

Modular Aluminium Panel Shield (M.A.P.S)

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:

- 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.
- Personal Protective Equipment** – Use appropriate personal protective equipment for the job.
- 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.
- Excavator Lifting Capacity** – Always ensure excavator/crane lifting capacity is sufficient to lift trench shields, allowing for soil friction/suction loads.
- 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.

Trench Boxes and Shields

Trench boxes and 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 steel or 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 competent person needs to understand the regulations relating to OH&S and the Excavation Code of Practice and determine proper protective system requirements.
- Ensure that all personnel are wearing proper personal protection equipment.
- 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.
- 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.
- Include surcharge load in your calculations when determining your shoring requirements. Surcharge loads include:
 - SITE TRAFFIC
 - ADJACENT TRAFFIC
 - EXCAVATED SPOIL FROM THE EXCAVATION
 - NEARBY BUILDING
 - EXCAVATOR OR CRANE
- 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.

General Notes

The Shore Hire Modular Aluminum Panel Shield (M.A.P.S) is an adjustable, personnel protection device specifically designed and engineered to provide excavation safety protection for utility workers.

The systems are manufactured in full compliance with applicable (OH&S) regulations.

Application

The M.A.P.S system provides a trench shielding system that can be configured on the size of the excavation. The configurations are as a two-sided, three-sided, or four sided shield. The system is comprised of aluminum panels, end members, adjustable spreaders, and pins with keepers.

The aluminum panels are 619mm tall and range in length from 610mm to 2440mm long.

The M.A.P.S system is ideal for utility maintenance and repair of cable splice pits, plumbing repairs, sewer and water pipe repairs and other light utility installations.

Operating and Safety Instructions

www.shorehire.com.au

Assembly Procedure

1. A competent person before assembly shall inspect all M.A.P.S components.
2. Any damage shall be evaluated and repaired or replaced. All missing or damaged components shall be replaced with genuine shore hire replacement parts.
3. All lifting equipment including (cables, slings, chain and shackles) used to handle M.A.P.S or components shall be checked for lifting capacity and inspected. For damage or defects, prior to use by experienced personnel and meet OH&S requirements.
4. Approved safety devices shall be utilized to keep employees away from loads while being lifted.
5. Each 610mm high panel shall be pinned to each end member using two pins, unless a horizontal joint occurs in the end member panel.
6. End members: All horizontal joints in the end members shall occur at the mid-height of a 610mm panel. The 610mm panel shall be pinned to the two butting end members using two pins above the joint and two pins below the joint.
7. M.A.P.S Panels: A system shall consist of 2, 3, or 4-sided configurations.
8. All assembly of M.A.P.S systems shall be done in a safe area. This can be the area adjacent to the excavation or assembly of the M.A.P.S system from the top down in excavation. No personnel shall be in an unprotected area of the excavation during assembly.

PLEASE NOTE: Final removal procedures to be determined by a competent person on the jobsite based on backfill requirements.

Installation Procedures

1. Attach appropriate 4-leg lifting sling to lifting eyes located in each end member.
2. Move the M.A.P.S system until it is adjacent to the trench. Excavate to desired depth.
3. Lower the M.A.P.S system into the correct position in the trench. It is advisable to connect a tag line to the system to position the shield in order to keep employees back from the edge of the trench during this process.
No personnel shall be allowed in the shield while it is being lifted into the excavation.
4. Remove slings from end members lifting eyes.
5. Backfill on each side of the shield, the M.A.P.S system is now ready for use.

Removal Procedures

1. Attach 4-leg sling to lifting eyes located in each end member.
2. Lift the M.A.P.S system out of the trench and place on relatively flat ground.
3. **NO** person shall be allowed in the shield while it is being lifted out of the excavation.
4. Backfill immediately.



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.