Confined Spaces: Recognising Them and Working in Them Safely

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What Counts as a Confined Space Under UK Law

A confined space is not simply somewhere small or awkward to get into. Under the Confined Spaces Regulations 1997 it is any place that is substantially, though not always entirely, enclosed, where there is a reasonably foreseeable risk of serious injury from a specified hazard inside it. Tanks, silos, sewers, drains, inspection chambers, pits, ducts, unventilated plant rooms, cellars, vats, bunded areas and voids beneath floors can all qualify, and so can a slurry store or a grain bin.

Size and shape are not the deciding factor. An open-topped tank can be a confined space. A room that is perfectly normal most of the time can become one once certain work starts inside it, such as spray painting, degreasing or welding that fills the air with fumes faster than it can escape. Mixing vessels, basement plant rooms and manholes are common sources of risk in manufacturing and engineering and in construction work.

The regulations define the danger by reference to five specified risks: fire or explosion; loss of consciousness from a rise in body temperature; loss of consciousness or asphyxiation from gas, fume, vapour or lack of oxygen; drowning from a rising liquid level; and asphyxiation from a free flowing solid such as grain or sand, including being trapped in it. If entering a space could realistically expose someone to one of these, it is a confined space in law, whatever it is called on site.

Why Confined Spaces Kill So Quickly

The defining danger is the atmosphere, and it is often invisible. Oxygen can be depleted by rusting steel or bacterial action in organic residues, or displaced by another gas such as nitrogen or carbon dioxide. An oxygen deficient atmosphere gives no warning: there is no smell and no taste, just rapid loss of coordination followed by unconsciousness within seconds or minutes.

Toxic gases are just as dangerous. Hydrogen sulphide can accumulate in sewers, pits and slurry stores. Carbon monoxide can build up from a petrol or diesel engine running nearby, even outside the space itself. Flammable vapours from solvents or fuel residues can reach explosive concentrations without being obvious to the senses.

The grimmest and most consistent pattern is the multiple fatality. A worker collapses, a colleague climbs in to help, and the same atmosphere takes them too. That instinct to rescue is why the regulations require emergency arrangements to be in place before anyone enters, not improvised after something has gone wrong.

Who Is Responsible for Confined Space Safety

The employer or other duty holder in control of the premises carries the primary legal responsibility. These duties come from the Confined Spaces Regulations 1997, alongside the general duties in the Health and Safety at Work etc. Act 1974 and the requirement under the Management of Health and Safety at Work Regulations 1999 to carry out a suitable and sufficient risk assessment before work begins. On construction sites these duties sit alongside the Construction (Design and Management) Regulations 2015.

In practice, responsibility is shared across several roles: a competent person to carry out the risk assessment, a supervisor who authorises and oversees entry, trained entrants who are medically fit for the task, and a top person stationed outside who never enters and whose job is to monitor and raise the alarm. Workers must also cooperate and never enter a confined space without authorisation.

The Legal Hierarchy: Avoid, Then Control, Then Prepare

Avoid entry altogether

The first legal duty is to avoid entry where reasonably practicable. Can the work be done from outside using remote cameras or long reach tools, or by redesigning the task so nobody needs to go in? Ask this at the planning stage of every job, because engineering entry out is often cheaper and safer.

If entry is unavoidable, use a safe system of work

A compliant safe system of work for confined space entry typically includes:

- A competent supervisor and trained, medically suitable entrants
- Isolation of pipework, power and moving parts feeding the space

- Cleaning or purging where residues could release gas
- Atmosphere testing before entry and continuous monitoring throughout the work
- Ventilation, forced where necessary, to maintain a breathable atmosphere
- Intrinsically safe lighting and tools where a flammable atmosphere is possible
- Harnesses and lifelines, or breathing apparatus where the atmosphere cannot be made safe
- A top person stationed outside, in constant communication, who never enters
- A permit to work controlling exactly who enters, when, and under what conditions

Emergency arrangements before entry begins

Suitable rescue arrangements must be in place before anyone goes in. Calling 999 is not a rescue plan; it is one step within a plan, and the emergency services are not always equipped or trained for confined space retrieval. Arrangements must work without exposing rescuers to the same risk as the original casualty, which usually means retrieval equipment already rigged, rescue trained personnel on site or on call, and procedures that have been practised, not just written down.

Permits, Competence and Where Training Fits

A permit to work is the paper or digital control that ties the whole system together. A proper one names the individuals authorised to enter, states how long it is valid, records the atmospheric test readings taken before entry, confirms that isolations are in place, specifies the PPE and respiratory protective equipment required, and refers to the rescue plan. It must be signed off by an authorising person and formally cancelled when the work finishes.

Confined space entry and rescue training is a specialist discipline and should come from a dedicated confined space training and rescue provider. Where respiratory protective equipment is required, anyone wearing a tight-fitting mask also needs a face fit test to confirm it seals, which Integral Safety can arrange through our face-fit testing service.

Where Businesses Get Caught Out

The most common failure is not recognising the space at all. Typical examples are the routine annual clean of a tank, the quick look down a chamber to check a float valve, or a job that has always been done that way without anyone calling it confined space entry. Closely behind is a permit system that has become a paperwork exercise, filled in from memory rather than checked against the actual atmosphere and isolations on the day.

Other recurring issues include atmosphere testing before entry but no continuous monitoring once work starts, pipework left un-isolated because nobody thought a valve three rooms away was relevant, lone working into a space that needs a top person, and lifting and retrieval equipment that has not had the thorough examination required under LOLER. An independent audit, such as those we carry out under our auditing and inspections service, regularly picks up exactly this gap between paperwork and practice.

Reviewing Arrangements and Keeping Records

Confined space risk assessments and safe systems of work are not a one-off exercise. They should be reviewed after any incident or near miss, whenever the task, substance or space changes, and at regular intervals, since corrosion, new plant or a change of contractor can all alter the risk.

Records worth keeping include an up to date inventory of every confined space on site, the risk assessments and safe systems for each, completed and cancelled permits, atmosphere monitoring logs, training and medical fitness records for entrants, the written rescue plan, and inspection records for lifting and retrieval equipment.

Identifying every confined space on a site, writing the risk assessments and permits, and building a system that actually gets followed is detailed work, and it is where our competent person service and wider health and safety consultancy can help businesses across Coalville and the wider East Midlands. If your business has tanks, pits, chambers or poorly ventilated voids that need a proper review, contact Integral Safety before the next entry, not after the near miss.

Talk to Integral Safety Ltd

We are health and safety consultants based in Coalville, Leicestershire, working with businesses across the East Midlands. If anything in this guide applies to your workplace, we can help.

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This guide is general information about UK health and safety law and practice, correct as at 23 November 2026. It is not advice on your particular circumstances. The latest version is at https://integralsafetyltd.co.uk/blog/confined-spaces-recognising-and-working-in-them-safely.