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The standards below are the minimum requirements that must be implemented by line managers and achieved by all plants, unless they are limited by local legislation. Additional requirements set by local legislation must also be followed at all times.

Access to confined/restricted spaces must generally be considered a high-risk activity, which should be regarded as an exception to the normal course of work. The first and most effective means of control is the development of work schedules by the plant to avoid the need to enter such spaces.

These standards are accompanied by further guidelines on the definition of a confined or restricted space for CEMEX plants in the spirit of these standards.

1. The head of each unit must identify all confined/restricted spaces located in each of his/her plants. Hazard identification includes: –
 - the nature of space – (confined or restricted),
 - standard entrance and exit routes,
 - all exit in case of emergency,
 - probable contents under normal conditions,
 - all the requirements for testing of air quality before entering or during work,
 - all the risks and relevant control measures, such as: resuscitation equipment, first aid staff, rescue equipment, local ventilation systems, etc.
2. Work in confined/restricted spaces shall be performed only after full consideration of alternative methods that allow avoiding the need for employees or third parties to enter confined/restricted spaces. For example, work performed from the outside with the use of special equipment to remove blockages, inspection cameras, etc.
3. Before any work performed in a confined/restricted space, a comprehensive risk assessment shall be carried out by a person responsible for supervision or management. Permission to Perform Work and a detailed risk assessment (see also Item 2 of HSMS Risk Management) shall be required for each entrance to a confined space. A safe method of work must be applied when entering a confined and restricted space.
4. Where entrance of third parties to confined/restricted spaces is intended, it must be ensured that the employee has sufficient experience and knowledge, his/her company has developed a proper documented work method, and that the Permission to Perform Work defines the respective responsibilities of each person (see also Item 5 of HSMS Subcontractor Safety Management).
5. Persons responsible for supervision and management who are authorised to issue permissions for such activities, together with all employees who are to enter or be present in a confined/restricted space, must have sufficient experience and training to ensure that they are competent to perform these tasks. As a minimum, each of them must complete formal training on entrance to closed/restricted spaces.

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6. During normal operation, manhole/door opening covers leading to confined/restricted spaces shall be firmly fixed to prevent entry by unauthorised persons. If it is required to enter confined/restricted spaces, the access points shall be in a proper size in order to ensure safe entrance and exit. Entrance shall be limited to authorized staff only and shall be communicated to all relevant employees, subcontractors and other parties concerned through the use of proper in-house rules, written instructions and signs.

7. All confined/restricted spaces shall be equipped with proper lighting for work performed. The lighting shall have proper connections and shall be limited to a voltage of 110 V or less in order to be resistant to moisture, and, where required, it shall be suitable for use in a flammable atmosphere. Proper emergency lighting shall be ensured, such as flashlights.

Non-sparking tools and low-voltage equipment must be used only when the presence of a flammable or potentially explosive atmosphere is probable.

8. Before entrance, each confined/restricted space must be sufficiently ventilated, isolated and protected from adjacent technological devices in order to ensure that no hazardous materials are poured or spilled, and all electrical, pneumatic and mechanical threats are neutralized.

If there are any loose materials, they will be removed before entrance, unless alternative steps are taken to ensure safety. Proper safe working platforms shall be ensured where necessary, before the beginning of work in confined/restricted spaces.

9. Good ventilation and supply of breathing air is required. It may be necessary to monitor the atmosphere both before and during work in order to provide the sufficient amount of breathing air. This should be done by trained and experienced staff using proper gas detectors. The need for mechanical ventilation should be determined. It may be required to provide the sufficient amount of fresh air to replace the oxygen consumed by persons working in a confined/restricted space and to dilute and remove gases, vapours or fumes created as a result of work.

10. Where work is to be performed at heights or above hazardous liquids or loose substances, etc., it is necessary to use full rescue equipment, safety harnesses and fall protection equipment. If work is carried out in confined/restricted spaces with long horizontal elements, another relevant means of rescue shall be determined before the beginning of work. Resuscitation equipment required for the relevant specific threats must be available.

11. No person shall enter into any confined space without the presence of a trained person attending outside the confined space. This person shall maintain eye and sound contact with employees inside the confined space and shall know the procedure to be applied in case of emergency inside the confined space.

The attending person shall use the agreed communication system to raise the alarm and initiate the emergency plan.

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When work is performed in confined spaces, the required level of supervision and assistance shall be assessed by the person responsible for supervision or management in the risk assessment process. Employees or third parties must not work in confined spaces, if they are alone at the premises of a plant controlled by CEMEX. The plant manager or supervising person shall ensure that relevant procedures are in place in this regard.

12. Before work is performed in confined/restricted spaces, all relevant parties shall establish an emergency plan. It shall specify who can enter the confined/restricted space in case of emergency, if extraction of an injured person is not possible, as well as the circumstances under which this may occur, so as to ensure that rescuers are not exposed to danger.

The emergency plan shall also specify the relevant contact persons in the company and numbers to the relevant emergency services, such as fire brigade, police, gas, power and water supply emergency services. It shall also specify how the alarm is raised.

13. Training needs shall be specified for all persons who are likely to be involved in rescue operations. Training shall be relevant to the employee's role; refresher training shall be organized and provided regularly, for example once a year. Its frequency shall be determined by the conclusions of the risk assessment.

14. A system shall be implemented to ensure that all relevant parties know how to efficiently proceed in case of emergency. Where necessary, it shall involve the use of practical training. The risk assessment process shall be used to assess the frequency of any practical training in order to maintain the qualifications of the management and employees concerned.

Tips for confined/restricted spaces –

"Confined space" – a confined space is characterised by two features. Firstly, it is largely (though not completely) closed. Secondly, there is a reasonably foreseeable risk of serious injury caused by hazardous substances or conditions in this space or in its vicinity.

The specific risks referred to here are: –

- Serious injury due to fire or explosion,
- Loss of consciousness as a result of exposure to heat,
- Loss of consciousness or asphyxiation due to exposure to gases, vapours, fumes or lack of oxygen,
- Falling,
- Drowning in a liquid,
- Asphyxiation caused by suffocation by freely flowing loose or solid substances.

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Some restricted spaces can become **"confined spaces"** because of the nature of work performed, e.g. insufficiently ventilated room during paint spraying.

Examples of confined spaces in the context of CEMEX plants include –

- Solid silos – where there is a risk of being suffocated by materials or a risk caused by fumes resulting from repair work, etc.,
- Tanker trucks, where there is a risk of lack of oxygen or accumulation of fumes, etc.,
- Raw material and cement mills,
- Boiler drums & coolers,
- Cyclones on exchanger tower.

"Restricted space" – even where there are no foreseeable risks caused by the above-identified threats, and the entrance and exit seem to be relatively easy under normal circumstances, restricted spaces are those that would make exit from the workplace difficult and complicated in an emergency due to their physical limitations.

Examples of the restricted spaces in the context of CEMEX plants include (unless work expose persons to risks referred to above, thus making them "confined" spaces by definition) the following areas:–

- Concrete mixer drums – If there is a possibility of injuries that cause incapacitation / disease among employees.
- Storage hoppers – If there is a possibility of injuries that cause incapacitation / disease of employees.
- Deep trenches – If there is a possibility of injuries that cause incapacitation / disease among employees.
- Underground facilities (e.g. conveyors, substation basements, electrical cable ducts, etc.) – If there is a possibility of injuries that cause incapacitation / disease among employees.