

Unit 201: Health and safety in building services engineering

Outcome 6

Safety requirements for working safely in excavations and confined spaces

Trenches and excavations

Working in trenches is limited for plumbers, but sometimes it may be required on construction sites. The danger comes from collapse and falling objects.

- Planned
- Managed
- Supervised



Trenches and excavations

Excavations deeper than 1.2m **must** be supported.

- Ground type
- Ladder access
- Spoil stored away from edge
- Trench side must have barrier
- Vehicle stops
- LPG prohibited
- Emergency exit ladder
- Warning notices.



Trenches and excavations

When you are digging and excavating, even to install an incoming water main, always check the type of ground that is being dug.

- Clay tends to be more firm
- Sandy soil tends to collapse more easily.

If the ground is soft, the sides of the excavation can be sloped.

Safety first



Excavations

Rainwater harvesting systems:

- Sewers
- Drains
- Incoming water mains
- Ground source heat pumps
- Wells
- Plant rooms.

Confined spaces

- Flues
- Duct work
- Roof areas
- Sewers
- Under floors.



Confined spaces

Dangers

- Claustrophobia
- Lack of oxygen
- Collapse
- Build-up of fumes/vapours
- Fire and explosion
- Hot work conditions
- Flooding.

Confined spaces

Dangers

Working under a suspended floor in a domestic property has varied dangers:

- Stuck/trapped
- Fire risk if soldering
- Fume risk if soldering
- Vermin/insects
- Dust
- Sharp objects.

Confined spaces

A confined space is a place which is substantially enclosed (though not always entirely), and where serious injury can occur from hazardous substances or conditions within the space, or nearby (eg lack of oxygen).

The safety of personnel is important, so a suitable emergency escape route must always be maintained, and communication with people outside must always be held.

Confined spaces

- Training
- No lone working
- Correct PPE
- Lighting
- Ventilation
- Awareness of situation and hazards.