

A guide to workshop pit design, specification and standards

Reducing the risk for your workshop business

Levanta's consultants, along with our design & fabrication team, have looked through the Australian Standards and consulted with Safety Inspectors nationally to try to come up with an acceptable advice article, as there is nothing in OHS legislation that specifies the requirements for lighting, power, extraction or other safety measures in a pit. That's why it's necessary that you ensure a risk assessment is carried out for your business.

It is however important to note the Act and Regulations which form law:

Reference can be made to Occupational Safety and Health Act 1984 – Sect 19 for unguarded vehicle pits and safe systems of work and REG 3.11 for signage and warnings for falls into the pit.

Under the Act, employers have a duty of care to provide a safe working environment.



Carrying out a risk assessment for your business

It is recommended that a risk assessment is carried out to determine the most appropriate measures to reduce any risks present from carrying out work in the pit.

It is necessary to understand that a Risk Assessment is based on determining the worst possible case.

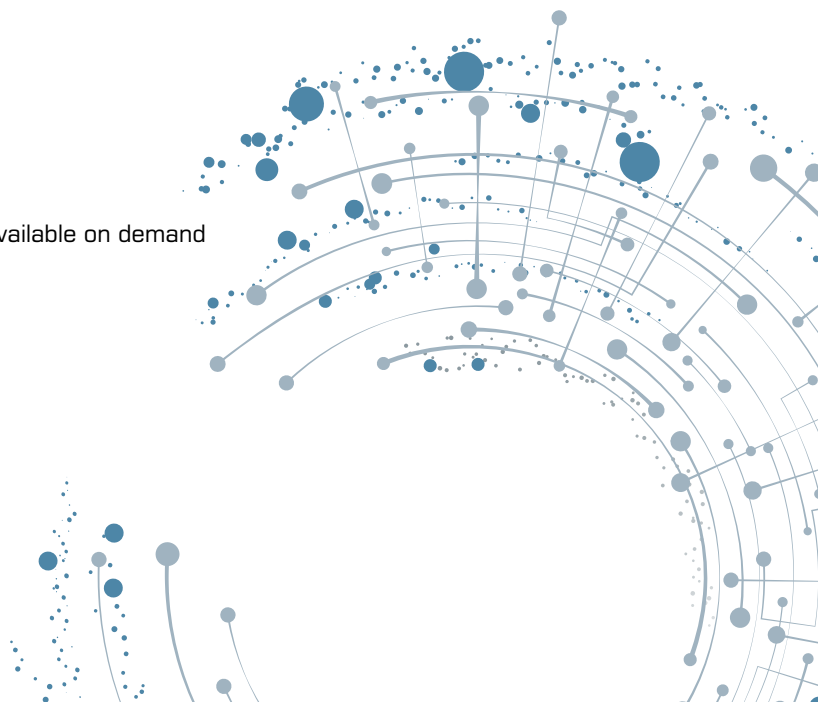
Factors that need to be considered:

- > Install signs restricting access to work area or create an inducted area
- > Consider mechanical ventilation
- > Check that vehicle placement leaves room to exit out of the pit in an emergency
- > Check availability of vehicle chocks
- > Consider Class 1 Zone 2 lighting
- > Consider using pneumatic powered tooling only, rather than electrical power tools that may create an ignition source
- > Restrict fuel pump/ fuel line work to areas that are clear of pit area
- > Consider pit cover system
- > Create an inducted area
- > Consider conducting soil testing to investigate the presence of noxious or dangerous gases that could leech through pit walls

The key hazards for working in and around vehicle service pits include but are not limited to:

- > Slips, trips and falls
- > Asphyxiation
- > Explosion or fire
- > Damage to plant or property

A valid risk assessment should always be filed and available on demand from an inspector or similar authority.



Areas for risk reduction in your workshop

1 Falls / trips

Like any workplace area (particularly high-risk areas), hazards may occur at guarding, signage, housekeeping, access and egress etc.

These points are suggested as a guide to help compliance with the OSH Act and Regs:

Fences and boom gates

Segregation can be used to afford a restricted and protected work area. This can also be facilitated by creating an inducted area.

Painting

Pit safety can be improved with the interior painted a light colour and the edges outlined 600mm in a conspicuous colour, such as yellow.

Signage

Adequate signage should be posted warning personnel of the dangers of an open pit, risk of dangerous gases, restriction of access to the area and stepping over the pit.



2 Ventilation

Without mechanical ventilation, a workshop pit (under AS/NZS 60079 ZA.4.1 and ZA.4.1.2.3) is deemed to be a Hazardous area either Zone 1 or Zone 2 (for Zone definition reference, AS/NZS 60079 clause 3.7 and 3.8) requiring considerations such as lighting or electrical equipment to be intrinsically safe. This Hazardous rating can be reduced to NH (Non-Hazardous) by providing mechanical ventilation complying with AS1482.

An alternative to ventilation may be the use of a gas sensor worn on the person or fixed in the pit, measuring CO, CO₂, and LEL. This is not recommended however due to the variations in result, with a fixed meter not picking up all layers of gas, and the inconvenience and damage likely to occur to a wearable unit.



3 Lighting

Adequate lighting mounted at the appropriate range to cast the best light to the underside of the vehicle is critical to providing a safe and efficient work area.

A value of 160 lux is recommended as a minimum for general work areas. We recommend lumens of 400-500lux for a workshop pit depending on activity. For precision and detailed works, the light level may even approach 750 lux.

A workshop pit without mechanical ventilation is a Zone 1 or Zone 2 hazardous area, therefore in this classification Class 1 Zone 2 lighting must be installed. Reference should be made to AS/NZS1680 Interior & Workplace Lighting.



4 Protection of personnel, pit and property

a. Jacking safety

Jacks are available with a visible, mechanical safety ratchet locking system. To mitigate risk choose the best and safest solution available – click here for more information. – www.levanta.com.au/hydraulic-lifting/pit-jacks

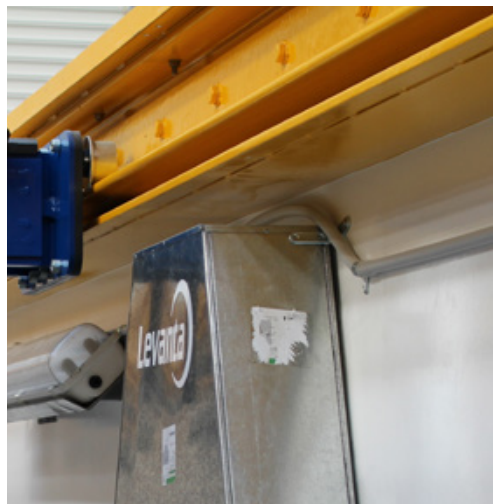
A very important part of safe jacking of vehicles in the pit is the pit rail that the jack runs on. Levanta's pit rails are engineered and ready to suit most applications. For more intense or specialised requirements we recommend a site-specific engineering signoff to ensure all expectations are met.

b. Wheel guides and stops

A good pit incorporates a wheel guide to guide the vehicle safely onto the pit and prevent the driver inadvertently driving into the pit. This guide also protects equipment such as jacks and oil drainers that run on the pit rails.

c. Pit covers

A range of pit covers are available, from netting to expandable covers and automatic doors. A good solution should always be based on the results of your risk assessment.



5 Egress

Under the building code (BCA) access stairs need to comply with AS / NZS 1657. This usually means a set of stairs at one end of the pit, an escape ladder at the other, and allowing sufficient pit length to clear the vehicle.

For pits servicing longer vehicles you may also consider side access stairs, allowing technicians and mechanics to access the pit without crawling out from under the vehicle.



Contact Levanta for more information about workshop pit design

All advice given is general in nature. This article should be treated as a useful guide only.

You will need to carry out your own due diligence on the suitability of the solution for your specific site and operational demands.

To find out more, contact Levanta's workshop team on 1300 577 541 or get in touch online.



NATIONAL SALES

p 1300 577 541

e sales@levanta.com.au / **w** www.levanta.com.au

Queensland / New South Wales / Victoria / South Australia / Western Australia

1300 577 541

www.levanta.com.au