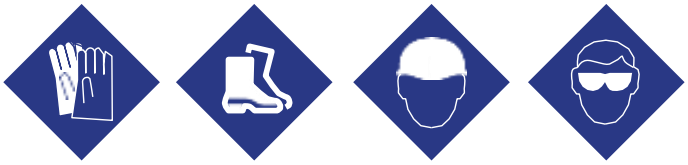
Smooth Wall Shoring Shields

Hazard and Risk Assessments

Before using this equipment, the job you are doing must be assessed for foreseeable hazards and risks and appropriate measures to eliminate, control or reduce those risks must be taken before you commence work.

Suggested PPE (Personal Protective Equipment):



Protective Gloves | Protective Footwear | Hard Hat | Eye Wear

Note: PPE must be suited to the risks and person(s) using the equipment.

Safety Instructions:

1. **Operating Instructions** – Before using this equipment ensure you have read the 'Operating Instructions' and taken note of the 'Hazards and Risks' detailed on this instruction sheet and taken all necessary steps to prevent injury.
2. **Personal Protective Equipment** – Use appropriate personal protective equipment for the job.
3. **Installation Advice** – The safe use and application of this equipment must be in accordance with AS3610, the Occupational Health and Safety Act, approved Codes of Practice and any other regulatory requirements. Consultation with a qualified engineer is advised.
4. **Excavator Lifting Capacity** – Always ensure excavator/crane lifting capacity is sufficient to lift trench shields, allowing for soil friction/ suction loads.
5. **Lifting Chains** – Ensure lifting equipment has sufficient capacity.

HAZARD: Risk of Structural Collapse and Crushing

... Incorrectly installed or rated trench shields systems may cause structural collapse.

... Consultation with a qualified engineer is advised.

Smooth Wall Shoring Shields

Smooth Wall Shoring Shields have many different names for the same protective system.

Trench shielding comes in a variety of sizes and shapes but basically it is composed of the panels made from aluminium held apart by steel struts at both ends, and held in position with pins and clips.

Installation of trench shielding can require site preparation depending on the job requirements. It is critical to understand the capabilities and regulations governing the use of trench shielding before you use them.

Shore Hire supplies different systems depending on the size of the excavation and ground conditions encountered. Always ensure that the system you have selected is suitable for the ground conditions on your site.

Inspection

The designated competent person will inspect all components of the shoring system prior to use, as well as daily and when changes in job site conditions require. Any damaged, defective or inadequate components shall be repaired or replaced.

Safety Recommendations

A) A competent person needs to understand the regulations relating to OH&S and the Excavation Code of Practice and determine proper protective system requirements.

B) Ensure that all personnel are wearing proper personal protection equipment.

C) Always make sure lifting equipment is adequate for the task and meets OH&S requirements. Please note that tie-down chains and other improvised slings are not appropriate as lifting devices.

D) **Depth Operation –** Each trench shield is designed to a maximum shield capacity in K.P.A load. Care must be taken to ensure maximum capacity is not exceeded.

E) Include surcharge load in your calculations when determining your shoring requirements. Surcharge loads include:
1) SITE TRAFFIC
2) ADJACENT TRAFFIC
3) EXCAVATED SPOIL FROM THE EXCAVATION
4) NEARBY BUILDING
5) EXCAVATOR OR CRANE

F) Keep both the machine and the shield away from soft ground around the excavation. If excavating in very soft ground make sure you have a machine with enough reach, so as not to be putting surcharge load on top of the excavation.

Assembly Procedures

1. All damage shall be evaluated and repairs made under the direction of a registered professional engineer. All missing or damaged components shall be replaced.
2. All lifting and pulling equipment, (including slings, chains, shackles and safety hooks) used to handle shields or components shall be evaluated for lifting capacity, and inspected for damage or defects, prior to use, by experienced operators and shall meet OH&S requirements.
3. All speed struts shall be pinned and adjusted to correct length required.
4. Lay the first panel on the ground with waler rails facing up.
5. Insert speed struts into waler rails and insert locking pins.
6. Lower second panel onto speed struts with the waler rail facing down and insert locking pins.
7. Attach 4 leg lifting sling to lifting eyes and stand up the shield.

Installation Procedures

1. Shoring shields shall be inspected by a competent person before using.
2. Speed struts, pins with keepers and accessories shall be in place before using the shoring shields.
3. Insert speed struts into waler rails and insert locking pins.
4. Place shoring shield adjacent to the trench being shored. Inspect entire system for possible damage.
5. Excavate to desired depth. The face of the excavation must be cut near vertical and straight.
6. Lift and place the shield in trench. When the shoring shields is used in the static mode the gap between the shoring shield and the excavation face shall be no more than 150mm on both sides.
7. Remove the lifting slings from the shoring shield.
8. Backfill on each side of shield.
9. The top of the shoring shield shall be level with the top of the excavation or above it.
10. In the static mode shoring shields may be stacked vertically 2 high with approved stacking brackets.

Tabulated Data

ALUMINIUM SMOOTHWALL SHIELDS				
Description	Max Internal Width	Minimum Weight	Clearance Below Struts	Safe Working Load
1.8m x 1.8m	2045mm	425kg	815mm	48kPa
1.8m x 2.4m	2045mm	525kg	1930mm	33kPa
2.4m x 2.4m	2045mm	615kg	1930mm	23kPa
2.4m x 3.0m	2045mm	850kg	2530mm	21kPa

Typical Installation of Shoring Shield

This set of smooth wall shoring procedures is a general set of guidelines to assist the competent person in the installation and removal of shoring shields. The competent person has sole responsibility for the job site safety and proper selection, installation and removal of the shoring and shielding equipment.

Removal Procedures

1. Re-attach slings to each lifting point.
2. Lift the shield out of the trench and place it on flat ground. Repeat if stacked shields are used.
3. Remove lifting chains and backfill immediately.

SCAN ME FOR TECH DATA

RISK ASSESSMENT (1= HIGH RISK, 5 = LOW RISK)

Risk (Ranking)	Description	Control
1	Installing shoring shields in unstable/shifting ground could cause personal injury.	Always ensure no person enters the shield during installation.
2	Overloading the stated capacity of the shield could create possible collapse of the shield.	Strictly follow the engineers advice. Do not overload the capacity of the shoring shield.
3	Installing shoring shields without following operating instructions may cause systems to fail.	Adhere to operating instructions to ensure shields are only installed in the correct manner.
3	Cuts and grazes may occur from improper handling procedure.	Observe safety procedures always wear protection.
3	Dropping units, trapping feet mishandling.	Follow safety procedures and operating instructions.