

Trench Boxes Safety Information and Instructions

1.0 General Information

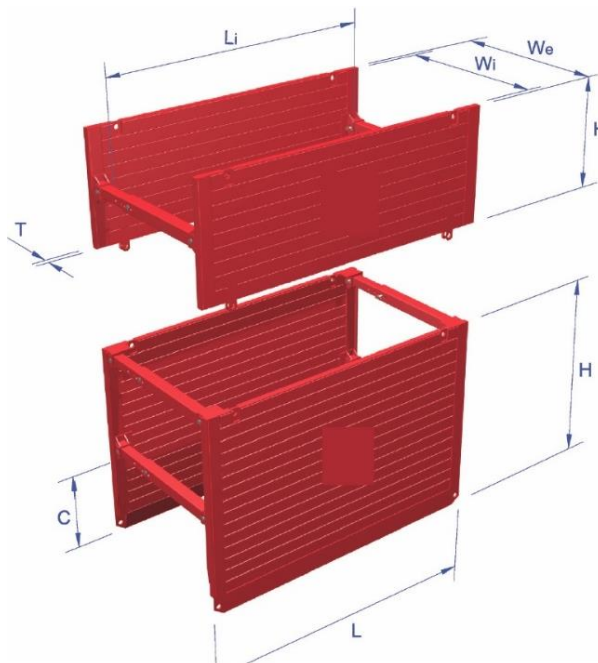
- Trench boxes are simple, robust, two-sided mechanical excavation support systems with integrated return/end panels designed to be installed by an excavator utilizing the dig and push technique.
- They are manufactured and designed in compliance with BS EN 13331: 2002 PARTS 1 and 2 Trench Lining Systems.
- Boxes are fabricated from Grade S355 steel.
- The panel resistance safe working load (SWL) for MGF trench boxes is 40kN/m².
- They are ideal for handling by small-sized excavators.
- They have a clearance under the lower strut which is 900mm.
- Trench boxes provide a fast, safe, and economical method of ensuring trench safety.
- A site- specific risk assessment must be completed prior to the use and suitability of this equipment.
- Marwoods also recommends that a suitable 4 leg lifting chains is used when turned upright (10mm x 6.7 tonne).

MGF square sockets component list

	Size (mm)	Weight (kg)	Struts	Struts pins & R clips	Connector pins & clips
Base Unit	3000 x 2000	1360	4	12	N/A
Top Unit	3000 x 1100	730	2	6	4

Technical Specification

Description	3000x2010 Base	3000x1100 Top
L x H		
Max Depth** (m)	4.19	N/A
Panel Resistance SWL (kN/m ²)	45	45
Panel Thick/ Weight T(mm)/(kg)	60/586	60/320
Internal Trench Width* Wi(mm)	605-3625	605-3625
Trench Width* We(mm)	725-3745	725-3745
Clearance Below Bottom Struts C(mm)	903	N/A
Clearance Between Struts Li(mm)	2716	2716



The principal contractor must carry out suitable checks to make sure those carrying out the work are fully trained and that safe working practices are always followed on site. When selecting trench support systems, careful consideration should be given to appropriateness for the task at hand. Matching trench box sizes to the installed drainage can significantly reduce the number of trench box joints, thereby minimising pinch point risks.

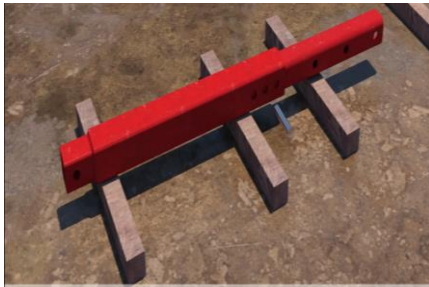
2.0 Safety Instructions

- Only qualified authorised/suitably trained personnel should be allowed to operate trenches and accessories.
- The competent person must plan, manage and supervise the installation, alteration or removal of excavation support project.
- Correct manual handling techniques must always be used and PPE as detailed in the specific risk assessment must be worn at all times. Pinch points must be included and a hierarchy of control should be applied to mitigate this specific hazard effectively.
- A land and ground survey must also be carried out to check also for any utilities (electrical, cables and gas or water supply) below the Manhole. It is recommended the use of gas detector and breathing equipment.
- Continually monitor groundwater, soil and air by sight, smell and use gas detection equipment when working in excavation.
- Boxes should only be used in the configurations shown in section 1.0.
- Boxes should not be used in very weak ground (especially very soft clays and peats) or where significant groundwater is present.
- Boxes are not suitable for usage in trenches with multiple service crossings.
- Boxes are not normally suitable for usage where ground movement is an issue and are therefore not recommended for use in live carriageway situations or adjacent to existing buildings / structures.
- Lifting of the box above the base of the excavation is strictly prohibited.
- Boxes should not be left in-situ for extended periods within cohesive soil as adhesion on the panel surfaces may prevent safe removal.
- The operating instructions should be always available.

Ladders must be present around the excavation to provide easy access in and exit in the trenches. (usually about 8 metres or less)

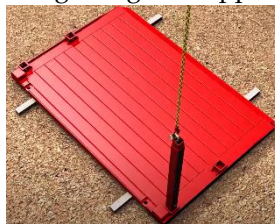
3.0 Installation Guidelines for Trench Box Assembly

Before commencing installation, all components must be laid on ground on timber skids. Panels should be laid so that the strut pockets are facing skyward.



The

telescopic strut should be built up to the correct length by inserting the inner struts into the outer securing using the supplied connecting pin and r-clips



- 1) Always install/remove the system from a position of safety. Place a Trenchbox panel on its back and carefully lower the assembled strut into the strut pockets using a suitably rated shackle.



- 2) Secure with a pin and r-clip. Make sure to take extra care throughout this operation due to finger trap hazards. Pin should be inserted from the outside of the panel.



3) Attach the remaining struts into the three remaining pockets on the Trench box Panels.



4) Using an excavator gently lower the second Trench box panel over the struts and secure using pin and r-clips.



5) With the box laying on timber skids on stable ground, attach a two-leg chain to the handling point of the upper panel and using an excavator orientate the Trench box into vertical position as shown above.

Note: As the handling of this equipment has an increased risk with it. Care must taken to avoid the equipment slipping causing injuries or trapping. The area must be cleared from unauthorised personnel.

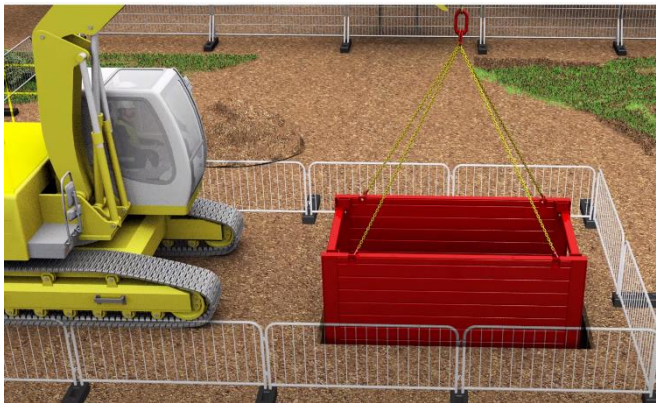
4.0 Installation Guidelines using the Trench Boxes



1) Mark out the digging area. Place pedestrian barrier around the excavation area. Start with 1m depth.



2) While digging, the spoil must be located away from the excavation and its zone of influence.



3) Lower the assembled Trenchbox into the excavation.



4) Operatives on even ground to remove chains only if the box upstand is 1m above ground level.



5) These barriers are temporary control measure to highlight the open excavation hazard.

Marwood Group Ltd recommends using the Edgesafe panel as soon as possible

Marwood would always recommend the use of Edge Safe Panels which conform to the latest Temporary Edge Protection Systems legislation BS EN13374 and keeps operators safe from open excavations.



6) Dig the next state of the excavation.

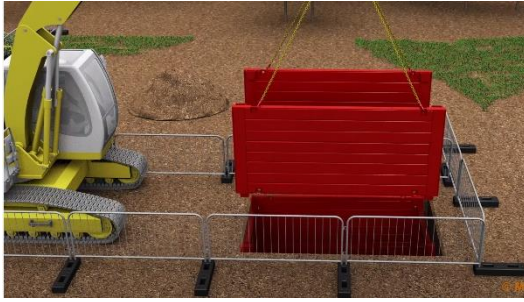
7) using the excavator bucket, gently push down each corner of the Trench box



8) Level off ground prior to movement of pedestrian barriers.



9) Operative to check the correct dig depth. Approximately 200mm upstand of the box is recommended before a top box is installed.



10) Using an excavator, lower the Trenchbox top onto the Trench box base. Marwoods do not recommend that more than 2 Top units to be used with any one Base unit.

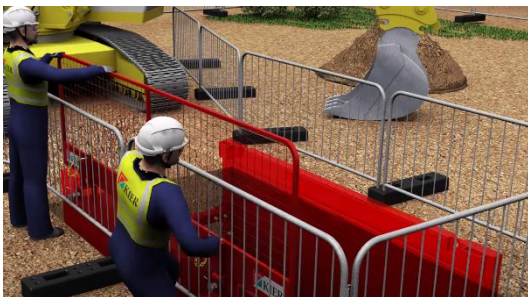


11) Operatives behind the pedestrian barriers to attach the top to the base using pins and r-clips, either side of the Trenchbox.



12) Operative to remove chains from top box.

13) Using the excavator bucket repeat the dig and push process. 300mm increments



14) Behind pedestrian barriers, two operatives attach edgesafe and secure with clips and r-clips



15) To close off the open edge of the trench walls, trench sheet or edgesafe panels can be used. Using the excavator quick hitch, gently push on the trench sheet until it has reached the required depth.

16) Install remaining sheets at either end of the excavation using the same procedure.



17) If a ladder safe platform is required, lower the platform over the Trenchbox panel and secure with pin and r-clips.



18) The ladder must be 1m beyond the ladder pole. Secure the ladder with a minimum 3m of rope

Note: Flying of the box above the base is not recommended.

Removal of the Trenchbox

The above process is used in reverse to safely remove the installed Trenchbox. When the pipes have been installed, the Trench Box is removed by applying a sudden upward force to break the friction/adhesion between the panels and the soil. The Trench Box should be progressively withdrawn, as the excavation is backfilled.

5.0 Maintenance & Inspection of Trench Boxes

- A visual inspection is required to be carried by a competent person before and after its use.
- A competent person must inspect excavations at the start of each shift before work begins, after any event likely to have affected the strength or stability of the excavation and after any accidental fall of rock, earth or other material.
- Any distortion, damage or security concern about the boxes or its accessories must be reported to the competent person and the box must not be used until it is deemed safe.
- Make sure that the connector pins and R-clips are in good condition.

A written report should be made after most inspections. Stop work if the inspections show the excavation or equipment is unsafe.

Transportation Notes

- The panels will be supplied by Marwood Depot according to the specified configuration.
- When collecting the panels for transportation back to Marwood Depot, ensure that they are properly laid flat as shown in the provided photo.
- Place sets of wood bites in between the panels, ensuring that the opposite ends are on top of each other to prevent movement during transit.
- It is crucial to securely strap the panels to the lorry to prevent any hazards during transportation.
- Take extra care when loading and unloading the load to ensure the safety of personnel and equipment.



This equipment must not be modified

All pictures shown are for illustration purposes only. Colors may appear different on computer monitors and cell phone screens.

The principal contractor and site personnel are advised to familiarize themselves with the following regulations and resources:

[The Construction \(Design and Management\) Regulations 2015](#)

[Health and Safety at Work etc. Act 1974](#)

[Good Practice and Safety Topics from HSE](#)

Please note that web links may be broken. If that is the case, please search the description provided above in your preferred search engine.

[Visit our website URL for more details and a copy of the Instructions](#)