Confined Space **Training**

MSA Fall Protection Course Facilities *Courses are conducted at the MSA Fall Protection Training Centers in Edmonton, AB, Houston, TX, IHSA Facility Toronto, ON, Chicago, IL and Cranberry Township, PA. MSA holds courses throughout the year, allowing students the flexibility to attend the course of their choice at a location close to them OR we can come to your facility. Ask for details.*

CONFINED SPACE ENTRY

COURSE NO. ZT-CSAWARE

MSA's 1-day Confined Space Operations training course is designed for those individuals who are responsible for managing and overseeing employees working in confined space entry activities.

Recommended for Facility Managers, Team Leaders, Supervisors and those individuals who will manage third-party contracted confined space entry operations at their facilities.

The 1-day course is comprised of the following:

- Defining Confined Spaces
- Explain legislative consensus standards and operational requirements
- Explain roles, responsibilities and procedures for Confined Space operations
- Identify typical hazards and associated risks
- How to assess and control hazards
- Manage entry permits and hot work permits
- Identify hazardous energy sources and select adequate LOTO and isolation equipment
- Managing contractors and coordinating documentation
- Selection, application & maintenance of adequate equipment for confined space entry, fall protection, gas detection
- Apply correct ventilation techniques
- Select and use respiratory protection equipment (SCBA & SAR)
- Requirements for plans and procedures for Confined Space entry
- Emergency response procedures and confined space rescue hierarchy techniques

Course Format:

Training is instructor led multimedia presentation incorporating instructor demonstration, student manual and learner practical hands-on approach. Training will run approximately 8 hours. Learners will be given a written exam and will receive a certificate of completion with training contact hours, signed and dated by the MSA Instructor upon successful completion of the scheduled training.

CONFINED SPACE TRAIN-THE-TRAINER

COURSE NO. ZT-TTTCSPACE

******* Pre-requisite is MSA's 2 day Confined Space Entry and Operations Course***

MSA's Confined Space Train-the-Trainer course is designed to prepare employees who must lead select confined space courses and material at your facility. The class provides the necessary skills to develop, deliver and evaluate students on basic confined space knowledge and technical understanding.

The 1-day course is comprised of the following:

- Regulatory discussion and implications, including a discussion of OSHA 1910 General Industry and 1926 Construction regulations as well as ANSI standards on the topic
- Assessment and identification of confined spaces and their hazards based on governmental analysis criteria
- Discussion of confined space entry program development based on the needs of the specific site, including recommended safety measures to follow for routine entries as well as equipment needed and basic technical knowledge needed to teach it
- Adult education methodology with teach back requirements specific to the topic of confined space entry
  - Includes points of stress, questions to ask and demonstrations to perform to drive home important concepts for adult learners
  - Involves techniques to use for analyzing student comprehension and for best helping them to remember company procedural mandates for PRCS entry
- Confined space training program educational material development and lesson plans
- Guidance on performing practice exercises related to confined space entry at the site, including regular entry exercises as well as non-entry rescue practice utilizing common entry/rescue equipment
- Review, assessment and guidance of student instructors for proficiency in teaching core content related to the topic of confined space entry

The following is included in the registration fee:

- 1 day of hands-on instruction by an MSA qualified instructor
- The MSA Confined Space Entry and Operations training manual and supporting documents
- Basic confined space PPT for use in developing their own training program
- Lunch and refreshments
- MSA Confined Space Rescue certificate and wallet card

CONFINED SPACE COMPETENT PERSON

COURSE NO. ZT-CONFINEDSPACE

This 2-day Confined Space Entry & Operations training course is technical in nature, comprehensive, performance based and instructed by an inhouse trained and certified professional instructor. Our Technical Training incorporates information and skills, required by all applicable regulatory bodies.

Recommended for those individuals who are responsible and/or identified to perform work in or around identified confined spaces such as Confined Space Supervisors, confined space attendants and confined space entrants.

Course Format:

Training is instructor led multimedia presentation incorporating instructor demonstration, student manual and learner practical confined space entry evolutions. Training will run 8 hours each day. A written exam will be administered and the learner will receive a certificate of completion with training contact hours, signed and dated by the MSA Instructor upon successful completion of the scheduled training class.

The 2-day course is comprised of the following:

- Definitions and examples
- Discussion of the factors that explain why permit-required confined spaces can be so dangerous and require special training prior to their entry along with case studies of past incidents to illustrate
- Coverage of employer/contractor regulatory responsibilities when going to work in PRCS and in building a site-specific confined space program
- Discussion of the types of hazards that can turn a regular space into a "permit-space" including:
  - The hazards of low-oxygen atmosphere
  - Flammable atmospheres
  - Atmospheres where occupational exposure to specific substances exceed OSHA permissible limits
  - Atmospheres that are termed "immediately dangerous to life or health" if the worker remains within them, potentially preventing their ability to escape in an emergency
- Engulfment
- Entrapment
- Falls
- Electrical hazards
- Thermal hazards
- An introduction to the Hazard Communication (HazCom) standard and how it applies to learning about the dangers of working with different substances in confined spaces
- Planning for safe entry into a PRCS utilizing (1) OSHA's "hierarchy of controls: and a (2) pre-task plan for safety"
- Use of job safety controls for entry into potentially unsafe spaces such as:
  - "Lockout/Tagout"
  - Portable gas instruments for Space Air Quality Monitoring
  - Space Atmospheric "Normalization" and the equipment needed
- An introduction to the different kinds of respiratory protection as well as the elements of a program that must be in place to make it successful:
  - Selection, fit testing, program administration, care and maintenance
  - Respirator types and their "assigned protection factors", which stipulate when and where they can be used
  - Respirators for entry into IDLH conditions and rescue situations, including the airline respirator and SCBA
- Procedures to be followed when a permit-space is to be entered
- Additional confined space access, safety and rescue equipment including:
  - The full body harness (including selection, inspection and use)
  - Entry winches and self-retracting lifelines with rescue capabilities
  - Davit arms and tripods
  - Confined space communications equipment
- Procedures to be followed post-entry, including permit close-out and equipment/program maintenance
- Confined space rescue
- Hands-on practice with confined space procedures and equipment in a controlled training environment

CONFINED SPACE BASIC ROPE RIGGING & RESCUE (8 HRS)

COURSE NO. ZT-CSRESCUE

* Prerequisite is MSA's 2-day Confined Space Entry and Operations Course

MSA's Confined Space Basic Rope Rigging and Rescue class is designed to teach CS rescue team members the basics of rope theory and use. The predominantly hands-on class begins by covering basic topics fundamental to later training evolutions such as the concepts of utilizing pulleys and rope to create mechanical advantage and system knots that will be utilized in constructing a "Z-Rig" haul system. Once the basics are covered, students will have the construction of a haul system demonstrated for them and then will be asked to participate in a re-creation. The class terminates in a practice evolution where the students are given a scenario of a downed worker inside a confined space and asked to perform a rope rescue utilizing the tools and techniques that have been demonstrated to them throughout the day.

The 1-day course is comprised of the following:

- Standard-required rescue training / practice requirements and implications for entry rescues
- Considerations for building, equipping, and training a rescue team for hazardous entries to meet ANSI Z117.1–2009 procedural specifications
- Building for mechanical advantage:

Rescue Anchorages

– Tripod
– Finding other "Height Advantage"
– Water knot and "Wrap 3, Pull 2"

Carabiner Options

Moving vs. Non-Moving Parts

2:1 & 3:1 Systems (Simple and Compound)

Basic Rescue Rope Requirements

– Rope sizing for haul lines
– Backups and ancillary systems
– Rope inspection

Rescue Knots/Hitches *per application*

– "Family of 8s"
– Bowline
– Alpine Butterfly
– Clove Hitch

Utilizing the Prussic Hitch Compound Rigs and "Backing-Up" a Haul System

– Selecting proper accessory cord
– "Grapevine/Double Fisherman's Bend"
– Applying the Prussic Hitch to rope
– Load-Capture with the Prussic

Practice with CS-designed Stokes Basket Rigging

– Patient packaging
– Preparing for a haul
– Backing up the system

The Design of the "Z-Rig" and Practice Build

Rescue Scenario

– Team is given known details about a fictional ongoing confined space incident
– Team is asked to utilize all CS knowledge to open a *safe* permit for entry rescue
– Team is guided in assigning member roles
– Group is asked to build a customized rope rescue system of varying difficulty based on needs/prior training
– Rescue is undertaken, with instructor giving guidance where needed and evaluating for post-briefing of strengths/areas for improvement

ID 9855-005-MC / March 2017