

**INSTALLATION GUIDE**  
**LITE Guard Aluminium Trench Box**



**LITE Guard Aluminium Trench Box**  
**INSTALLATION GUIDE**

Issue No: 01 Issue date: May 2019	Sheet 1 of 8	National Trench Safety can support your project. Call our National Team - 03332 076 007
NTS (UK), Unit 28 Moor Lane Trading Estate, Moxon Way, Sherburn in Elmet, Leeds, LS25 6ES.		The information contained within these data sheets remains the property of NTS (UK) and is not to be altered or reproduced without written permission. NTS (UK) reserves the right to change any data without giving prior notice. ONCE PRINTED - UNCONTROLLED

# INSTALLATION GUIDE

## LITE Guard Aluminium Trench Box



### Introduction

This guide is intended to provide basic information for users of the LITE Guard Aluminium Trench Box and to draw the clients attention to the practical aspects of handling, assembly, installation and use, which need to be considered in compiling a Safe System of Work.

The LITE Guard Aluminium Trench Box is intended for use in trenches where the excavation is being undertaken using small excavators, which do not have the lifting capacity to work with heavier, steel trench boxes.

All major components of the LITE Guard Aluminium Trench Box have handling and lifting points, for safe slinging. It is assumed that clients are familiar with general safe practices, applicable to trenching and excavation works.

Users should ensure that the length and width of the box is sufficient for the work to be carried out. The LITE Guard Aluminium Trench Box is intended to act as a shield, to provide a safe working area for operatives working in the trench. It is not intended to provide significant support to the trench sides and is therefore intended for use only in dry, stable ground, which stands to the excavated depth.

### Design

The LITE Guard Aluminium Trench Box is designed to carry a uniform lateral earth pressure of 20kN/m<sup>2</sup>.

Users are advised to check that their excavation arrangement will not impose greater working pressures than these. Conditions which will increase the likelihood of trench wall instability and lateral earth pressure include:

- Close proximity of structures.
- Excavated or construction materials adjacent to the trench.
- Close proximity of site roads.
- Close proximity of railways.

**Users should note that settlement of the reinstated ground and ground next to the Aluminium Trench Box is likely to occur after backfilling.**

Issue No: 01 Issue date: May 2019	Sheet 2 of 8	National Trench Safety can support your project. Call our National Team - 03332 076 007
NTS (UK), Unit 28 Moor Lane Trading Estate, Moxon Way, Sherburn in Elmet, Leeds, LS25 6ES.		The information contained within these data sheets remains the property of NTS (UK) and is not to be altered or reproduced without written permission. NTS (UK) reserves the right to change any data without giving prior notice. ONCE PRINTED - UNCONTROLLED

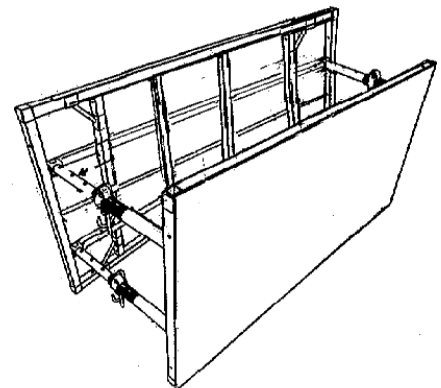
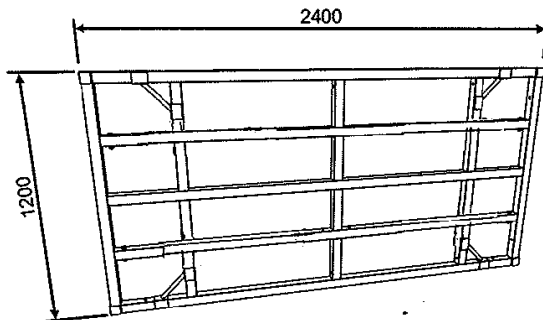
# INSTALLATION GUIDE

## LITE Guard Aluminium Trench Box

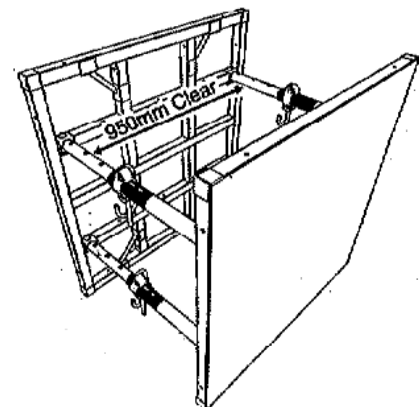
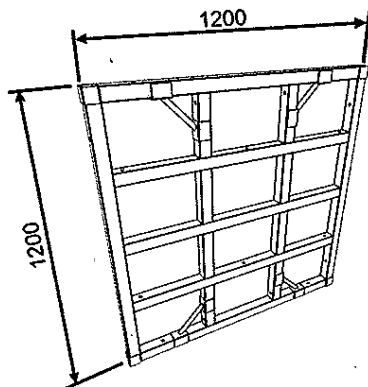


### Components

**Standard Panel:** 2400mm x 1200mm (Panel Weight 55kg)  
2400mm x 600mm (Panel Weight 30kg)

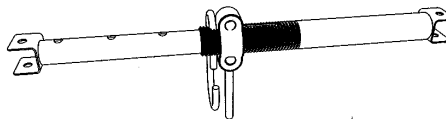


**Short Panel:** 1200mm x 1200mm (Panel Weight 30kg)

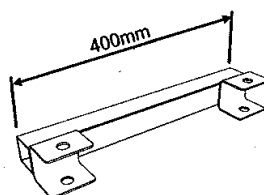


**NOTE:** Always allow for sufficient clearance for the excavator bucket, to work comfortably within the internal width of the side panels, when selecting a shield width.

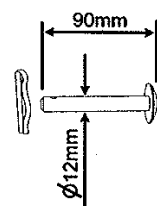
**Adjustable Struts:** 600mm - 900mm  
1000mm - 1800mm



**Extension Joiner Connector:**



**Strut Pin:**



Issue No: 01 Issue date: May 2019	Sheet 3 of 8	National Trench Safety can support your project. Call our National Team - 03332 076 007
NTS (UK), Unit 28 Moor Lane Trading Estate, Moxon Way, Sherburn in Elmet, Leeds, LS25 6ES.		The information contained within these data sheets remains the property of NTS (UK) and is not to be altered or reproduced without written permission. NTS (UK) reserves the right to change any data without giving prior notice. ONCE PRINTED - UNCONTROLLED

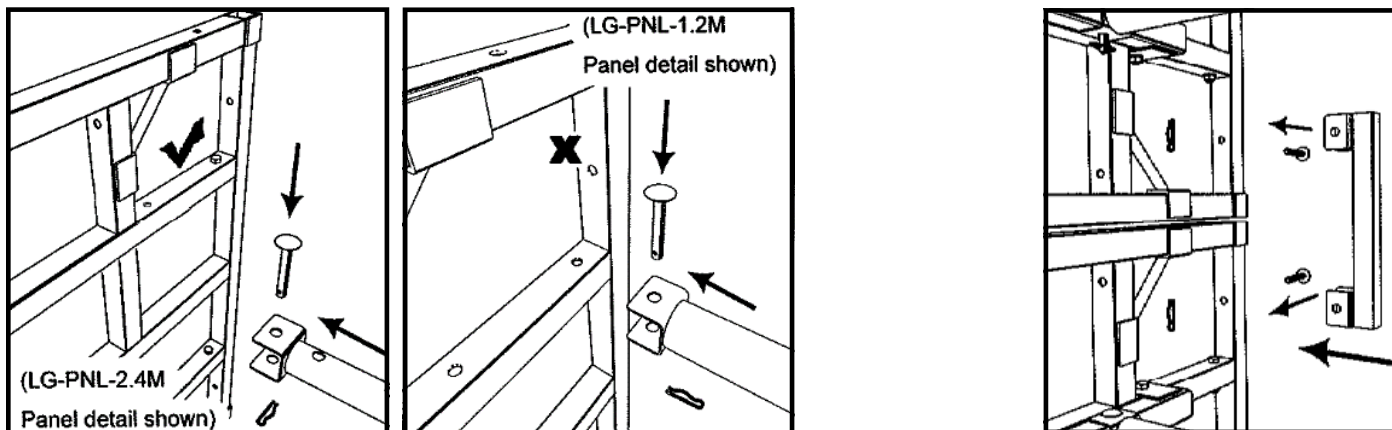
# INSTALLATION GUIDE

## LITE Guard Aluminium Trench Box



### Components Connections

All connections are via the 12mm diameter X 90mm long pin and secured with 'R' clip.



Struts are pinned to the panel via outer holes in horizontal section of frame (LG-PNL-1.2M). There are several spreader locations within the panel. The LITE Guard Trench Box can be used vertically for small excavations.

Extension connector (joiner) is pinned via holes in the vertical section of frame, at each end of the panel.

### Off Loading and Site Handling of the LITE Guard Aluminium Trench Box

Health and Safety Legislation requires that personnel deployed are suitably trained, experienced and supervised by a competent person.

The main activities associated with the LITE Guard Aluminium Trench Box installation are:

- Unloading the delivery vehicle.
- Pinning the components together.
- Lifting the assembled box into and out of the trench.

### Plant for Lifting

The lifting capacity and clearance under the lifting point should be checked against the sizes and weights of the box components and against the assembly / dismantling stages.

**WARNING: If an excavator is being used for lifting operations, lifting chains should be used.**

### Lifting Chains

Lifting Chains of suitable length and capacity (complete with current test certification). Typically for Aluminium Trench Boxes a set of 4 leg 10mm chains should be used, complete with safety hooks and shortening clutches.

Issue No: 01 Issue date: May 2019	Sheet 4 of 8	National Trench Safety can support your project. Call our National Team - 03332 076 007
NTS (UK), Unit 28 Moor Lane Trading Estate, Moxon Way, Sherburn in Elmet, Leeds, LS25 6ES.		The information contained within these data sheets remains the property of NTS (UK) and is not to be altered or reproduced without written permission. NTS (UK) reserves the right to change any data without giving prior notice. ONCE PRINTED - UNCONTROLLED

# INSTALLATION GUIDE

## LITE Guard Aluminium Trench Box

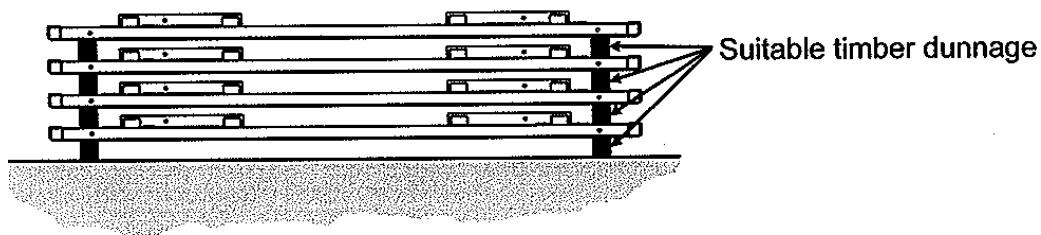


### Edge Protection, Access and Hard Standing Areas

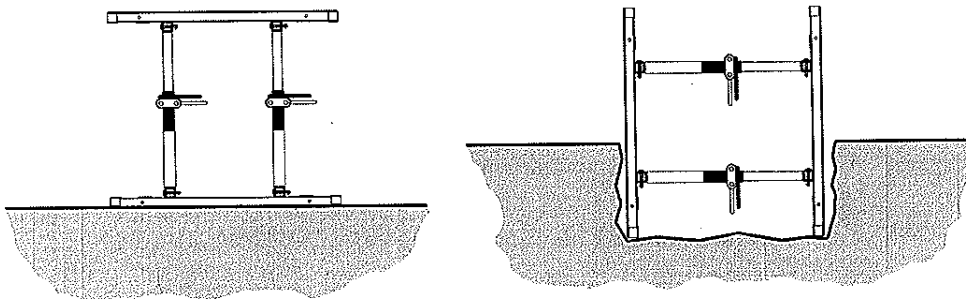
- Suitable area to off-load the truck and assemble the Aluminium Trench Shield.
- Suitable hard standing for the machine to operate to lift the shield into the trench.
- Suitable access equipment (ladder or staging) for connection / removal of lifting chains.
- Edge protection, ladders and possibly other provisions to provide safe access into and out of the trench.

### Stacking, Handling and Transportation (In Dismantled Form and in Transit)

LITE Guard Aluminium Trench Box panels and spreader bars should be stacked as shown, with suitable timber dunnage. (Max 4 panels per stack). Adjustable Strut components and pins, etc. should be stored in skips / bins. During transportation stacks should be securely restrained to the vehicle bed.



If not in use, separate aluminium trench panels from each other. Shields should be stored on their side or temporarily dug in when not in use. Uneven or sloping ground and / or wind loading can result in inadequate stability if left up-right.



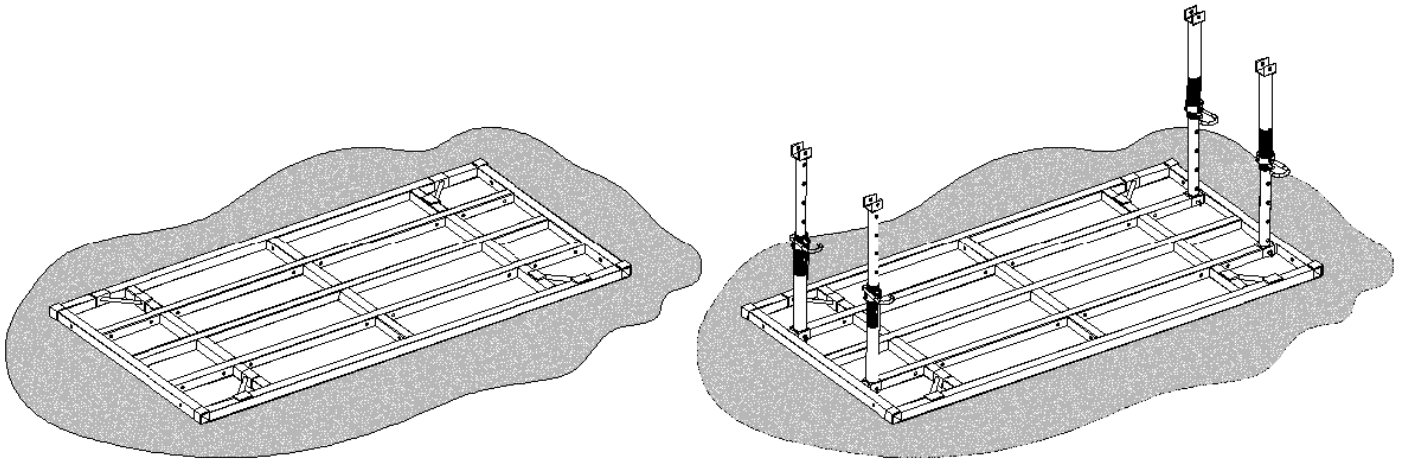
Issue No: 01 Issue date: May 2019	Sheet 5 of 8	National Trench Safety can support your project. Call our National Team - 03332 076 007
NTS (UK), Unit 28 Moor Lane Trading Estate, Moxon Way, Sherburn in Elmet, Leeds, LS25 6ES.		The information contained within these data sheets remains the property of NTS (UK) and is not to be altered or reproduced without written permission. NTS (UK) reserves the right to change any data without giving prior notice. ONCE PRINTED - UNCONTROLLED

# INSTALLATION GUIDE

## LITE Guard Aluminium Trench Box



### Site Assembly of Aluminium Trench Shields (dismantling is reverse procedure)

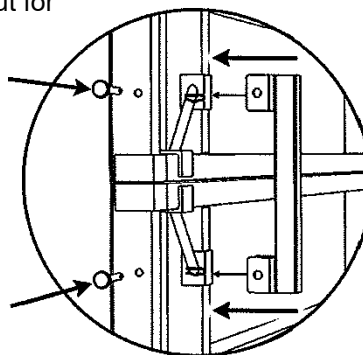


- I. Lay the first panel flat on the ground, rib side up.
- II. Pin 4 Struts into the panel using the pins and 'R' clips
- III. Lift the second panel onto the other and pin to the struts, once secured lift the unit up right using the chain sling - The shield assembly is now complete

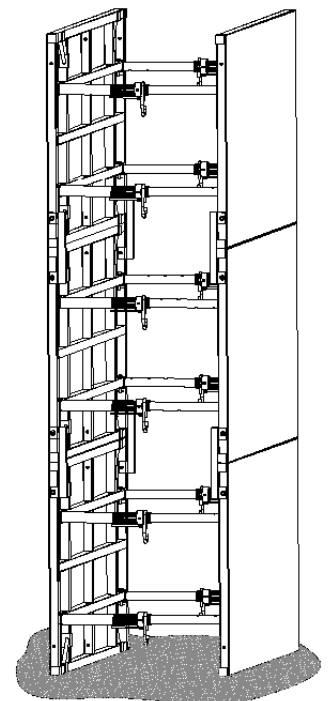
### Installation of LITE Guard Aluminium Trench Box

Set the struts to give the required shield Width. The strut length is changed by relocating the pin for coarse adjustment and by Screwing the collar in and out for fine adjustment.

100mm inside the strut outer.  
Check all pins and 'R' clips are in place



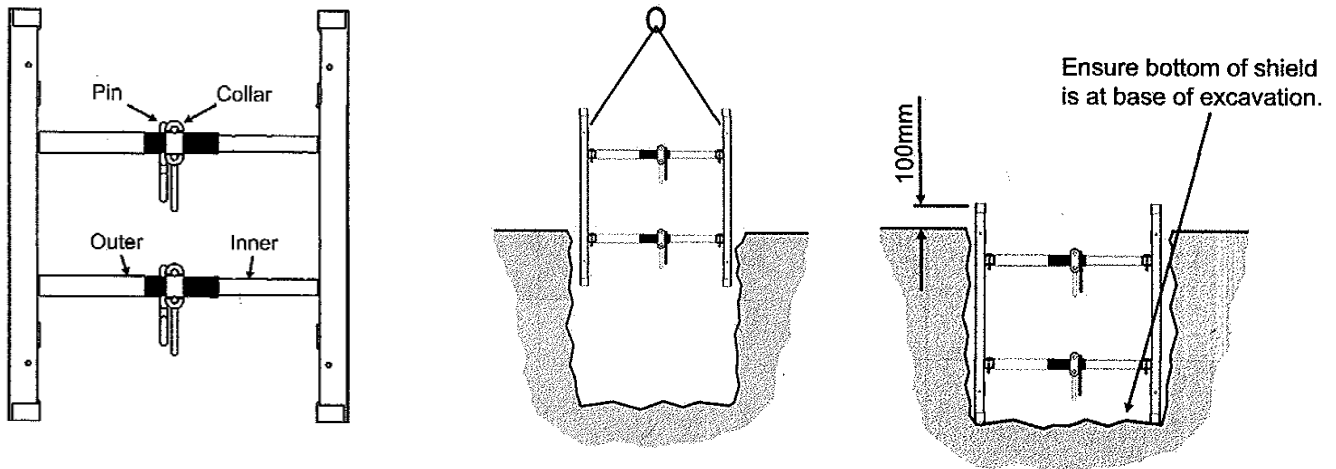
If the trench depth requires multiple trench boxes, they can be connected on top of each other (to a maximum of three trench boxes). Assemble each shield and set the width. Each additional trench box is then lifted onto the previous box and connected using 4 extension joiners, complete with pins and 'R' clips.



<p>Issue No: 01 Issue date: May 2019</p>	<p>Sheet 6 of 8</p>	<p>National Trench Safety can support your project. Call our National Team - 03332 076 007</p>
<p>NTS (UK), Unit 28 Moor Lane Trading Estate, Moxon Way, Sherburn in Elmet, Leeds, LS25 6ES.</p>		<p>The information contained within these data sheets remains the property of NTS (UK) and is not to be altered or reproduced without written permission. NTS (UK) reserves the right to change any data without giving prior notice. ONCE PRINTED - UNCONTROLLED</p>

# INSTALLATION GUIDE

## LITE Guard Aluminium Trench Box



Once the trench is excavated to formation, lift the panels using the four leg.

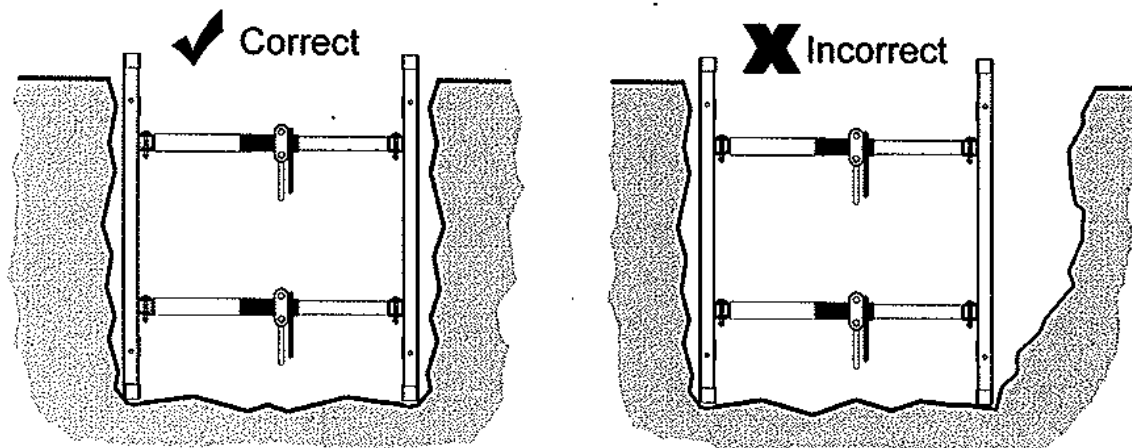
**NOTE: DO NOT lift the panel with the chain sling attached to the struts.**

Once the shield is in place, remove the four leg chain. If the base of the shield is not on the bottom of the excavation, **GENTLY** push down with the excavator on each panel, to make sure the shield is safely in place, and will not move within the excavation.

Ensure the struts are horizontal and at right angles to the panels before entering the trench.

**NOTE: DO NOT use any unsupported part of the trench for access. Leave the top of the shield 100mm above the surrounding ground level.**

**Before Entering the Trench:**



Ensure there are NO large voids between the panels and the trench sides, as this may allow the LITE Guard Trench Box to sway sideways.

The trench should be dug slightly wider than the external trench box dimension.

Issue No: 01 Issue date: May 2019	Sheet 7 of 8	National Trench Safety can support your project. Call our National Team - 03332 076 007
NTS (UK), Unit 28 Moor Lane Trading Estate, Moxon Way, Sherburn in Elmet, Leeds, LS25 6ES.		The information contained within these data sheets remains the property of NTS (UK) and is not to be altered or reproduced without written permission. NTS (UK) reserves the right to change any data without giving prior notice. ONCE PRINTED - UNCONTROLLED



# INSTALLATION GUIDE

## LITE Guard Aluminium Trench Box



**NATIONAL  
TRENCH SAFETY**

### Entering the Supported Excavation:

- DO Use a ladder to enter the working space between the struts of the shield.
- DO wear a safety helmet to minimise the risk of head injury.
- DO ensure that the excavator operator is aware of your intentions.
- DO NOT climb up or down the struts.
- DO NOT use any unsupported part of the trench for access.
- DO NOT move the shield when personnel are inside it.

### Extraction of the LITE Guard Aluminium Trench Box:

To extract the LITE Guard Trench Box from the trench, attach the chain sling as per the installation (using the four top most lifting points on the trench box) and lift vertically out of the trench.

If the trench box is tight in the trench, place the lifting chains on the two lifting lugs at one end of the shield. Lift this end of the trench box slightly and then reposition the chains to the other end of the trench box and lift slightly. Continue to swap the chains from one end of the trench box to the other, lifting slightly each time until the trench box is loose in the trench and can then be removed using all four legs of the chain, on the top four lifting points.

Alternatively wind in the screw jacks on the struts to loosen the shield in the trench before removing, using the top four lifting points.

### Precautions During Use and Maintenance

- Regularly check that all pins are in place and R clips fitted.
- Avoid laterally loading the struts - either by hanging or propping from them or accidentally striking them with site plant. Damaged struts should not be used.

Issue No: 01 Issue date: May 2019	Sheet 8 of 8	National Trench Safety can support your project. Call our National Team - 03332 076 007
NTS (UK), Unit 28 Moor Lane Trading Estate, Moxon Way, Sherburn in Elmet, Leeds, LS25 6ES.		The information contained within these data sheets remains the property of NTS (UK) and is not to be altered or reproduced without written permission. NTS (UK) reserves the right to change any data without giving prior notice. ONCE PRINTED - UNCONTROLLED