ‘Take Care with Oxygen’ HSE 8 (rev2) a level of 24% is considered dangerous and is cross-referenced to confined spaces. Proprietary portable gas monitors are normally set to ‘alarm’ at 23.5% so this is within the HSE advice level.

Excessive heat can also create problems for people working in confined spaces. Excessive heat can cause heat stress, leading to heat stroke and unconsciousness and possibly death. The heat can come from a plant, such as boilers or oven that have not had sufficient cooling time before entry or from the use of steam cleaners or hot water high pressure jetting systems. The effect of the sun’s rays on steel tanks and vessels can also cause the internal air temperature to rise. Inadequate ventilation or the lack of chilled ventilation along with the confined space entrants wearing chemical protection suits, which impair natural body temperature control, can exacerbate the heat problems in confined spaces.

The possible presence of toxic gases, fumes and vapours; which can be identified using correctly specified atmospheric testing equipment. Consideration should be given to the possibility of gases trapped in residues and sludge, scale or animal waste which may not have been identified by initial atmospheric testing and may be disturbed and released by someone in the confined space.

Toxic gases, fumes and vapours may contaminate the confined space from outside, from nearby processes or vehicle exhaust fumes for example. Where work in excavations is taking place then the contamination can come from hazardous substances previously deposited in the ground or from natural sources such as limestone producing carbon dioxide.

Oxygen deficiency – A lack of oxygen can quite quickly affect the functioning of the brain and reduce ability to respond to the affected person’s environment. Oxygen can be diminished by the presence of rust or the contents of the confined space or by operations such as welding or burning. There are many processes that can use up oxygen in a confined space. Examples are:

- The presence of rust
- Fermentation during brewing
- Storage and transport of wood chips, bio-fuel and timber products
- The presence of vegetable products including coal
- The depletion of oxygen through breathing,
- The intended reduction in oxygen for fire suppression in areas such as ovens and server rooms etc.

There are many more and oxygen levels should always be checked before entry into a confined space. Oxygen levels should be checked regularly to identify any changing conditions that are reducing the amount of oxygen in the confined space. HSE does not specify a safe minimum level of oxygen but identifies normal oxygen percentages by volume in the atmosphere as 20.9% but identifies that any variation from normal levels should be investigated. At levels below 16% unconsciousness and death can occur.

(Note: proprietary gas monitoring equipment is usually set to give a low oxygen alarm at 18.5% and a high oxygen alarm at 23.5%. Both these parameters are taken from USA OSHA standards. Some gas monitors show ‘normal’ oxygen levels as 20.9% and some as 20.8%. The variation is due to the 20.9% measurement being in dry air and some manufacturers identifying that air is rarely dry so they use 20.8% as normal. In reality the difference won’t create a safety issue for operatives. The 19.5% level was identified by OSHA as ‘not safe below that level’. Additionally the specification is at sea level.)

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**Confined Space Working Best Practice**

Where a confined space has been identified and the need to carry out some form of work inside the space is needed then the following should be considered:

- Where the work cannot be achieved by a reasonably practicable remote or outside system then a safe system of work will have to be developed. There is a suggested safe system outline flowchart at the end of this section of the guide.

- **Developing a safe system of work** – the safe system of work will begin by a competent and experienced person completing a risk assessment. The factors to consider when producing a risk assessment are those listed in the foregoing hazard detail section of this guide, as a minimum. Each hazard should be addressed in turn and reasonably practicable control measures developed and applied in each case, ensuring that the skills and knowledge for each subject are available if needed. An overview of the requirements for supervision and competence are included here, the remainder being dealt with in detail in the approved code of practice:

  **Supervision**
  The level of supervision required should be identified on the risk assessment. The level will vary depending on the hazards and risks inherent in the work. Some simple entry and work situations can be checked from time to time after ensuring the people engaged in the work are fully informed about the hazards, risks and the possibility of changing situations and are fully familiar with the safe system of work, including rescue arrangements. Other work will need constant supervision because of its complexity and level of risk. This supervision must be carried out by someone who is competent in confined space working. Supervision will mean ensuring that any permit to work is adhered to throughout the work and that the general area is safe to work in.

- **Competence for confined spaces working**
  Anyone working in a confined space must have adequate training and experience in the type of work they are undertaking to be considered competent to work safely in confined spaces. The training must be relevant to the work that is being carried out, with everyone understanding their roles and responsibilities. Where it has been decided, in the risk assessment that people can work for periods, or on some jobs, without supervision then the people carrying out the work must be fully aware of the safe system of work and be competent to follow the requirements detailed there.

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**Confined Space Safe Working**

(Always consult the Regulations, Approved Code of Practice and guidance and a confined space competent person before entry)

A Risk Assessment must be carried out by a confined space competent person to identify if the area is a confined space under the Regulations, i.e. is it enclosed or substantially enclosed and has or could have one or more of the specified risks (see guide above) at any time during entry?

- **No**
  - Manage the hazards and risks identified under the requirements of the relevant regulations, approved codes of practice and guidance, i.e. electricity, machinery, noise etc.
  - Continue the risk assessment, identifying the hazards, assessing the risks and developing reasonably practicable control measures.
  - Record your findings from the risk assessment.
  - Develop a safe system of work from the results of the risk assessment.
  - The document provides information for anyone carrying out work in the confined space on how all the hazards and risks will be controlled and should be communicated thoroughly to everyone involved before entry.

- **Yes**
  - Assess if there is a reasonably practicable method of doing the task without entry into the confined space.
  - Develop and use a safe system for the alternative method of carrying out the work.
  - If the risk assessment has identified a reasonably foreseeable risk of injury in entering or working in the confined space then a Permit to Work must be issued, and cancelled once the work is complete. This is in addition to the safe system of work, not a replacement for it.
  - Identify and use people for the supervision, entry and work in the confined space that have the necessary levels of skills, knowledge and experience based on the risks identified on the risk assessment. Ensure all the people supervising, entering or working in the confined space are trained before they enter for the first time.
  - Carry out the entry and the work, ensuring that the level of supervision is sufficient based on the identified risks. Be constantly aware of changing conditions inside and outside the confined space that might increase the risks or introduce new ones. Once the work is complete ensure all the equipment is removed and the permit to work is cancelled.
Confined Space
Entry Training

People involved in confined space work whether those entering and supervising or those in support or preparing safe systems of work will require training.

The training will include:
Specific training for work in confined spaces will depend on an individual's previous experience and the type of work they will be doing. This training will need to cover:
- An awareness of the Confined Spaces Regulations and in particular the need to avoid entry to a confined space, unless it is not reasonably practicable to do so, in accordance with regulation 4(1);
- An understanding of the work to be undertaken, the hazards, and the necessary precautions;
- An understanding of safe systems of work, with particular reference to 'permits-to-work' where appropriate;
- How emergencies arise, the need to follow prepared emergency arrangements, and the dangers of not doing so.

Training should also take into account the practical use of safety features and equipment, the identification of defects and, where appropriate, it should involve demonstrations and practical exercises. Trainees should be familiar with both equipment and procedures before working for the first time in confined spaces. Qualifications in confined space working and entry are available.

Practical refresher training should be organised and available. The frequency with which refresher training is provided will depend upon how long since the type of work was last done, or if there have been changes to methods of work, safety procedures or equipment.

Training in specific safety features may include any or all of the following:
- Use of atmospheric testing equipment and the action to take depending on the readings;
- Use of breathing apparatus and escape sets (self-rescuers), their maintenance, cleaning and storage;
- Use of other items of PPE;
- Instruction in the communication methods to be used while in the confined space.

The requirements for all confined space training are detailed in The Confined Space Regulations 1997 AOC and Guidance L101 whilst referring to the requirements of Section 2 (2) c of the Health and Safety at Work etc, Act 1974, with requires information, instruction, training and supervision.

With the revised AOCOP emphasising the necessity for people who manage, supervise and work in confined spaces to be competent (knowledge, skills and experience) there has never been a greater need for everyone involved to be trained. Training is not just required theoretically, to give knowledge, but practically in using all the equipment that is used, particularly that equipment used for protection, escape and rescue to give achieve the skills and begin the experience.

Another emphasis in the revised AOCOP is being able to foresee and identify changing situations, where the area was safe but is moving towards being unsafe. It is essential that training includes practical experience of changing and potentially unsafe situations if people working in confined spaces are to competent to protect themselves and others. It is a requirement that training is completed before a person enters the confined space for the first time.

Training
Working in Low Risk Confined Spaces

Course Aim:
Working in confined spaces exposes an individual to a range of potential hazards, some of which may threaten injury and, in some instances may possibly lead to death. Therefore, specialist training and assessment is required to equip those undertaking this type of work with the necessary skills and competencies to assess risk, control hazards and work safely. This course is about entering and working in a low risk environment with adequate natural or mechanical ventilation. The access appears simple and unobstructed and there is no likely risk of flooding (for example meter pits, valve chambers; stairwells). Low risk confined spaces could be associated with lone working requiring the application of appropriate procedures.

Learning Outcomes:
- Prepare to work safely in low risk confined spaces
- Enter and exit low risk confined spaces safely
- Use equipment and tools safely and in accordance with manufacturer’s instructions
- Follow procedures and work safely
- Deal with emergencies
- Use appropriate behaviour when working in low risk confined spaces
- Use general knowledge for working in low risk confined spaces
- Apply appropriate industry specific knowledge for working in low risk confined spaces
- Understand the need to maintain safety procedures and equipment
- Understand their maintenance, cleaning and storage;
- Use of other items of PPE;
- Instruction in the communication methods to be used while in the confined space.

Course content includes:
- Definition of a confined space and Water UK NC1-NC4 classifications and low, medium and high definitions
- Specified risks
- Duties under the Regulations, preventing the need for entry
- Risk assessment and hazard identification
- Atmospheric hazards and gases
- Principles and use of gas detectors
- Safe systems of work and permits to work.
- Roles, responsibilities and top man / bottom man duties
- Pre-use checks, correct donning and adjustment of harness
- Inspection and applications of tripods, winches and fall arrest equipment
- Practical exercises and assessments

This course is assessed by:
- Direct observation of an entry into a low risk confined space
- Written test

Course Duration: One day i.e. seven guided learning hours
Type of Certificate: Competence based, valid for three years
Accreditations: City and Guilds 6150-01/51, CABIW, Energy and Utility Skills
Min/Max Persons on Course: 6/10

Source: AOCOP L101 2014

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Working in Medium Risk Confined Spaces

Course Aim:
Working in confined spaces exposes an individual to a range of potential hazards, some of which may threaten injury and, in some instances may possibly lead to death. Therefore, specialist training and assessment is required to equip those undertaking this type of work with the necessary skills and competencies to assess risk, control hazards and work safely.

This course is about working in confined space environments where there is a medium risk that a specified hazard may be present. It will require the use of escape breathing apparatus. It will involve the presence of one or more people, positioned outside the confined space, who have designated responsibilities for controlling the entry and dealing with emergencies.

Entry to the confined space may involve manual and/or mechanical access equipment for example:
• Vertical entry normally using a ladder or man-riding winch, both requiring fall protection and means of assisted rescue such as a rescue winch.
• Horizontal entry such as walking or climbing into the confined space or working away from the bottom of a vertical entry, with limited use of a rescue line. Such types of entry may involve more than one person entering the confined space.

Learning Outcomes:
• Prepare to work safely in medium risk confined spaces safely
• Enter and exit medium risk confined spaces safely
• Prepare and use escape breathing apparatus in accordance with manufacturer’s instructions
• Use equipment and tools safely and in accordance with manufacturer’s instructions
• Follow procedures and work safely
• Deal with emergencies
• Use appropriate behaviour when working in medium risk confined spaces
• Understand legislation governing working in medium risk confined spaces
• Apply appropriate industry specific knowledge for working in medium risk confined spaces

Course content includes:
• Definition of a confined space and water UK NC1-NC4 classifications and low, medium and high definitions
• Specified risks
• Duties under the Regulations, preventing the need for entry
• Risk assessment and hazard identification
• Atmospheric hazards and gases
• Principles and use of gas detectors
• Safe systems of work and permits to work
• Roles, responsibilities and top-man/bottom man duties
• Pre-use checks, correct donning and adjustment of harness
• Inspection and applications of tripods, winches and fall arrest equipment
• Inspection and use of personal escape breathing apparatus
• Practical exercises and assessments

This course is assessed by:
• Direct observation of an entry into a medium risk confined space
• Written test

Course Duration: Two days i.e. fourteen guided learning hours
Type of Certificate: Competence based, valid for three years
Accreditations: City and Guilds 6150-01/51, CABWI, Energy and Utility Skills
Min/Max Persons on Course: 6/10

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Working in High Risk Confined Spaces

Course Aim:
Working in confined spaces exposes an individual to a range of potential hazards, some of which may threaten injury and, in some instances may possibly lead to death. Therefore, specialist training and assessment is required to equip those undertaking this type of work with the necessary skills and competencies to assess risk, control hazards and work safely.

This course is about working in confined spaces which have non-standard entries and which, in consequence, makes rescue difficult. It is likely that a hazard will be present at some time during the entry. Entry may involve complex entry procedures and there will be work-specific controls and rescue arrangements. It will entail the use of self-contained open circuit breathing apparatus, specialist detection equipment, and resuscitation equipment. It will require the presence of personnel who have designated responsibilities for dealing with emergencies.

Learning Outcomes:
• Prepare to work safely in high risk confined spaces
• Enter and exit high risk confined spaces safely
• Prepare and use self-contained open circuit breathing apparatus in accordance with manufacturer’s specifications
• Use equipment and tools safely and in accordance with manufacturer’s instructions
• Follow procedures and work safely
• Deal with emergencies
• Use appropriate behaviour when working in high risk confined spaces
• Use general knowledge for working in high risk confined spaces
• Apply appropriate industry specific knowledge for working in high risk confined spaces

Course content includes:
• Definition of a confined space and water UK NC1-NC4 classifications and low, medium and high definitions
• Specified risks
• Duties under the Regulations, preventing the need for entry
• Risk assessment and hazard identification
• Atmospheric hazards and gases
• Principles and use of gas detectors
• Safe systems of work & permits to work.
• Roles, responsibilities and top man / bottom man duties
• Inspection and use of escape sets and working breathing apparatus
• Pre-use checks, correct donning and adjustment of harness
• Inspection and applications of tripods, winches and fall arrest equipment
• Practical exercises and assessments

This course is assessed by:
• Direct observation of an entry into a high risk confined space
• Written test

Course Duration: Three days = 20 guided learning hours
Type of Certificate: Competence based, valid for three years
Accreditations: City and Guilds 6150-03/53, CABWI, Energy and Utility Skills
Min/Max Persons on Course: 6/10

www.arco.co.uk/confinedspaces
## Working in Low Risk Confined Spaces – Refresher

**Course Aim:**
Accidents in confined spaces result in a number of fatalities every year in the workplace. The Confined Spaces Regulations 1997 requires all duty holders to ensure that all work in confined spaces is carried out in accordance with these Regulations. The employer is responsible for ensuring that a Safe System of Work is used if entry to a confined space cannot be avoided. All persons involved in confined space working must be competent to do so and properly supervised as appropriate. This refresher training is to ensure that delegates continue to have a clear understanding of the fundamentals of working in confined spaces. They will develop and build on existing knowledge and skills to ensure that they continue to be able to operate in a safe manner, in relation to both themselves and others. The course is suitable for people who are experienced in confined space working, who need to continue their accreditation and wish to refresh their skills and knowledge and be updated on any new developments.

**Learning Outcomes:**
- Explain what is meant by a confined space.
- Understand the importance of risk assessment and demonstrate a basic ability.
- Be able to discuss safe systems of work and permits to work
- Understand the principles and use of gas monitors.
- Demonstrate proficiency in the use of personal escape breathing apparatus.
- Be able to define individual’s roles and responsibility.
- Demonstrate a basic proficiency to inspect and use basic fall protection, rescue and retrieval equipment.

**Course content includes:**
- Definition of a confined space and water UK NC1-NC4 classifications
- Specified risks
- Duties under the Regulations, preventing the need for entry
- Risk assessment and hazard identification
- Atmospheric hazards and gases
- Principles and use of gas detectors
- Safe systems of work and permits to work
- Roles, responsibilities and top man duties
- Pre use checks, correct donning and adjustment of harness
- Inspection and applications of tripods, winches and fall arrest equipment
- Inspection and use of personal escape breathing apparatus
- Practical exercises

**Course Duration:** One day i.e. 6.5 hours of contact time

**Type of Certificate:** Competence based, valid for three years

**Accreditations:** City and Guilds, CABWI, Energy and Utility Skills

**Min/Max Persons on Course:** 6/10

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## Working in Medium Risk Confined Spaces – Refresher

**Course Aim:**
Working in confined spaces exposes an individual to a range of potential hazards, some of which may threaten injury and, in some instances may possibly lead to death. Therefore, specialist training and assessment is required to equip those undertaking this type of work with the necessary skills and competencies to assess risk, control hazards and work safely.

This course is about working in confined space environments where there is a medium risk that a specified hazard may be present. It will require the use of escape breathing apparatus. It will involve the presence of one or more people, positioned outside the confined space, who have designated responsibilities for controlling the entry and dealing with emergencies. Entry to the confined space may involve manual and/or mechanical access equipment for example:
- Vertical entry normally using a ladder or man-riding winch, both requiring fall protection and means of assisted rescue such as a rescue winch.
- Horizontal entry such as walking or climbing into the confined space or working away from the bottom of a vertical entry, with limited use of a rescue line. Such types of entry may involve more than one person entering the confined space.

**Learning Outcomes:**
- Prepare to work safely in medium risk confined spaces
- Enter and exit medium risk confined spaces safely
- Prepare and use escape breathing apparatus in accordance with manufacturer’s instructions
- Use equipment and tools safely and in accordance with manufacturer’s instructions
- Follow procedures and work safely
- Deal with emergencies
- Use appropriate behaviour when working in medium risk confined spaces
- Understand legislation governing working in medium risk confined spaces
- Apply appropriate industry specific knowledge for working in medium risk confined spaces
- Understand the importance of risk assessment and demonstrate a basic ability.

**Course content includes:**
- Definition of a confined space and water UK NC1-NC4 classifications and low, medium and high definitions
- Specified risks
- Duties under the Regulations, preventing the need for entry
- Risk assessment and hazard identification
- Atmospheric hazards and gases
- Principles and use of gas detectors
- Safe systems of work and permits to work
- Roles, responsibilities and top-man/bottom man duties
- Pre use checks, correct donning and adjustment of harness
- Inspection and applications of tripods, winches and fall arrest equipment
- Inspection and use of personal escape breathing apparatus
- Practical exercises and assessments

**This course is assessed by:**
- Direct observation of an entry into a medium risk confined space
- Written test

**Course Duration:** One day

**Type of Certificate:** Competence based, valid for three years

**Accreditations:** City and Guilds 6150-02/52, CABWI, Energy and Utility Skills

**Min/Max Persons on Course:** 6/10

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www.arco.co.uk/confinedspaces
Working in High Risk Confined Spaces – Refresher

Course Aim:
Working in confined spaces exposes an individual to a range of potential hazards, some of which may threaten injury and, in some instances may possibly lead to death. Therefore, specialist training and assessment is required to equip those undertaking this type of work with the necessary skills and competencies to assess risk, control hazards and work safely.

This refresher training is to ensure that delegates continue to have a clear understanding of working in confined spaces which have non-standard entries and which, in consequence, makes rescue difficult. It is likely that a hazard will be present at some time during the entry. Entry may involve complex entry procedures and there will be work-specific controls and rescue arrangements. It will entail the use of self-contained open circuit breathing apparatus, specialist detection equipment, and resuscitation equipment. It will require the presence of personnel who have designated responsibilities for dealing with emergencies.

Learning Outcomes:
- Prepare to work safely in high risk confined spaces
- Determine all high risk confined spaces
- Prepare and use self-contained open circuit breathing apparatus
- Enter and exit high risk confined spaces safely
- Deal with emergencies
- Use appropriate behaviour when working in high risk confined spaces
- Use general knowledge for working in high risk confined spaces
- Use equipment and tools safely and in accordance with manufacturers instructions
- Follow procedures and work safely
- Use appropriate industry specific knowledge for working in high risk confined spaces

Course content includes:
- Definition of a confined space and water UK NC1-NC4 classifications and low, medium and high definitions
- Specified risks
- Duties under the Regulations, preventing the need for entry
- Risk assessment and hazard identification
- Atmospheric hazards and gases
- Principles and use of gas detectors
- Safe systems of work and permits to work
- Roles, responsibilities and top man / bottom man duties
- Inspection and use of escape sets and working breathing apparatus
- Pre use checks, correct donning and adjustment of harness
- Inspection and applications of tripods, winches and fall arrest equipment
- Safe systems of work and permits to work

Course Duration: Two days, i.e. 13 hours contact time
Type of Certificate: Competency based, valid for three years
Accreditations: City and Guilds, CABWI, Energy and Utility Skills
Min/Max Persons on Course: 6/10

www.arco.co.uk/confinedspaces

NCFE IIQ 3524 Level 3 Intermediate Confined Space Training

Course Aim:
This course is aimed at people who will be involved in confined space working or planning

Course Content includes:
- Definition of a confined space
- Confined space categorisation
- Current legislation
- Hazard identification
- Safe Systems of Work and Permit to Work
- Emergency planning communication
- Selection and use of PPE
- Self rescue
- Use and limitations of gas detection equipment
- Use of harness and rescue equipment
- Promote team work

Course objectives:
On completion of this course Learners will
- Have an understanding and practical knowledge to carry out safe entry into a confined space
- Be able to deal with reasonably foreseeable risks
- Be able to carry out work in a confined space environment safely
- Identify the applicable law and codes of practice that relate to this subject
- Be able to work as part of a CSE team
- Be able to produce a safe system of work for confined spaces

NCFE Units covered:
- Health and Safety Legislation
- Produce a Rescue Plan
- Safe Systems of Work in Confined Spaces
- Risk Assessment
- Access and Egress Equipment
- Gas Detection Equipment
- Specified Risks
- Confined Space Equipment
- Emergency Actions
- Self Rescue Equipment
- Self Rescue Activity
Please note the last 2 units are optional

Pre qualifications required:
Learners must be aware that they will be entering a challenging confined space. No formal pre-qualifications are required.

Course assessment:
Closed book exam in which the Learners will have 1.5 hours to complete a formal set of questions. Practical ongoing assessments will be carried out by the assessors / trainer. Learners must achieve a minimum pass grade for both the theory and practical assessments and will be informed of their pass/fail mark after completion of the course.

Training Methodology
The trainer will employ a facilitative approach to the training and assessment. The practical element involves entering the mobile confined space unit; all learners must participate successfully to gain a pass mark. Learners must have a good level of fitness and be aware that they will be entering a challenging confined space. Learners will also have to don and wear emergency escape sets. Group participation and team work is vital and will be encouraged during the classroom and practical elements.

Course Duration: One or two, eight hour days. Including a practical element and then a classroom exam.
This course has nine mandatory and two optional units. The course can be completed by undertaking mandatory units in one day with a further one day to complete the two remaining optional units.
Type of Certificate: Competency based, valid for three years followed by a one day refresher course
Accreditations: NCFE
Min/Max Persons on Course: 4/8

www.arco.co.uk/confinedspaces
Management of Confined Spaces

Anyone managing confined space working must consider the following:

- Current legislation around working in confined spaces
- Hazard identification
- Safe systems of work
- Competence
- Training
- Rescue
- Product suitability

Our aim at Arco is to help you to conform with The Health and Safety at Work etc Act 1974, which states that it is the employer’s duty to ensure their employees are safe from harm while at work, as far as reasonably practicable, safe and without risks to health.

Legislation:

The Confined Space Regulations 1997 defines a confined space as a place which is substantially (though not always entirely) enclosed and there is a reasonably foreseeable risk of serious injury from hazardous substances or conditions within the space or nearby.

Under The Management of Health and Safety at Work Regulations 1999 a risk assessment must be completed to identify the risks of the work activity and the measures that need to be implemented to ensure a safe working environment and try to eliminate entry in to the confined space by reviewing a different approach.

The Personal Protective Equipment at Work Regulations 2002 and the Control of Substances Hazardous to Health state: The risk to health and safety should be assessed on how to prevent or reduce the workers exposure to hazardous conditions and substances.

The employer is duty bound to provide training on all PPE and RPE equipment.

All of Arco’s PPE and RPE conform to all relevant European standards and carries the CE mark, complying with the requirements of the PPE Regulation (EU) 2016/425 and the Respiratory Protective Equipment at Work Guidance HSG53. The CE marking signifies that the protection satisfies the necessary requirements and in some cases will have been tested by an independent body.

Training

City and Guilds 6150-61
Management of Confined Spaces

Course Aim:

This course is for managers, supervisors or other persons who will have responsibilities for personnel working in confined spaces. It will give them the background knowledge to be able to supervise or manage such operations and to ensure that personnel involved have appropriate levels of training. Successful completion of this course would allow authorisation of confined space entries.

Important – completion of this course does not make the learner competent to enter/work in a confined space.

There is also a behavioural emphasis on those attending the course that they demonstrate a professional manner.

Learning Outcomes:

- Understand legislation governing working in confined spaces
- Explain what is meant by a confined space.
- Be able to define individual’s roles and responsibilities
- List the major hazards and hazardous atmospheres
- Produce Risk Assessment and associated documentation
- Be aware of appropriate industry specific standards and procedures
- Understand the principles of gas monitoring.
- Being able to authorise working in confined spaces
- Understand responsibility to monitor work team to ensure procedures are followed and the importance of Emergency planning
- Demonstrate appropriate behaviour for issuing documentation for working in confined spaces

Course content includes:

- Legislation and Regulations
- Definition of a confined space including National Occupational Standards
- Specified Risks
- Duties under the Regulations. Roles, responsibilities of key personnel
- Risk Assessment, Safe Systems of Work & Permit to Work
- Atmospheric hazards, principles of gas detectors
- Confined Space Equipment including records and inspection requirements

Pre-attendance requirement: Must be qualified as an entrant to the level he/she is managing.

Course Duration: Two days i.e. 13 hours contact time i.e. two days (additional work at home required)
Type of Certificate: Awareness based, valid for three years
Accreditations: City and Guilds 6150-61
Min/Max Persons on Course: 4/8

www.arco.co.uk/confinedspaces
NCFE Level 5 Management of Work in Confined Spaces

Course Aim:
This course is aimed at experienced supervisors / management

- Be able to apply the relevant legislative and industry requirements for managing work in confined spaces
- Be able to develop risk assessments relevant to confined spaces work activities
- Be able to identify suitable control measures for work activities to be undertaken in confined spaces
- Be able to develop safe working methods for confined spaces
- Be able to establish effective procedures for using permits to work
- Be able to develop effective emergency arrangements
- Be able to implement and maintain effective arrangements for document storage, review and audit
- Understand legislative and industry confined space requirements for managing work in confined spaces
- Understand how to develop risk assessments relevant to confined spaces work activities to be undertaken
- Understand control measures for work activities to be undertaken in confined spaces
- Understand safe methods of work for confined spaces work activities
- Understand procedures for using permits to work
- Understand how to develop effective emergency arrangements
- Understand procedures for reporting systems and risk assessments

Course Objectives:
On completion of this course Learners will be able to:
- Understand the safety benefit and legal requirements for completing this training
- Identify the applicable law and codes of practice that relate to this subject
- Have a greater confidence in managing confined spaces
- Be able to risk assess and plan confined space entry by employees and contractors
- Understand how to implement and document safe systems of work.
- Have a greater confidence to direct others who may supervise or enter confined spaces.
- To select, brief and deploy staff at confined spaces
- To maintain necessary documentation for confined spaces working.
- To select, brief and deploy staff at confined spaces and control them effectively during changing working conditions.
- Delegates attending our confined space management courses will learn to be become the competent person for the supervision or management of confined spaces entries.

NCFE Mandatory Units to be Covered:
- Health and Safety Legislation
- Safe Systems of Work in Confined Spaces
- Permit Writing
- Risk Assessment
- Rescue Planning
- Implement and Maintain Effective Arrangements for Document Storage, Review and Audit
- Specified Hazards
- Breathing Apparatus Board
- Access and Egress Equipment
- PPE Selection
- Tripod and Winch
- Gas Monitors
- Use and Maintenance of Safety Harnesses
- Working at Height Safely
- Use of Self Rescue Breathing Apparatus Equipment
- Applicable Codes of Practice
- Confined Space Categorisation
- Pre Use Checks on Self Contained Breathing Apparatus (SCBA)

The pre qualifications required for this course are:
- Confined Space Categorisation
- Applicable Codes of Practice
- Working at Height Safely
- Use and Maintenance of Safety Harnesses
- Gas Monitors
- Tripod and Winch
- Access and Egress Equipment
- PPE Selection
- Breathing Apparatus Board
- Specified Hazards
- Confined Space Environment
- Permit Writing
- Safe Systems of Work in Confined Spaces
- Document Storage, Review and Audit
- Specified Hazards
- Breathing Apparatus Board
- Access and Egress Equipment
- PPE Selection
- Tripod and Winch
- Gas Monitors
- Use and Maintenance of Safety Harnesses
- Working at Height Safely
- Use of Self Rescue Breathing Apparatus Equipment
- Applicable Codes of Practice
- Confined Space Categorisation
- Pre Use Checks on Self Contained Breathing Apparatus (SCBA)

Course Assessment:
This course is level 5 course which entails a 2.5 hours written exam and classroom based assessment projects.

Course Duration:
Five days, Five, eight hour days of classroom tuition. The learner has to complete the classroom and practical based assignments. And then successfully sit a written classroom exam

Type of Certificate:
Competency based, valid for three years followed by a one-day refresher course

Accreditations:
NCFE

Min/Max Persons on Course:
4/8

NCFE Level 5 Management of Work in Confined Spaces

Course Aim:
This course is aimed at experienced supervisors / management

- Be able to apply the relevant legislative and industry requirements for managing work in confined spaces
- Be able to develop risk assessments relevant to confined spaces work activities
- Be able to identify suitable control measures for work activities to be undertaken in confined spaces
- Be able to develop safe working methods for confined spaces
- Be able to establish effective procedures for using permits to work
- Be able to develop effective emergency arrangements
- Be able to implement and maintain effective arrangements for document storage, review and audit
- Understand legislative and industry confined space requirements for managing work in confined spaces
- Understand how to develop risk assessments relevant to confined spaces work activities to be undertaken
- Understand control measures for work activities to be undertaken in confined spaces
- Understand safe methods of work for confined spaces work activities
- Understand procedures for using permits to work
- Understand how to develop effective emergency arrangements
- Understand procedures for reporting systems and risk assessments
Confined Space
Rescue and Resuscitation

It is a requirement that suitable arrangements for rescuing an incapacitated person from a confined space before the work begins. You should not rely on the emergency services (ACOP L101 2014).

Arrangements will include having sufficient equipment and trained personnel to carry out a rescue available on site dependent on the risks identified in the risk assessment by the competent person. If the risk assessment has identified any situation where resuscitation may be required, then the equipment and necessary skills and experience to use it will also have to be provided. An example might be where self-rescue breathing apparatus has been specified; if this wasn’t activated promptly then resuscitation may be necessary.

Consideration should be given to ‘non-standard’ or complex confined space areas, which can make rescue much more difficult to achieve successfully. Examples could be multiple compartments, deep confined spaces such as shafts, high confined spaces such as silos and long confined spaces such as tunnels. All of these will need rescue expertise and equipment beyond that required for entry and work in a space such as simple, single compartment tank.

All foreseeable injuries or situations other than those specified risks detailed in the approved code of practice should be considered. An example would be a broken bone after a fall or someone in the space fainting or passing out.

On longer or more complex jobs it is good practice to contact the emergency services if they are to be called upon to assist with a rescue, but remembering that the emergency services cannot be the only form of rescue to which the competent person must consider. An example would be a broken bone after a fall or someone in the space fainting or passing out.

The training for rescue and resuscitation detailed should include:

- The likely causes of an emergency
- The use of rescue equipment, e.g. breathing apparatus, lifelines, and where necessary a knowledge of its construction and working
- The check procedures to be followed when donning and using apparatus
- Checking of correct functioning and/or testing of emergency equipment (for immediate use and to enable specific periodic maintenance checks)
- Identifying defects and dealing with malfunctions and failures of equipment during use
- Works, site or other local emergency procedures including the initiation of an emergency response
- Instruction on how to shut down relevant process plant as appropriate (this knowledge would be required by anyone likely to perform a rescue)
- Resuscitation procedures and, where appropriate, the correct use of relevant ancillary equipment and any resuscitation equipment provided (if intended to be operated by those receiving emergency rescue training)
- Emergency first aid and the use of the first aid equipment provided
- Use of fire-fighting equipment
- Liaison with local emergency services in the event of an incident, providing relevant information about conditions and risks, and providing appropriate space and facilities to enable the emergency services to carry out their tasks
- Rescue techniques including regular and periodic rehearsals/exercises. This could include the use of a full-weight dummy
- Training should be realistic and not just drill based, and should relate to practice and familiarity with equipment.

Source: ACOP L101 2014

Additionally training will be required on all the equipment that will be used to successfully complete the rescue operation, whether that is self-rescue or third party rescue, and it is essential that all rescue training is practised until a competent response can be achieved in an emergency.

This equipment could include any or all of the following:

- Means of sounding the alarm
- Means of communicating with emergency services
- Breathing apparatus (separate air supply),
- Personal protective equipment for the rescuers
- Winch and equipment for lifting the casualty
- Harnesses and lanyards
- Stretcher for removing the casualty horizontally
- Torches and lighting
- First aid equipment – resuscitator
- Fire fighting equipment
- Lifelines and rope access equipment

www.arco.co.uk/confinespaces

To learn about Arco’s equipment sale, hire and maintenance see page 41
For information on Arco’s Site Services Rescue Teams please see page 38
**Training**

**City and Guilds Level 3 Award in Emergency Rescue and Recovery of Casualties for Confined Spaces**

**Course Aim:**
A two day training course for persons appointed as part of a standby rescue team, requiring confined space rescue training for all confined space activities.

**Benefits of attending: (for the delegate)**
- Preparation for emergency situations leading to better planning and preparedness for emergency action.
- Better communication in the event of an emergency where confined space rescue training is required.

**Learning Outcomes:**
- Emergency rescue procedures.
- Legislation relevant to confined space safety.
- Hazards, risk assessment and risk controls.
- Selection of equipment.
- Communication and escalation.
- Documentation and maintenance of records.

**Qualification:**
This training course incorporates assessment and certification under the City and Guilds assessment and accreditation 6150-05 or 6150-55 (Water UK or General Industry) the Level 3 Award in Emergency Rescue and Recovery of Casualties from Confined Spaces.

Delegates/Customers may opt out of the full certification process if they require a certificate of attendance only.

**Training Methodology:**
The theory of confined space entry is delivered in the classroom, but there is an emphasis on practical hands-on training and experience to help prepare for future emergencies.

**What do I need to bring with me?**
Delegates attending the training course should bring their own safety footwear, waterproof clothing, high visibility vest/clothing, hard hat and working gloves for the practical exercises. We have a selection of harnesses but please bring your own harness if you wish.

Delegates may also wish to bring knee pads if they have them available. They are not essential but there may be a limited amount of kneeling undertaken in the practical exercises.

Delegates with rescue training requirements can bring with them any materials used by their own employer, copies of risk assessments or permits to work so that they can see how their materials fit in to the context of the training.

**Min/Max Persons on Course:** 6

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**Confined Space Rescue**

**Course Aim:**
This course is designed for those personnel involved in the rescue of a casualty or form part of the rescue team. Therefore, the aim of this course is to educate Learners in a realistic high risk environment by preparing them to work safely; entering and exiting confined spaces safely; preparing to use applicable breathing apparatus; using rescue equipment; following procedures and dealing with emergencies. Those attending this course must be competent in working in high risk confined spaces environments and suitably qualified with the appropriate first aid skills.

**Learning Outcomes:**
The Learner can demonstrate that they are able to:
- Prepare to work safely in confined spaces under emergency conditions.
- Enter and exit confined spaces safely.
- Prepare and use breathing apparatus in accordance with manufacturer's specifications.
- Use rescue equipment safely and in accordance with manufacturer's instructions.
- Follow procedures and work safely.
- Deal with emergencies.
- Use appropriate behaviour for carrying out emergency rescue and recovery of casualties from confined spaces.

**Course content includes:**
- Self Contained Open Circuit (SCOC) Breathing Apparatus.
- Rescue Equipment
- First Aid for Causality Recovery / Extraction
- Search Procedures.
- Rescue Techniques
- Practical exercises

**Course Assessment:**
- Direct observation of a rescue in a confined space.
- Practical application of rescue procedures using SCOC breathing apparatus.

**Course Duration:**
One day, i.e. seven guided learning hours

**Type of Certificate:**
Competence based, valid for three years

**Min/Max Persons on Course:** 6

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**Confined Space Casualty Extraction**

**Course Aim:**
This course is designed for those involved in the extraction of a casualty from a non-atmospheric related incident or who form part of the rescue team. The aim of this course is to educate Learners in a realistic high risk environment by preparing them to work safely; entering, using rescue equipment; following procedures and dealing with emergencies. Those attending this course must be suitably qualified with the appropriate first aid skills.

**Learning Outcomes:**
The Learner can demonstrate that they are able to:
- Prepare to work safely under emergency conditions.
- Use rescue equipment safely and in accordance with manufacturer's instructions.
- Follow procedures and work safely.
- Deal with emergencies.
- Use appropriate behaviour for carrying out emergency rescue and recovery of casualties.

**Course content includes:**
- Rescue Equipment
- First Aid for Causality Recovery / Extraction
- Search Procedures.
- Rescue Techniques
- Practical exercises

**Course Assessment:**
- Direct observation of a rescue.
- Practical application of casualty extraction.

**Course Duration:**
One day, i.e. seven guided learning hours

**Type of Certificate:**
Competence based, valid for three years

**Min/Max Persons on Course:** 5/8

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www.arco.co.uk/confinedspaces
NCFE IIQ 3530 Level 3 Emergency Rescue Training (ERT) in Confined Spaces

This course is aimed at people who will be entering confined spaces to undertake emergency rescue of casualties.

Course Aims:
- Definition of a confined space
- Confined space categorisation
- Current legislation
- Hazard identification
- Safe systems of work and permit to work
- Emergency planning communication
- Selection and use of PPE
- Carry out rescue techniques using SCBA
- Use and limitations of gas detection equipment
- Use of harness and rescue equipment
- Promote team work

Course Objectives:
On completion of this course Learners will:
- Have an understanding and practical knowledge to carry out safe entry into a confined space
- Be able to deal with reasonably foreseeable risks
- Be able to carry out work in a high risk confined space environment safely.
- Identify the applicable law and codes of practice that relate to this subject
- Be able to work as part of a confined space entry team
- Be trained in the use of SCBA
- Be able to carry the recovery of a casualty from a confined space entry
- Be able to decide on the correct recovery technique
- Be able to produce a safe system of work for a medium risk confined space entry

Course Assessment:
This course entails a written exam and a task based practical assessment. The exam is a closed book exam in which the Learners have 1.5 hours to complete the questions. Practical ongoing assessments will be carried out by the assessors and or trainer. Learners must achieve a minimum pass grade for both the theory and practical assessments and will be informed of their pass/fail mark after completion of the course.

Training Methodology:
The trainer will employ a facilitative approach to the training and assessment process. The practical element included involves entering our mobile confined space unit; all Learners must have undertaken a recognised emergency rescue/recovery confined space course, and be aware that this equipment they may elect to miss this extra day's training.

Group participation and team work is absolutely vital for this course and will be actively encouraged. All Arco trainers hold the latest assessment qualifications and are registered City and Guilds assessors.

Course Duration: Two or three, eight hour days including a practical element and then Learners sit a classroom exam. The course has eight mandatory units and three optional units and can be completed by undertaking the mandatory units in two days with a further one day to complete the three remaining optional units

Type of Certificate: Competency based, valid for three years followed by a one day refresher course

Accreditations: NCFE

Min/Max Persons on Course: 4/8

NCFE IIQ 3535 Level 3 Training in Confined Space Emergency Rescue Refresher

Course Aim:
- Definition of a confined space
- Confined space categorisation
- Current legislation
- Hazard identification
- Safe Systems of Work and Permit to Work
- Emergency planning communication
- Selection and use of PPE
- Carry out entry using self contained breathing apparatus (SCBA)
- Carry out rescue techniques using SCBA
- Use and limitations of gas detection equipment
- Use of harness and rescue equipment
- Promote team work
- Carry out Pre user Checks of a Contained Breathing Apparatus
- Successfully Carry out a Search and Rescue in Reduced Visibility
- Utilise a Breathing Apparatus Board
- Successfully Carry out a Casualty Recovery via a Stretch
- Utilise a modular air Trolley to Effect a Casualty Recovery

Course Objectives:
On completion of this course Learners will:
- Have an understanding and practical knowledge to carry out safe entry into a confined space
- Be able to deal with reasonably foreseeable risks
- Identify the applicable law and codes of practice that relate to this subject
- Be able to work as part of a CSE team
- Be able to carry the recovery of a casualty from a confined space
- Be able to decide on the correct recovery technique

Pre Qualifications Required:
Learners must have undertaken a recognised emergency rescue/recovery confined space course, and be aware that this course entails learners possessing a working knowledge of confined space activities.

Course Assessment:
Closed book exam in which the Learners will have 1.5 hours to complete a formal set of questions. Practical ongoing assessments will be carried out by the assessors and or trainer. Learners must achieve a minimum pass grade for both the theory and practical assessments and will be informed of their pass/fail mark after completion of the course.

Training Methodology:
The trainer will employ a facilitative approach to the training and assessment. The practical element involves entering the mobile confined space unit; all Learners must participate successfully to gain a pass mark. Learners must have a good level of fitness and be aware that they will be entering a challenging confined space. Learners will have to don and wear SCBA sets during the practical element of the course. Refresh training will be provided to each Learner on this equipment if required (note that the SCBA element of this course takes one day to complete and is not included in this course, if Learners can prove that they have a current certification for this equipment they may elect to miss this extra days training).

Group participation and team work is absolutely vital for this course and will be actively encouraged. All Arco trainers hold the latest assessment qualifications and are registered City and Guilds assessors.

Course Duration: One day of eight hours including a practical element and then Learners sit a classroom exam. This course has eight mandatory and two optional units.

Type of Certificate: Competency based, valid for three years followed by a one day refresher course

Accreditations: NCFE

Min/Max Persons on Course: 4/8

www.arco.co.uk/confinedspaces
Breathing Apparatus Training

Breathing Apparatus Full Working Set

Course Aim: Breathing Apparatus is a protective measure used to protect the user against an atmosphere containing toxic gases, vapours or particulates as well as atmospheres where oxygen concentration will not support human respiration. Specialist training and assessment is required to equip those undertaking this type of work with the necessary skills and competencies to work safely in an atmosphere where these hazards are prevalent.

Course Aims:
The Learner can demonstrate that they:
• Adhere to all procedures regarding the carriage and use of Self Contained Open Circuit (SCOC) breathing apparatus.
• Confirm the suitability of the SCOC breathing apparatus for the task.
• Carry out pre-use safety and user tests to confirm the SCOC breathing apparatus and its fit comply with current legislation, manufacturer's specifications and approved codes of practice.
• Examine the SCOC breathing apparatus prior to fitting and starting the task.
• Resolve any problems with the SCOC breathing apparatus and report non-conformities.
• Fit and adjust the designated SCOC breathing apparatus.
• Wear the designated SCOC breathing apparatus to perform the task.
• Continuously monitor the SCOC breathing apparatus during operation and use.
• Carry out after use checks on the SCOC breathing apparatus after a safe exit.
• Take steps to maintain or repair faulty SCOC breathing apparatus.
• Return the SCOC breathing apparatus after use to the supplier for specialist cleaning and restoration.
• Store SCOC breathing apparatus in designated storage facility ready for the next task.

Course content includes:
• History of Breathing Apparatus.
• Elementary Physiology and the Respiratory Cycle.
• Set Construction and Disassembly.
• Pre and Post-use Checks.
• Donning and Operating Procedures.
• Doffing Procedures.
• Cleansing Procedures.
• Record Keeping.

Course Assessment:
• Direct observation of donning and doffing procedures.
• Practical application of SCOC breathing apparatus.
• Written test.

Course Duration: One day, i.e. seven guided learning hours i.e. one day
Type of Certificate: Competence based, valid for three years
Min/Max Persons on Course: 6/8

Breathing Apparatus Full Working Set – Refresher Course

Course Aim: Breathing Apparatus is a protective measure used to protect the user against an atmosphere containing toxic gases, vapours or particulates as well as atmospheres where oxygen concentration will not support human respiration. Specialist training and assessment is required to equip those undertaking this type of work with the necessary skills and competencies to work safely in an atmosphere where these hazards are prevalent.

Course Aims:
The learner can demonstrate that they:
• Adhere to all procedures regarding the carriage and use of Self Contained Open Circuit (SCOC) breathing apparatus.
• Confirm the suitability of the SCOC breathing apparatus for the task.
• Carry out pre-use safety and user tests to confirm the SCOC breathing apparatus and its fit comply with current legislation, manufacturer's specifications and approved codes of practice.
• Examine the SCOC breathing apparatus prior to fitting and starting the task.
• Resolve any problems with the SCOC breathing apparatus and report non-conformities.
• Fit and adjust the designated SCOC breathing apparatus.
• Wear the designated SCOC breathing apparatus to perform the task.
• Continuously monitor the SCOC breathing apparatus during operation and use.
• Carry out after use checks on the SCOC breathing apparatus after a safe exit.
• Take steps to maintain or repair faulty SCOC breathing apparatus.
• Return the SCOC breathing apparatus after use to the supplier for specialist cleaning and restoration.
• Store SCOC breathing apparatus in designated storage facility ready for the next task.

Course content includes:
• History of Breathing Apparatus.
• Elementary Physiology and the Respiratory Cycle.
• Set Construction and Disassembly.
• Pre and Post-use Checks.
• Donning and Operating Procedures.
• Doffing Procedures.
• Cleansing Procedures.
• Record Keeping.

Course Assessment:
• Direct observation of donning and doffing procedures.
• Practical application of SCOC breathing apparatus.
• Written test.

Course Duration: Half a day, i.e. 3.5 guided learning hours
Type of Certificate: Competence based, valid for three years
Min/Max Persons on Course: 6/8

www.arco.co.uk/confinedspaces
The confined space medical involves testing blood pressure, BMI, pulse, urine, vision, hearing, cognitive impairment and musculoskeletal function. On completion of the medical, a fitness certificate is issued advising of the results. Medical fails are notified verbally on the same day. Details of an individual’s medical assessment and the information given within individual questionnaires will be treated in confidence and is fully compliant with the Data Protection Act.

**Medical Principle**

The medical fitness requirement described applies to anyone whose duties require them to work in confined spaces.

**Medical Fitness Criteria**

Medical assessments shall be carried out by a competent Nurse under the supervision of an Occupational Health Physician. Meeting these medical fitness levels indicates that at the time of the medical the individual is medically fit to perform the relevant job role e.g. working in confined spaces. It shall not be assumed that the person concerned is fit if a condition has changed and the individual has not informed both employer and medical provider.

Where an individual does not meet all of the medical fitness levels set out in this document a decision will be made regarding their suitability to work in confined spaces by taking the following steps:

- The medical provider will take into consideration all aspects of duties and medical history;
- A job description and/or a risk assessment must be provided in order that fitness for work can be properly assessed by medical staff.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Fitness Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asthma or impairment of breathing</td>
<td>Lung function tests &gt; 80% (80% in FEV, 80% in FVC &amp; 70% in FEV 1%)</td>
</tr>
<tr>
<td>Back/knee/foot/neck or any joint problems</td>
<td>No recent history of locking joints, full normal range of movement, no chronic discomfort which might impair escape or movement in cramped spaces</td>
</tr>
<tr>
<td>Raised blood pressure</td>
<td>Controlled hypertension: BP &lt; 150/100</td>
</tr>
<tr>
<td>Epilepsy</td>
<td>No fits for two years on or off medication (nocturnal fits excluded)</td>
</tr>
<tr>
<td>Eyesight problems not corrected by glasses or contact lenses</td>
<td>6/12 or better in both eyes</td>
</tr>
<tr>
<td>Problems with hearing</td>
<td>Able to hear gas monitor alarm, can use telephone</td>
</tr>
<tr>
<td>Diabetes</td>
<td>Adequately controlled on insulin or diet (no hypoglycaemic episodes in last two years)</td>
</tr>
<tr>
<td>Mental illness, including depression</td>
<td>No untreated or unresolved depression, any psychotic illness</td>
</tr>
<tr>
<td>A fear of being in an enclosed space</td>
<td>No claustrophobia producing physical symptoms or history of having to leave confined space precipitously</td>
</tr>
<tr>
<td>Skin problems</td>
<td>No persistent or frequently recurrent exfoliative condition</td>
</tr>
<tr>
<td>Regular medication</td>
<td>No medication impairing attention or consciousness</td>
</tr>
</tbody>
</table>

Medical assessments can be carried out at medical centres which are conveniently situated in major and strategic locations, or at clients’ premises within short timeframes.

Our team of confined space consultants are experienced in helping small, medium and large size companies risk assess their confined spaces and above all help implement a strong management system that can ensure both adequate control measures and safe entry procedures are in place.

Our consultants have built a strong reputation for providing workable, no-nonsense solutions. Strategic input from impartial experts on your project really makes a difference. Confident and expert independent advice can often simplify a project and save time and money.

Consultancy services are bespoke and tailored to meet client’s individual and varied needs ranging from smaller drainage contractors through to emergency services, national utility providers and national and internationally known manufacturing giants.

Our consultants can provide:

- Policy / procedure writing and implementation
- Risk assessments, safe systems of work and emergency procedures
- Confined space classification, production of confined space registers
- Advice on current best practice, including the Water UK NC’s (National Classifications) and the City and Guilds 6150 competency standards.
- Contractor supervision and auditing
- Emergency planning and crisis management
- Education on procedure for entry, equipment selection, confined space management and standing operating procedures

All of our recommendations include competency and equipment requirements as standard. Our specialist consultants are highly experienced in confined space entry and regularly join our operational teams providing on-site services to clients.

Confined Space Consultancy and Advice

Confined Space Medicals

Confined Space Consultancy and Advice

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Frequency of Medical Assessment
A medical assessment is to be undertaken prior to any individual embarking on working in confined spaces and at least every three years thereafter, unless medically indicated. If clinically indicated, such as in those persons with chronic but no disqualifying conditions, the competent assessor may consider issuing a medical certificate for a shorter period of validity and recommend increasing the frequency of periodic assessments. Where there is doubt about an individual's ongoing medical fitness for working in confined spaces a further assessment may be arranged.

Certification of Medical Assessment
Confirmation of the outcome of the fitness level will be by certification from the medical provider. Individuals will be found fit if the fitness level can be met, or at the discretion of the Occupational Health Physician, having taken into account the risk assessment a restricted medical certificate may be issued.

Referral
Should the individual initially fail to meet the medical fitness level a suspension from working in confined spaces may be necessary until further medical documentation is obtained by the Occupational Health Nurse in the first instance. Where the Occupational Health Nurse is unable to establish that the individual meets the medical fitness level the case will be referred for review to an Occupational Health Physician. The individual will be temporarily removed from working in confined spaces and the case will be referred for review to an Occupational Health Nurse.

Medical Assessment Parameters
Overview
As a minimum the following areas shall be examined:
1. General health
2. Vision
3. Hearing
4. Physical stamina and strength
5. Body mass
6. General balance and flexibility
7. Neurological disorders including epilepsy

The examiner will pay special attention to the following:
1. Diabetes
2. Asthma/impairment in breathing
3. Psychological problems
4. Claustrophobia
5. Skin problems
6. Medication

General Health
The modern industrial environment requires that to work in confined spaces safely, competently and productively, those engaged in such work have an appropriate attitude, aptitude, physical capability and training. Candidates should be physically fit and free from any disability that may prevent them from working safely and efficiently. Individuals should not exceed a body mass index of 33. Whilst there are exceptions to the rule, maintaining general fitness levels and having the strength to lift one's own body weight becomes more difficult with increased body weight.

Effects of Medication
Fitness to work in confined spaces may be impaired temporarily by the effects of some medicines which can produce drowsiness, ataxia and impaired vision, co-ordination, judgement and reaction times. The hazardous nature of working in confined spaces makes these medications inadvisable. Operators should seek advice from their family doctor, pharmacist or medical advisor about the potential effects of any medication on their fitness for work and should notify their employer if there is a risk that safe performance might be affected.

Persons will not be permitted to work in confined spaces if they are suffering from medical conditions or undergoing any medical treatment likely to cause:
- Impairment of awareness or concentration
- Fits or blackouts
- Sudden incapacity or loss of consciousness
- Visual or hearing impairment of a temporary or transient nature
- Giddiness or impairment of balance or co-ordination
- Limitation of mobility

Individuals suffering from and/or being treated for any of the following must undergo additional medical assessment and may be asked to produce relevant medical documentation:
- high blood pressure
- heart disease/chest pain
- respiratory disease
- diabetes
- epilepsy
- psychiatric illness/counselling

Physical Stamina and Strength
Individuals should be physically fit and able to cope with a full working day, and be free from any disability that may prevent them from working safely and efficiently.

Obesity – Medical Fitness Criteria
Excess body fat may affect an individual's fitness to work in confined spaces. Those individuals in whom exercise tolerance, mobility or general health are adversely affected are unacceptable. Obesity should be judged clinically to ensure it is not such as to limit mobility or otherwise increase risks to safety. Individuals should not exceed a body mass index of 33. Whilst there are exceptions to the rule, maintaining general fitness levels and having the strength to lift one's own body weight becomes more difficult with increased body weight.

Continued Medical Assessment
It is the responsibility of the employer to ensure (for audit purposes) that all employees hold a valid medical certificate. It is the responsibility of the individual to ensure they hold a valid medical certificate at all times.

Individuals or employers will be required to arrange for the medical assessment to be undertaken prior to the expiry date as stated on the medical certificate. If an individual has reason to believe that their fitness for working in confined spaces may be impaired they must inform the person responsible for their workplace. If there is any doubt as to a person's fitness the individual should not resume or continue working in confined spaces until medical advice has been sought.

Whenever a significant change in health or working practice occurs with potential to compromise an employee's ability to carry tasks safely, advice should be sought from a medical provider in order to determine whether a further health assessment is appropriate. This may be particularly important when taking medication or following an accident, injury or period of absence attributed to sickness and is applicable to both physical and mental health problems.

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Confined Space Support Team Services

Our expert teams are hand picked, highly-driven individuals who are at the forefront in their field. We are employ qualified surveyors, engineers, timed-served search and rescue teams and experienced project managers with proven IOSH and NEBOSH Health and Safety accreditations.

Confined Space Entry Management and Entry Supervision

Our services include:
- Confined space safety advice and/or training
- Liaison with water companies or other organisations
- Production of Risk Assessments, method statements and emergency arrangements
- Provision of on-site supervisors (including City and Guilds ‘Supervisor Level’ operatives)
- Provision of on-site support teams or additional manpower
- Escort of your operatives into confined spaces
- Hire of confined space equipment (including specialist access systems)
- Contractor supervision and auditing
- Incident / accident investigation
- Strategic input on your project from impartial, non-biased experts

Confident and expert independent advice will often simplify a project, save time and money whilst reducing reputational risk.

Our knowledge and experience means that we always provide simple, practical and clear suggestions.

Confined Space Supervision Includes:
- A site visit to ensure a full site risk assessment is conducted
- Adequate first aid and resuscitation equipment
- Confined space entry methodology
- Environment monitoring to ensure safe entry can be achieved
- Entry permit control
- Emergency rescue procedure

Confined Space Rescue

We are the industry’s leading specialist for implementing emergency response procedures, crisis management and casualty extraction. Our dedicated standby rescue teams and specialist confined space rescue consultants are highly experienced in confined spaces safety and provide both ‘entry’ and ‘non-entry’ rescue solutions to businesses throughout the UK. Teams can operate as standby teams to support your entry teams or our own team can provide the rescue provision for you.

We offer national coverage, and are able to provide support 24/7; working days, nights and weekends.

Qualified and Experienced Teams

Confined space search and rescue teams are highly experienced technicians with experience of the most demanding of environments. Our confined space rescue teams are fully qualified, and we have members who are qualified in the following areas:
- City and Guilds Confined Space Search and Rescue
- IRATA (Industrial Rope Access – a technique which is essential to fast recovery of casualties from vertical shafts).
- First Responders with specialist Casualty Packaging Training.
- Emergency First Aid at Works including Oxygen Resuscitation and Automatic Defibrillation
- Emergency Crisis Control

Qualified and Experienced Teams

The teams are experienced in working alongside other rescue services, scaffolders, crane operators, roped access teams, fire and rescue services and HART teams. We pride ourselves on using state-of-the-art search and rescue equipment.

Sectors and situations
- We offer bespoke rescue cover for power station outages, hazardous chambers, tanks and silos entry and working in hostile environments. The team are experienced in working with many major utility suppliers and their Tier 1 contractors

Our confined space rescue service can include:
- Advice and recommendations
- Rescue plans and risk assessments
- Rescue supervisors
- Full standby rescue teams
- Additional operatives to support your teams

The team’s knowledge and experience means that they are able to provide simple, practical and clear suggestions.

Confined Space Search and Rescue Team Qualifications Include:
- NEBOSH/IOSH Accredited Project Management
- Remote CCTV Examination
- IRATA Rope Access
- Working at Height Rescue
- Confined Space Techniques including high risk, escape Breathing Apparatus, search and rescue
- Structural Examiners Competency - STE 04
- EUSR Water Hygiene
- EUSR Substations

www.arco.co.uk/confinedspaces
Confined Space Inspection

Our expert inspection teams are highly motivated and highly skilled individuals who are accredited surveyors. With long term experience with detailed structural examinations, which are both difficult to access and potentially in a hazardous environment. Our teams use both IRATA and Confined Space techniques to ensure safe access can be made and a high quality inspection can be achieved. Full detailed reports are submitted to the client’s specific requirements.

Our areas of expertise include:
- General inspections
- Principal inspections
- Special inspections
- Culvert inspections
- Chambers
- Tunnels
- Shafts
- Box grider
- Historical structures
- Pipe systems
- Roof voids

Confined Space CCTV Inspection

We provide remote CCTV examination services for underground asset inspections. Our team has over 25 year’s expertise examining assets including culverts, ducts, industrial drainage, pipe systems, voids and other underground assets.

Remote crawler units, quick view zoom inspection and push rod cameras suit any confined space scenario, eliminates the risks of a confined space entry and exposure to specified risk and provides the ability to conform to the Health and Safety hierarchy of control.

Our remote visual inspection units are able to:
- Survey between 150mm-1200mm.
- Identify defects and blockages using a HD camera
- Provide the location of the defects or blockages with high quality footage, with the inbuilt measuring system
- Record defects using the inbuilt laser measurement system which is accurate to 1mm
- Look into pipelines, manholes or tanks using a zoom inspection camera system
- Provide clear pictures using high powered LED lighting
- Zoom over 80m, maintaining a clear resolution.
- Neutral turn and successfully pass debris

Confined Space Cleaning

We offer a range of confined space cleaning services. We can provide an expert and safe solution for cleaning the most difficult silos, tanks and vessels.

By utilising our experienced in-house team who are fully trained and skilled in the safe working practices associated with confined space cleaning we can provide cleaning services for:
- Culverts
- Tanks
- Pipes
- Vessels
- Silos

Confined space cleaning affects nearly all industries. We can also clean voids, basements and pits for general fire prevention, hygiene and end of build cleans.

We work with many sectors including:
Animal and Food Manufacturers
- Tanks, vessels and hoppers may potentially be classified as confined spaces. Such vessels may need cleaning if product becomes contaminated from water ingress, when changing products or to remove blockages.

Confined Space Surveying and Mapping

Our safety teams working in conjunction with specialist surveyors carry out alignment surveys and topographical surveys in confined spaces and other hazardous areas.

To date, our staff have successfully surveyed some of the deepest most complex structures in the UK and are unrivalled in terms of expertise and equipment.

The teams make use of equipment such as: laser scanning, radio location (cat and genny), ground penetrating radar and innovative man-entry surveying techniques to map confined spaces below ground.
- Culvert alignment
- Cross / long sections
- Laser scanning

Working in every area of surveying we are able to carry out detailed traverses through large and small sewers, culverts and tanks producing line and level, cross sections, arrangements and directional surveys with a high degree of accuracy.

Depending on the type of project we work with dedicated technology partners which means we are able to provide your project with a comprehensive package of utility surveying services.

Our office support facilities handle all forms of mapping, CAD, electronic media and reporting.
Confined Space Equipment

A confined space can be any space including chamber, vessel, tank, silo, pit or other similar space, which is substantially (though not always entirely) enclosed and there is a reasonably foreseeable risk of serious injury from hazardous substances or conditions within the space or nearby. All who manage or enter a confined space must comply with the Health and Safety Hierarchy of Control and recognise the possible dangers, have the proper safety training and protective equipment (PPE) necessary to ensure the operative’s or their own safety.

Equipment Sales
We offer a comprehensive range of personal protective equipment, workwear and safety equipment both own brand and sourced from specialist suppliers. Our Technical Experts are able to offer a selection of products that means that you are able to choose those best suited to your operatives and your environments.

- Bespoke Confined Space Kits
- Gas Detection
- Davit Arms
- Tripods and Winches
- Harnesses
- Breathing Apparatus
- Safety Helmets
- Hazardwear
- Safety Footwear
- Hand Protection

Equipment Hire
We make sure that you have the right equipment in full working order with current test documentation. This is an essential part of ensuring the health and safety of your workforce.

Equipment can be hired for anything from a few days to long term contract hire. All contract hire prices include scheduled maintenance and calibrations.

Our extensive hire fleets are stored in our own depots, enabling you to hire for a few days or on a long-term contract.

- Gas Detectors
- Breathing Apparatus
- Access, Egress, Fall Arrest & Rescue Equipment
- Full Safety Kit
- Lighting
- Inspection Equipment

Gas Detection
- Crowcon T4
- Crowcon Gas-pro (5 gas)
- BW Gasalertmicroclip XL
- BW Quatto
- BW Micro 5 (5 gas)
- Single gas Available
- MSA Altair 4X

Escape and Full Breathing Apparatus sets
- Sabre Elsa 2000 (Hooded)
- Sabre Elsa Sprint (Mask)
- Sabre Contour 300 (SCBA)

Tripod, F/A and Man-riding
- Globestock recovery winch and tripod
- Abtech Tripod and recovery block
- Globestock man-riding winch and tripod
- Abtech man-riding winch and tripod
- Globestock G-winch 50m Winch
- Globestock Aluminium Tripod
- Globestock 15m recovery block
- Abtech T03 tripod
- Abtech recovery block
- SALA man-riding winch

Harness, Bosuns Chair and Stretcher
- Ridgegear fall arrest rescue harness
- Abtech bosuns chair
- Shock absorber web lanyard
- Adjustable restraint web lanyard
- SAR stretcher

Lighting
- Peli right angle (rechargeable)
- Peli head torch (dry cell)

Communications
- Entel HT952 two-way radio (ATEX) Licence free
- Entel HT953 two-way radio (LCD & ATEX) Licence free

Full safety kit comprising of
- Recovery winch and tripod, Ridgegear harness, BW Microclip XL, Scott Protégé Crowcon T4, Sabre Elsa 2000 (Hooded) escape set

To order please call:
Northern Office: 01925 244144
Email: equipment-north@cs.ts.co.uk
Southern Office: 0208 8055 144
Email: equipment-south@cs.ts.co.uk
Equipment Maintenance

The equipment used for confined space entries should have a function test carried out immediately prior to each use.

We have four fully equipped support centres for equipment testing and maintenance.

- Lifiting Equipment
- Fall Arrest Equipment
- Breathing Apparatus
- Airline Breathing Equipment
- Gas Detection

The following inspections are also required/recommended under various standards and legislation.

Lifting Equipment (Tripods, Winches, Recovery Blocks)
Manufacturers state that lifting equipment should be serviced annually and under LOLER (Lifting Operations and Lifting Equipment Regulations 1998), lifting equipment used for man riding should also be inspected on a six monthly basis by a competent person.

Airline Breathing Equipment
All breathing apparatus and respiratory equipment should be inspected on a monthly basis and serviced annually. In addition, mobile air supply cannot be assured. In addition, mobile air supply (compressors) should be tested whenever re-sited.

Gas Detection (Portable and Fixed)
Gas detectors typically require six monthly calibrations.

Breathing Apparatus

- Escape sets - 10 or 15 minutes
- MSA Re-Breathers
- Self-contained breathing apparatus set
- Self-contained breathing apparatus set 6-month inspection

Cylinders

- Breathing air cylinder 200 Bar refill
- Breathing air cylinder 300 Bar refill
- Breathing air cylinder Hydrostatic test
- Breathing air cylinder Valve service
- Breathing air cylinder Refurbishment
- Medical oxygen Hydrostatic test
- Medical oxygen Refill (up to 3ltr)
- Medical oxygen Refill (3ltr+)

Access, Egress, Fall Arrest & Rescue Equipment

- Tripod 6 Monthly service
- Tripod Annual service
- Winch/recovery winch 6 Monthly service
- Winch/recovery winch Annual service
- Fall arrest blocks 6 Monthly service
- Fall arrest blocks Annual service
- Harness 6 Monthly & wash

Oxygen Supplies

We are a Medicines and Healthcare products Regulatory Agency (MHRA) registered supplier of medical oxygen. Also as a UKAS approved test station for cylinders which are regulated by the Pressure Equipment Directive (PED) and the Transportable Pressure Equipment Directive (TPED).

Oxygen Services

- Oxygen cylinder supply - to any organisation or individual requiring medical oxygen for resuscitation or therapy use.
- Cylinder refilling - service for privately owned oxygen cylinders.
- Cylinder testing.
- Cylinder valve servicing.
- Replacement equipment whilst yours is being serviced (enquire for availability).

Oxygen Contract Hire

We can now supply oxygen cylinders on long term or contract hire.

Benefits of contract hire:

- Replacement/exchange cylinders when refills are required.
- Testing and servicing - in accordance with legal requirements.
- Record keeping and servicing schedules - we manage all administration
- Delivery and collection.

Oxygen Contract Hire

We can now supply oxygen cylinders on long term or contract hire.

Batch Label

The batch label must be legible, if for any reason it is missing or cannot be read it must be assumed that the expiry date for the oxygen has been exceeded, in which case the gas must be replenished.

Oxygen Therapy Valve

The picture shows a therapy valve clearly displaying the service dates, the label at the top, just below the handwheel indicates the last service date and also the next service due date. This is reinforced by the spanner symbol with Oct12, which highlights that the device is due a service prior to the end of October 2012.

Resuscitation Units

A variety of resuscitation units are available; these are fitted with Pin Index cylinders. The resuscitators are more complex than the therapy type units and require more intricate testing. They should be tested by a competent person, with the correct equipment, at least once a year. Test certificates should be available and are often kept in the carry case, if in any doubt they must be retested if you have any queries regarding the equipment that you hold, we would be pleased to assist you.
Face Fit Testing

Who needs Face Fit Testing?
It is essential for any wearer of tight fitting RPE to ensure it is adequate and suitable.

- Adequate – Correct for the hazard and reduces exposure sufficiently to protect the wearer’s health.
- Suitable – Correct for the individual, task and environment.

RPE should be selected correctly for the task, and all users must be trained in the correct use of the equipment. Reusable RPE should also be inspected and maintained at required intervals.

In the case of tight fitting respirators, wearers should have a Face Fit Test carried out at the initial selection of the Respiratory Protective Equipment, change of make, style and size of RPE, and change in the wearer’s facial characteristics.

No one respirator will protect everyone!

Arco has the largest mobile respiratory protection team in the UK

Arco has a team of 11 Fit2Fit accredited Face Fit Testers covering the UK and Ireland, with over 125 years’ experience of Face Fit Testing between them. This experienced team can ensure a consistent service across multi-site organisations, and accredited Face Fit Testing local to all areas in the UK. Our national network of Face Fit Test Providers work throughout the UK and are able to provide testing at an organisation’s site. This dramatically reduces the amount of employee down time involved, and is the most efficient way to Face Fit Test large numbers of people.

All members of the Arco Respiratory Team are Fit2Fit Accredited

All members of our team have taken and passed the industry recognised exam and practical assessment for Face Fit Testing, and are Fit2Fit Accredited.

Our team work closely with the BSIF and HSE to promote best practice and to increase the awareness of Face Fit Testing. Our team also includes Assessors in the BSIF Fit2Fit Scheme.

Face Fit Testing Offshore with Opito trained members

Members of the Arco Respiratory Team have completed an offshore survival course to provide offshore customers with face to face fit testing. They completed the Opito Approved course covering Minimum Industry Safety Training, and a three-day Basic Offshore Safety Induction and Emergency Training. The course involves lifeboat launch drills, simulated airlift rescue, fire-fighting, helicopter safety and escape and survival first aid. So whatever your requirement, Arco has trained and accredited assessors who can come to you.

Arco conducts two forms of face fit testing, qualitative and quantitative, both result in matching an individual’s face shape with a compatible mask to ensure a tight seal is achieved. Our team is able to carry out face fit testing on-site to ensure the RPE selected is adequate, suitable for the environment and protects the wearer.

Qualitative Testing
- Used only for disposable and half face masks.
- The individual wears a hood over the head and shoulders and the tester sprays a bitter solution into the hood.
- The wearer carries out a series of exercises, such as turning the head from side to side.
- If the individual can taste the solution, there is a break in the mask’s seal.

Quantitative Testing
- Used for all tight fitting respirators, including Full Face Masks.
- The mask is attached to a particle counting machine (a Portacount).
- The machine detects whether airborne particles are passing into the mask via a break in the seal.
- At the end of the test the machine will give a ‘pass’ or ‘fail’.

Face Fit Testing Offshore

Our Qualitative and Quantitative training courses cover the 14 points of competency laid out in the HSE 282/28 Fit Testing of Respiratory Protective Equipment Facepieces. The courses include:

- Selection of adequate and suitable RPE.
- Ability to correctly fit a facepiece and perform a pre-use fit check.
- How to perform a correct Fit Test with the chosen method.
- Interpretation of the Fit Test results.
- HSE Regulations and the Approved Codes of practice relating to Face Fit Testing.

Completing this course will assist any candidate who wishes to complete the Fit2Fit accreditation with BSIF.

Qualitative Face Fit Training

Aimed towards individuals wishing to attain the competence level and carry out Face Fit Testing for half mask and filtering facepieces, as stipulated in document OC 282/28 Para 24. This will assist in Fit2Fit accreditation.

Learning Outcomes
- Understand the importance of HSE 282/28.
- Understand the theory of qualitative testing.
- Be able to set up a qualitative test kit in accordance with manufacturer’s instructions.
- Be able to complete sensitivity test.
- Be able to record details of tester and results of sensitivity test.
- Be able to instruct the candidate in the requirements of the test.
- Complete a fit test in accordance with HSE 282/28.
- Be able to identify poorly and correctly fitting face pieces.
- Interpret the results and rectify any failures.
- Troubleshoot certain problems within the qualitative test equipment.
- Unassemble, store and maintain qualitative kit in accordance with manufacturer’s instructions.

Quantitative Face Fit Training

Aimed towards individuals wishing to attain the competence level and carry out Face Fit Testing and maintenance according to the manufacturer’s instructions as stipulated in document OC 282/28 Para 24. This will assist in Fit2Fit accreditation.

Learning Outcomes
- Understand the importance of HSE 282/28.
- Understand the theory of quantitative testing.
- Be able to set up a Portacount in accordance with manufacturer’s instructions.
- Be able to complete daily checks of equipment.
- Be able to input data into required fields of TSI software.
- Be able to instruct the candidate in the requirements of the test.
- Complete a fit test in accordance with HSE 282/28.
- Be able to identify poorly and correctly fitting face pieces.
- Interpret the results and rectify any failures.
- Troubleshoot certain problems within the Portacount system.
- Unassemble, store and maintain Portacount 8020 in accordance with manufacturer’s instructions.

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