



ALTRAD GENERATION

HIRE & SALE




GROUNDWORKS



Altrad Generation Hire & Sale

Support for Construction & Industry



Altrad Generation is the UK's leading supplier of: Scaffolding, Temporary Fencing, Light Access, Edge Protection, Safety Decking and Groundworks for hire and sale.

OUR **CUSTOMER COMMITMENT** IS TO DELIVER:



BEST QUALITY

We work closely with our suppliers to ensure consistent product quality every time. All our products are specified to meet or exceed statutory requirements, verified by our Quality Assurance team.



BEST AVAILABILITY

Our nationwide branch network, transport fleet and stock holding ensure we can supply your equipment needs. What, When and Where you need equipment.



BEST PARTNERSHIP

We can take care of all your equipment needs; supplemented by a full range of engineering, design, specification and business services. Our focus is to work together, supporting the growth of your business.



BEST VALUE

Our global supply chain, purchasing and lean business means we don't pass on unnecessary costs to you. We aim to provide consistently low prices and the best value when you buy or hire from us.

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Disclaimer

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Groundworks



Altrad Generation supplies excavation safety solutions to the construction industry. We work with you to ensure you have the right temporary groundworks equipment, independent design and implementation for your project. Our groundworks support equipment will help you save time, lower costs, and ultimately remove safety risks. We have everything you need to get that first stage of your project completed safely and on time. So, whether you need groundworks support for trenching, or a more complex sheet and bracing system for that deep excavation, we have the expertise to design and supply you with the correct equipment delivered on time.

Why Choose Us?

Who do we supply groundworks products and services to?

We support large, small, and local organisations across multiple sectors. These range from local contractors, national contractors, temporary work teams and architects. Our technical expertise and equipment are deployed across a broad range of projects, that are integral to maintaining and building the UK's vital infrastructure, involving schools, hospitals, roads, railways, and energy supply. Please ask about our involvement in the new High-Speed Network, CP6 and AMP7.

We also supply national/regional contractors engaged in many of the water frameworks such as Scottish Water, United Utilities, Welsh Water, Severn Trent, Tendering, Thames Water, Yorkshire Water and Anglian Water.

Groundworks Equipment

Our impressive range of groundworks products includes:

- All Trench, Drag and Manhole boxes, including lightweight ranges that offer cost savings to the customer, reducing the need for large machines on-site.
- Large hydraulic brace systems ranging from 1.60m – 25.00m+ to suit any type of excavation.
- Hydraulic waler range to suit all sizes, depths and lengths of trench.
- Comprehensive range of trench sheets and steel sheet piles.
- Road Forms and Road Plates
- Complete Independent Temporary Design Works Design Service
- Transport, access to a large fleet of our own FORS Silver vehicles and up to FORS Gold external transport partners



Groundworks

Rigorous Testing

As part of our ISO 9001 accreditation, we routinely and rigorously test all of our equipment and provide full life history of all products such as boxes and all hydraulics. All our groundworks depots are equipped with a state of the art hydraulic testing rig that provides 'Back Pressure' of up to 120t to simulate the real life stresses exerted upon the hydraulics when in situ.

Add to this our team of Technical Sales Representatives (some with over 25 years experience in excavation safety) and our technical solutions we provide robust safety and efficiency for any project.

Shoring

Our aim is to assist our customers in creating safe working environment for their employees, we offer a wide range of shoring products including Trench Boxes, Trench Sheets, Larssen Piles, Hydraulic Bracing as well as accompanying safety ranges to ensure safe access and egress to excavations. In support of the hire and sale of shoring equipment, we provide a temporary works design service carried out by highly qualified independent engineers to ensure risk managed, value driven solutions for our customers. Our mission is to be a trusted supplier of excavation safety solutions and exceptional customer service.

Speak To Our Experts



UK: 087 0870 8484

IRL: 00353 1 601 1500

groundworks.enquiries@altradgeneration.com



Groundworks Services

Temporary Works Design - Experts in Excavation Safety Design

All of our equipment comes with optional temporary works and engineering design support, including full construction grade temporary works designs, installation drawings, industry recognised checks and full engineering certification.

Altrad Generation's dedicated design department offer tailored excavation solutions utilising our wide range of specialist excavation support equipment. Our industry leading turnaround times ensure that our customers receive their completed designs exactly when they're needed.

Our qualified team of civil, structural and mechanical engineers work to all industry legislation, standards and guidance, including:

- The Health and Safety at Work Act 1974
- BS 8002:2015
- Working at Height Regulations 2005 + AMD 2007
- BS 5975:2008 Code of practice for temporary works procedures and the permissible stress design of falsework
- BS 6031:2009 Code of Practice for Earthworks
- Construction (Design and Management) Regulations 2015
- Piling Handbook (9th Ed) Published by Arcelor Mittal
- The Lifting Operations and Lifting Regulations (LOLER) 1998
- CIRIA Report 104: Design of Retaining Walls Embedded in Stiff Clays
- CIRIA Special Publication 95: The Design and Construction of Sheet-Piled Cofferdams
- CPA STIG Safety in Shoring Manual 2006

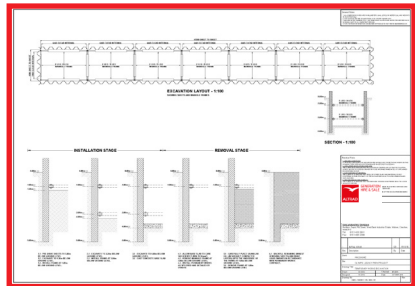
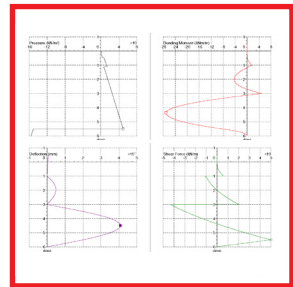
Our design service is completely complimentary in most cases, and supports the full range of excavation support equipment and related safety systems.

The service involves our technical sales representatives attending site and working directly with installation contractors to ensure our temporary works design is as safe and efficient as possible. This process removes the need for numerous phone calls between site managers, buyers and ourselves, easing pressure on your busy team.

It also allows us to create a fully tailored solution quotation for each and every project we're involved with.

Contact our excavation safety experts to discuss your project requirements:

UK: 087 0870 8484
IRL: 00353 1 601 1500
groundworks.enquiries@altradgeneration.com





Design Request Form - Speak to our Experts

LH.09.22

DESIGN REQUEST FORM

Altrad Generation Hire & Sale



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Branch:

To be completed by Altrad Generation representative

Design Request No:	<input type="text"/>	Fax:	<input type="text"/>
Generation Rep:	<input type="text"/>	Email:	<input type="text"/>
Tel:	<input type="text"/>		

ALL FIELDS MUST BE COMPLETED

General Information

Date Requested:	<input type="text"/>	DD/MM/YYYY	Site Contact	
Date Design Required:	<input type="text"/>	DD/MM/YYYY	Name:	<input type="text"/>
Customer:	<input type="text"/>		Tel:	<input type="text"/>
Main Contractor:	<input type="text"/>		Email:	<input type="text"/>
Site Location:	<input type="text"/>		Temporary Works Co-Ordinator	
Site Postcode:	<input type="text"/>		Name:	<input type="text"/>
Scheme Title:	<input type="text"/>		Tel:	<input type="text"/>
Live Scheme	<input type="checkbox"/>	Tender Scheme	Email:	<input type="text"/>

Excavation

Purpose of Excavation: <small>(eg. Tank, Pipe Retaining Wall)</small>	<input type="text"/>	Duration of Excavation:	Less than 12 Weeks <input type="checkbox"/>
			More than 12 Weeks <input type="checkbox"/>
Type of Support Required:		Design Package Required:	
Cofferdam <input type="checkbox"/>		Category A <small>Working DWG, Quote, CAD, Installation stages</small>	<input type="checkbox"/>
Trench <input type="checkbox"/>		Category B <small>Prelim, quote</small>	<input type="checkbox"/>
Cantilever <input type="checkbox"/>			

Excavation Dimensions:
(all dimensions in m)

	Length	Width	Depth
Sheet to Sheet	<input type="text"/>	<input type="text"/>	<input type="text"/>
Clear Internal	<input type="text"/>	<input type="text"/>	<input type="text"/>



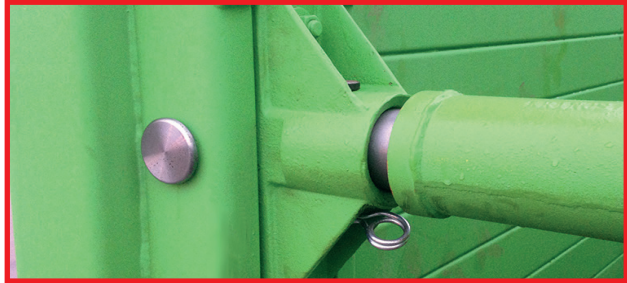
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Trench Boxes

Altrad Generation Trench Boxes are simple to assemble, two-sided excavation support systems designed to be installed by an excavator utilising the 'dig and push' or 'excavate and lower' techniques. Trench boxes are often used where rapid installation of utility pipelines and trench runs are required. Trench Boxes provide a safe working environment for those on site by safely withstanding the surrounding soil pressure. Trench Boxes can be used in conjunction with four-sided Manhole Boxes to provide complete protection for personnel. Drag Boxes offer a speedy alternative to a Trench Box when laying long pipe runs. If the Permissible SWL is exceeded, **ALWAYS** enquire about our design service. Manhole Braces and Alloy Waller's can be used as alternatives.



Backhoe Trench Box

	Base Unit	Top Unit
Length (mm)	3000	3000
Height (mm)	2000	960
Min Width External (mm)	690	690
Max Width External (mm)	2690	2690
Min Width Internal (mm)	570	570
Max Width Internal (mm)	2570	2570
Thickness (mm)	60	60
Max Clearance Between Struts (mm)	2690	2690
Max Clearance Under Lower Strut (mm)	980	-
Permissible SWL (kN/m ²)	19.40	19.40
Weight (kg)	822	441
Max Depth (mm)	2960	-

The Backhoe Trench Box is a lightweight Trench Box designed for inner city shoring jobs. Used to support sides of excavations, generally used for the laying of small diameter utility pipes such as gas, water, telecoms or power cables. Designed for use with smaller machines such as 180' excavators and rubber tyred excavators. Lightweight alternative to Standard & Mini Trench Boxes when lifting capacity is an issue on site. Effective down to 3.00m, provided ground pressure does not exceed the Permissible SWL of 19.40 kN/m² for this box.

Trench Boxes

Backhoe Trench Box



The Backhoe Trench Box is a robust piece of equipment, which acts as a safety shield to provide a safe working area below ground level. For use when working on excavations and pipe laying operations. The Backhoe Trench Box can sustain working earth pressures of up to 20kN/m², users should check that the excavation will not impose greater pressures than this.

Installation is easy through the 'Dig and Push' method. This ensures that the side walls of the excavation are supported, and minimises the likelihood of an accident. The panels are 3000mm long by 2000mm deep with a width range of 720mm to 1720mm which can be altered using telescopic struts these are secured in place using the 'Pin and Clip' system, which connects all components. Backhoe box tops can be used to obtain 3000mm in depth.

- Provides safe working area below ground
- SWL of 20kN/m²
- Easily Assembled
- Dig and Push method
- 3000m long x 2000m base panels
- Width range of 720mm to 1720mm
- Extension tops are 3000mm x 1000mm
- Maximum working depth 3000mm
- Pin and 'R' Clip method
- Base unit weight of 730kg
- 1200mm clearance below lower strut
- Additional Equipment available

	Struts	Internal (mm)
	Size 1	600 - 800
	Size 2	800 -1000
	Size 3	1000 -1200
	Size 4	1200 -1400
	Size 5	1400 -1600

Backhoe Trench Box	Base	Top
Panel Length (mm)	3000	3000
Panel Height (mm)	2000	1000
Panel Thickness (mm)	60	60
Overall External Trench Width (mm)	720 - 1720	720 - 1720
Weight (kg)	730	420
Distance Between Struts (mm)	2670	2670
Clearance Below Strut	1200	-
Standard Working Load	20kN/m ²	20kN/m ²



Trench Boxes

BV60 Trench Box

	Base Unit	Top Unit
Length (mm)	3000	3000
Height (mm)	2000	1000
Min Width External (mm)	820	820
Max Width External (mm)	3820	3820
Min Width Internal (mm)	700	700
Max Width Internal (mm)	3700	3700
Thickness (mm)	60	60
Max Clearance Between Struts (mm)	2600	2600
Max Clearance Under Lower Strut (mm)	950	-
Permissible SWL (kN/m ²)	23.50	23.50
Weight (kg)	1154	638
Max Depth (mm)	4000	-

Two-sided mechanical excavation support BV60 Trench Boxes, ideal for the installation of utility pipes and services when ground movement is non-critical. This simple and easy to assemble system has adjustable struts that allow quick width adjustments in trench sizes up to 4m deep and 3.820m wide. Designed to be installed by an excavator using either the dig and push or excavate and lower in place technique, Bottom cutting edge for ease of installation, Top panels available to increase excavation depth & compatible with End panels.

Trench Boxes

Mini Trench Box



The Mini Trench Box can be used in trenches up to 4000mm deep with widths from 610mm to 3200mm, which can be altered using telescopic struts. Up to two extension boxes can be added on top of the mini Trench Box to achieve additional depth.

- Support Below Ground
- Quick & Easy To Install
- Extension Boxes Available To Increase Depth
- Used In Trenches Up To 4000mm Deep
- Dig & Push Method Used
- Pin & Clip System
- Additional Equipment Available

	Struts	Internal (mm)
	Size 0	600 - 800
	Size 1	800 - 1200
	Size 2	1200 - 1600
	Size 3	1600 - 2000
	Size 4	2000 - 2400

	Mini Trench Box	Base	Top
	Panel Length (mm)	3000	3000
	Panel Height (mm)	2000	1000
	Panel Thickness (mm)	60	60
	Overall External Trench Width (mm)	610 - 3200	610 - 3200
	Weight (kg)	1232	676
	Distance Between Struts (mm)	2720	2720
	Clearance Below Strut	1100	-
	Standard Working Load	20kN/m ²	20kN/m ²



Trench Boxes

BV100 Trench Box

	Base Unit	Top Unit	Base Unit	Top Unit
Length (mm)	3500	3500	5000	5000
Height (mm)	2360	1300	2360	1570
Min Width External (mm)	900	900	1500	1500
Max Width External (mm)	3900	3900	4000	4000
Min Width Internal (mm)	700	700	1290	1290
Max Width Internal (mm)	3700	3700	3790	3790
Thickness (mm)	100	100	120	120
Max Clearance Between Struts (mm)	3114	3114	4610	4610
Max Clearance Under Lower Strut (mm)	1540	-	-	-
Permissible SWL (kN/m ²)	39.70	39.70	34.30	34.30
Weight (kg)	2094	1368	3180	2170
Max Depth (mm)	6260	-	-	-

With its easy 'pin and clip' adjustment the BV100 Trench Box is the most advanced and effective box currently being used within the industry. Our BV100 Trench Box being one of the strongest on the market is able to withstand ground pressure of 39.70 kN/m² and is robust enough to withstand the rigours of everyday site work. Effective down to 6.50m, provided ground pressure does not exceed the Permissible SWL of 39.70 kN/m² of this box.

Trench Boxes

Magnum Trench Box

	Base Unit	Top Unit
Length (mm)	3400	3400
Height (mm)	4000	1970
Min Width External (mm)	960	960
Max Width External (mm)	4150	4150
Min Width Internal (mm)	760	960
Max Width Internal (mm)	3950	3950
Thickness (mm)	100	100
Max Clearance Between Struts (mm)	2950	2950
Max Clearance Under Lower Strut (mm)	2460	-
Permissible SWL (kN/m ²)	36.41	36.41
Weight (kg)	3136	2450
Max Depth (mm)	6640	-

The Magnum Trench Box is the largest in the range of Altrad Generation trench boxes. It is designed for deep pipe laying activities. The design is similar to Std & BV100 Trench Boxes but it can achieve greater clearance under struts to allow larger diameter pipes to be installed. It provides clearance of 2460mm under strut through a panel height of 4000mm. Effective down to 6.60m, provided ground pressure does not exceed the Permissible SWL of 36.41 kN/m² of this box.

Trench Boxes

Standard Trench Box



The Standard Trench Box is used to provide a safe working area below ground and ensure that the side walls of an excavation are continually supported. Standard Trench Boxes can be used in conjunction with other boxes, including Manhole Boxes. They are quick and easy to install.

The Standard Trench Box can be used in trenches up to 5600mm deep with widths from 690mm to 4500mm. Up to two extension boxes can be added on top of the standard Trench Box to achieve additional depth if needed.

- Two-sided Support
- Used In Conjunction With Manhole Boxes
- Additional Top Boxes Available
- Quick & Easy To Install
- Dig & Push Method Used
- Additional Equipment Available

	Struts	Internal (mm)
	Size 0	600 - 800
	Size 1	800 - 1200
	Size 2	1200 - 1600
	Size 3	1600 - 2000
	Size 4	2000 - 2400

Standard Trench Box	Base	Top
Panel Length (mm)	3500	3500
Panel Height (mm)	2600	1500
Panel Thickness (mm)	100	100
Overall External Trench Width (mm)	690 - 4500	690 - 4500
Weight (kg)	2100	1130
Distance Between Struts (mm)	3210	3210
Clearance Below Strut	1500	-
Standard Working Load	40kN/m ²	40kN/m ²



Trench Boxes

Super Trench Box



The Super Trench Box is used to provide a safe working area below ground and ensure that the side walls of an excavation are continually supported. Standard Trench Boxes can be used in conjunction with other boxes, including manhole boxes. They are quick and easy to install.

The Standard Trench Box can be used in trenches up to 6.1m deep with widths from 700mm to 3300mm. Up to two extension boxes can be added on top of the Standard Trench Box to achieve additional depth if needed.

- Two-sided support
- Used in conjunction with Manhole Boxes
- Additional top boxes available
- Quick and easy to install
- Dig and Push method used
- Edge Safe systems available
- Ladder Access systems available
- Additional Equipment Available

Struts	Internal (mm)	External (mm)
Fixed 700	700	900
Fixed 800	800	1000
Fixed 1000	1000	1200
Fixed 1200	1200	1400
Fixed 1500	1500	1700
A1	1000 - 1300	1200 - 1500
A	1200 - 1500	1400 - 1700
B	1500 - 2100	1700 - 2300
C	2100 - 3300	2300 - 3500

Super Trench Box	Base	Top
Panel Length (mm)	5.1	5.1
Panel Height (mm)	2.5	1.8
Panel Thickness (mm)	100	100
Minimum trench width(mm)	700	700
Maximum trench width(mm)	3.3	3.3
Maximum clearance between struts	4.62	4.62
Maximum clearance below strut	1.5	N/A
Weight(kg)	3800kg*	2280kg*
Super working load	40kN/m ²	40kN/m ²

*Varies with strut width

Drag Boxes

Drag Boxes are a speedy alternative to Trench Boxes, where speed of production is paramount. The Drag Box is used in stable, self supporting soil conditions, and is lowered into a pre-dug trench. Then, with the aid of an excavator, it is dragged along via the front strut as pipe production moves along the trench. In order to enable this, a Drag Box has a cutting edge on the front of the box rather than at the bottom. Drag Boxes also tend to be used on green or brown field sites, where there are no services or obstructions. Drag Boxes should only be used as a shield not as a support.



Drag Box 3m

	Base Unit	Top Unit
Length (mm)	3000	3000
Height (mm)	2000	1000
Min Width External (mm)	760	760
Max Width External (mm)	2660	2660
Min Width Internal (mm)	600	600
Max Width Internal (mm)	2500	2500
Thickness (mm)	80	80
Max Clearance Between Struts (mm)	2200	2200
Max Clearance Under Lower Strut (mm)	1000	-
Permissible SWL (kN/m ²)	-	-
Weight (kg)	2000	1000
Max Depth (mm)	3000	-

Drag Box 4m

	Base Unit	Top Unit
Length (mm)	4000	4000
Height (mm)	2420	1820
Min Width External (mm)	760	760
Max Width External (mm)	2660	2660
Min Width Internal (mm)	600	600
Max Width Internal (mm)	2500	2500
Thickness (mm)	100	100
Max Clearance Between Struts (mm)	3120	3120
Max Clearance Under Lower Strut (mm)	1380	-
Permissible SWL (kN/m ²)	-	-
Weight (kg)	2510	1970
Max Depth (mm)	4240	-



Drag Boxes

Drag Box 5m

	Base Unit	Top Unit
Length (mm)	5000	5000
Height (mm)	2500	1800
Min Width External (mm)	800	800
Max Width External (mm)	2700	2700
Min Width Internal (mm)	600	600
Max Width Internal (mm)	2500	2500
Thickness (mm)	100	100
Max Clearance Between Struts (mm)	4200	4200
Max Clearance Under Lower Strut (mm)	1470	-
Permissible SWL (kN/m ²)	-	-
Weight (kg)	3050	2100
Max Depth (mm)	4300	-

Drag Box 7m

	Base Unit	Top Unit
Length (mm)	7000	7000
Height (mm)	2420	1820
Min Width External (mm)	800	800
Max Width External (mm)	2700	2700
Min Width Internal (mm)	600	600
Max Width Internal (mm)	2500	2500
Thickness (mm)	100	100
Max Clearance Between Struts (mm)	6120	6120
Max Clearance Under Lower Strut (mm)	1380	1380
Permissible SWL (kN/m ²)	-	-
Weight (kg)	4620	3570
Max Depth (mm)	4240	-

Drag Boxes

Drag Box



The Drag Box acts as a shield to protect users in self-supporting soil. It is designed to withstand up to 25kN/m². Installation requires the 'Excavate and Drag' technique, the box is placed in a pre-dug trench and moved after each instalment of pipe.

- Lifting points for safe slinging
- For use in self-supporting soil
- Standard Drag Box 4 Struts
- Edge Safe Systems Available
- Ladder Access System Available
- Can be used in conjunction with Manhole Boxes

Struts	Internal (mm)	External (mm)
Fixed 700	700	900
Fixed 800	800	1000
Fixed 1000	1000	1200
Fixed 1200	1200	1400
Fixed 1500	1500	1700
A1	1000 - 1300	1200 - 1500
A	1200 - 1500	1400 - 1700
B	1500 - 2100	1700 - 2300
C	2100 - 3300	2300 - 3500

Standard Drag Box	5.0m x 1.8m	5.0 x 2.5m	7.0m x 2.0m
Panel Length (mm)	5000	5000	7000
Panel Height (mm)	1800	2500	2000
Panel Thickness (mm)	100	100	100
Minimum External Trench Width (mm)	700	700	700
Maximum Internal trench width (mm)	3300	3300	3300
Clearance Between Struts (mm)	4520	4520	6580
Max Clearance Below Bottom Strut	1072	1500	1500
Maximum Weight (kg)	2370	3020	4550
Standard Working Load	25kN/m ²	25kN/m ²	25kN/m ²



Drag Boxes

Maxi Drag Box



The Maxi Drag Box is ideal for use with long pipe runs, the size increases productivity allowing for a faster installation time. The Maxi Drag Box can be installed using the 'Excavate and Drag' technique. The box is placed in a pre-dug trench and pulled along the trench as each section of pipe laying is completed.

- For use in self-supporting soil
- Lightweight
- From 2400kg in weight
- Edge protection systems available
- Ladder access systems available
- Can be used in conjunction with Manhole Boxes

Struts	Size (mm)	Internal (mm)
Size A	508	550 - 750
Size B	838	800 - 1150
Size C	1190	1150 - 1500
Size D	1540	1500 - 1850
Size E	1890	1850 - 2000

Maxi Drag Box	4.0m x 2.0m	4.0m x 1.0m	5.0m x 2.0m	5.0 x 1.0m
Panel Length (mm)	4000	4000	5000	5000
Panel Height (mm)	2000	1000	2000	1000
Panel Thickness (mm)	100	100	100	100
Minimum External Trench Width (mm)	750	750	750	750
Maximum Internal Trench width (mm)	2000	2000	2000	2000
Maximum Clearance Between Struts (mm)	3870	3870	4830	4830
Max Clearance Below Bottom Strut (mm)	1200	-	1200	-
Weight (kg)	1960	1060	2400	1290
Standard Working Load	20kN/m ²	20kN/m ²	20kN/m ²	20kN/m ²



Backhoe Manhole Boxes

Backhoe Manhole Boxes are lightweight boxes, complete with integral end return panels providing additional support making them ideal for installing pre-cast manhole rings. Suitable for excavation depths up to 2.96m Simple pinned strut arrangement. A range of strut lengths is available for non-square configurations. End closure panels available to support the open ends of the box. Trench Guard Edge Protection Panels available & Four way handling point to aid safe assembly.

2m Backhoe Manhole Box

	Base Unit	Top Unit
Length (mm)	2000	2000
Height (mm)	2000	960
Min Width External (mm)	1690	1690
Max Width External (mm)	3690	3690
Min Width Internal (mm)	1570	1570
Max Width Internal (mm)	3570	3570
Thickness (mm)	60	60
Max Clearance Between Struts (mm)	1600	1600
Max Clearance Under Lower Strut (mm)	980	-
Permissible SWL (kN/m ²)	38.00	38.00
Weight (kg)	1186	711
Max Depth (mm)	2960	-

2.5m Backhoe Manhole Box

	Base Unit	Top Unit
Length (mm)	2500	2500
Height (mm)	2000	960
Min Width External (mm)	1690	1690
Max Width External (mm)	3690	3690
Min Width Internal (mm)	1570	1570
Max Width Internal (mm)	3570	3570
Thickness (mm)	60	60
Max Clearance Between Struts (mm)	2100	2100
Max Clearance Under Lower Strut (mm)	980	-
Permissible SWL (kN/m ²)	30.40	30.40
Weight (kg)	1326	769
Max Depth (mm)	2960	-



Backhoe Manhole Boxes

3m Backhoe Manhole Box

	Base Unit	Top Unit
Length (mm)	3000	3000
Height (mm)	2000	1000
Min Width External (mm)	1690	1690
Max Width External (mm)	3690	3690
Min Width Internal (mm)	1570	1570
Max Width Internal (mm)	3570	3570
Thickness (mm)	60	60
Max Clearance Between Struts (mm)	2630	2630
Max Clearance Under Lower Strut (mm)	980	-
Permissible SWL (kN/m ²)	32	32
Weight (kg)	1190	680
Max Depth (mm)	3000	-



Backhoe Manhole Boxes

Backhoe Manhole Box



The Backhoe Manhole Box is a four-sided excavation box which provides a safe working area below ground. The Backhoe Manhole Box can sustain earth pressures of 20kN/m². Users should check that the excavation will impose no greater pressures than this.

Installation is easy through the 'Dig and Push' method. This ensures that the side walls of the excavation are supported and minimises the likelihood of an accident. Three panel lengths are available 2000mm, 2500mm or 3000mm. A top box can be used to increase depth to a maximum of 3000mm.

- Provides safe working area below ground
- Easily Assembled
- Dig and Push method
- Pin and Clip System
- SWL 20kN/m²
- Base unit weight 808kg and 975kg
- 2000mm, 2500mm or 3000mm panel lengths
- 1200mm clearance between lower strut
- Panel Thickness 60mm
- Closing panels available
- Additional equipment available

Backhoe Manhole Box	2m		2.5m		3m	
	Base	Top	Base	Top	Base	Top
Panel Length (mm)	2000	2000	2500	2500	3000	3000
Panel Height (mm)	-	-	-	1000	2000	1000
Panel Thickness (mm)	60	60	60	60	60	60
Weight (kg)	808	507	875	460	975	508
Distance Between Struts (mm)	1840	1840	2340	2340	2840	2840
Clearance Below Strut (mm)	1200	-	1200	-	1200	-
To Suit Ring Size (mm)	1050/1200		1050 / 1200 / 1350		1350 / 1500 / 1800	
Standard Working Load	20kN/m ²	20kN/m ²	20kN/m ²	20kN/m ²	20kN/m ²	20kN/m ²



BV100 Manhole Boxes

A four-sided mechanical excavation support Manhole Box, ideal for installing pre-cast concrete manholes and small chambers or tanks where ground movement is non-critical. Can be used to form part of a continuous trench system in excavations up to 5.3m deep and 4.7m wide.

- Designed to be installed by excavator using either the dig and push or excavate and place technique
- Bottom cutting edge for ease of installation
- Top panels available to increase excavation depth



If you are unsure about the depth or SWL, we recommend that you speak to us about our design service. Call all our excavation safety experts on 0800 779 7113 or email groundworks.enquiries@altradgeneration.com to discuss your project requirements.

Manhole Braces are a good alternative if SWL are expected to be exceeded and/or if cross services are an issue on-site.

ALWAYS enquire about design service if unsure.

Manhole Boxes are similar to Trench Boxes in their basic function, however they incorporate integral end return panels thus providing additional ground support, making them ideal for installing pre-cast manhole rings in trench runs as an alternative to using sheets and frames. There are six sizes of Manhole Box available to cater for common sizes of pre-cast manhole rings. Each box can be assembled and installed quickly and without the need for an operative to enter the unsupported excavation. Manhole Boxes can be used in most ground conditions to support trenches with depths of up to 5.3m by utilising the base module with two box tops and a variety of different strut types. Trench Guard Edge Protection system is available for this product. Four-way handling points to aid safe assembly.





BV100 Manhole Boxes

BV100 Manhole Box 2.5m

	Base Unit	Top Unit
Length (mm)	2500	2500
Height (mm)	2360	1470
Min Width External (mm)	1900	1900
Max Width External (mm)	4900	4900
Min Width Internal (mm)	1700	1700
Max Width Internal (mm)	4700	4700
Thickness (mm)	100	100
Max Clearance Between Struts (mm)	2080	2080
Max Clearance Under Lower Strut (mm)	1540	-
Permissible SWL (kN/m ²)	55-70	55-70
Weight (kg)	2026	1449
Max Depth (mm)	5300	-

BV100 Manhole Box 3.0m

Length (mm)	3000	3000
Height (mm)	2360	1470
Min Width External (mm)	1900	1900
Max Width External (mm)	4900	4900
Min Width Internal (mm)	1700	1700
Max Width Internal (mm)	4700	4700
Thickness (mm)	100	100
Max Clearance Between Struts (mm)	2580	2580
Max Clearance Under Lower Strut (mm)	1540	-
Permissible SWL (kN/m ²)	46-40	46-40
Weight (kg)	2226	1589
Max Depth (mm)	5300	-

BV100 Manhole Box 3.5m

Length (mm)	3500	3500
Height (mm)	2360	1470
Min Width External (mm)	1900	1900
Max Width External (mm)	4900	4900
Min Width Internal (mm)	1700	1700
Max Width Internal (mm)	4700	4700
Thickness (mm)	100	100
Max Clearance Between Struts (mm)	3050	3080
Max Clearance Under Lower Strut (mm)	1540	-
Permissible SWL (kN/m ²)	39-70	39-70
Weight (kg)	2426	1729
Max Depth (mm)	5300	-



BV100 Manhole Boxes

BV100 Manhole Box 4.0m

	Base Unit	Top Unit
Length (mm)	4000	4000
Height (mm)	2360	1470
Min Width External (mm)	1900	1900
Max Width External (mm)	4900	4900
Min Width Internal (mm)	1700	1700
Max Width Internal (mm)	4700	4700
Thickness (mm)	100	100
Max Clearance Between Struts (mm)	4080	4080
Max Clearance Under Lower Strut (mm)	1540	-
Permissible SWL (kN/m ²)	31-85	31-85
Weight (kg)	2616	1869
Max Depth (mm)	5300	-

BV100 Manhole Box 4.5m

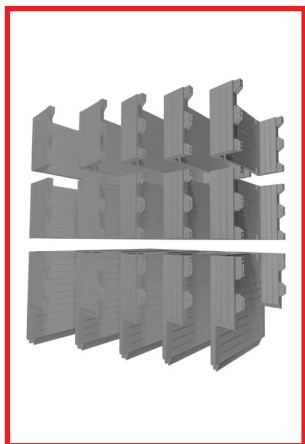
Length (mm)	4500	4500
Height (mm)	2360	1470
Min Width External (mm)	1900	1900
Max Width External (mm)	4900	4900
Min Width Internal (mm)	1700	1700
Max Width Internal (mm)	4700	4700
Thickness (mm)	100	100
Max Clearance Between Struts (mm)	3580	3580
Max Clearance Under Lower Strut (mm)	1540	-
Permissible SWL (kN/m ²)	30-60	30-60
Weight (kg)	3326	2329
Max Depth (mm)	5300	-

BV100 Manhole Box 5.0m

Length (mm)	5000	5000
Height (mm)	2360	1470
Min Width External (mm)	1900	1900
Max Width External (mm)	4900	4900
Min Width Internal (mm)	1700	1700
Max Width Internal (mm)	4700	4700
Thickness (mm)	100	100
Max Clearance Between Struts (mm)	4580	4580
Max Clearance Under Lower Strut (mm)	1540	-
Permissible SWL (kN/m ²)	24-50	24-50
Weight (kg)	3576	2509
Max Depth (mm)	5300	-

Manhole Boxes

Manhole Box



The Manhole Box is a four-sided excavation protection system, which is used whilst installing pre-cast manholes, chambers or tanks. The Manhole Box can be used in conjunction with trench boxes.

The Manhole Box is quick and easy to install and can be used in trenches up to 5500mm deep. Four different sized panels are available to suit a wide range of needs, these sizes also suit all pre-cast manhole rings. Two additional top boxes can be used with the Manhole Base Box to increase the depth to 5500mm.

- Four Sided
- Dig & Push Method Used
- Additional Extension Boxes
- Used In Excavations Up To 5500m In Depth
- Four Different Sizes Available
- Closing Panels Available
- Edge Safe Systems Available
- Ladder Access System Available

Manhole Box	2.5mm		3.0m		3.5mm		4.0m		4.7m	
	Base	Top	Base	Top	Base	Top	Base	Top	Base	Top
Panel Length (mm)	2500	2500	3000	3000	3500	3500	4000	4000	4700	4700
Panel Height (mm)	2500	1500	2500	1500	2500	1500	2500	1500	2500	1500
Panel Thickness (mm)	100	100	100	100	100	100	100	100	100	100
Weight (kg)	2402	1374	2608	1670	2800	1800	3570	2370	4850	2910
Distance Between Struts (mm)	2220	2220	2720	2720	3220	3220	3780	3780	4490	4490
Strut Height Clearance (mm)	1500	-	1500	-	1500	-	1500	-	1500	-
To Suit Ring Size (mm)	1050/1200/1350		1350/1500/1800		1800/2100		2100/2400/2700		3000	
Standard Working Load	40kN/m ²		40kN/m ²		40kN/m ²		40kN/m ²		35kN/m ²	



Trench Box Safety Ancillaries

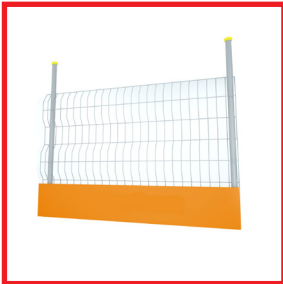
End Panels



End panels are used in conjunction with Altrad Generation Trench, Manhole and Drag Boxes to safely seal off the open ends of an excavation and provide a completely enclosed working environment.

Code	Product/Dimensions W X H	SWL (Kn/M ²)	Weight
084793	2500mm x 2500mm	36.4	650kg
084794	1800mm x 1200mm	36.4	179kg
084795	2400mm x 1200mm	36.4	242kg
084796	2400mm x 1800mm	36.4	329kg
084797	3000mm x 2000mm	36.4	452kg
084802	End Panel Connector	-	-
084803	End Panel Connector Pin	-	-

Trench Guard Edge Protection



Trench Guard Edge Protection has been designed to protect work personnel from open excavations and falling debris. Trenchguard conforms to the latest temporary edge protection. Legislation BS EN 13374:2013 and is certified for Fall Protection Worldwide. Trenchguard has a built-in toe board to prevent debris from falling onto operatives working below. Fits all types of excavation equipment. Lightweight for ease of use by site operatives and quick installation when used in conjunction with post and clamps.

Code	Product/Dimensions W X H	SWL (Kn/M ²)	Weight
084909	Trench Guard Panel	2245mm x 1150mm	15.00kg
084910	Trench Guard Panel	2700mm x 1150mm	18.00kg
084911	Trench Guard Panel	1800mm x 1150mm	12.00kg
084912	Corner Panel	775mm x 775mm	10.00kg
084913	Telescopic Box Clamp	-	5.00kg
084914	Telescopic Sheet Clamp	-	4.00kg

Trench Box Safety Ancillaries

Edge Protection



The Edge Protection System protects users below ground as well as minimizing the risk of falling into an excavation from ground level. Our edge protection also conforms to BSEN 133374 Class A Temporary Edge Protection System Standards. They can be clamped onto panels quickly and easily.

- Quick and Easy Installation
- Promotes Site Safety
- Lightweight
- Clamps onto panels and sheets
- Fall prevention system
- Complies to work at height regulations
- Easy to store on site
- Sizes 2.5m, 3m and 3.5m available
- Conforms to BSEN13374 Class A Temporary Edge Protection Systems

Guardrails	0.5m	2.0m	2.5m	3.0m	3.5m
Rail Length (mm)	500	2000	2500	3000	3500
Rail Height (mm)	1200	1200	1200	1200	1200

Ladder Safe



Manufactured from mild steel with a powder coated finish. Specially designed for use on all types of box and sheeted excavations. Cantilevered platform enables safe side-entry onto ladder. Standard pole ladder fits directly onto the unit and is locked in place with two ladder clamps. Adjustable clamps fit directly onto a Trench Box or sheets (two sheet clamps and two box clamps supplied with platform). Adjustable front legs for ease of levelling. Collapsible sides and gate for ease of storage.

Code	Product/Dimensions W X H	SWL (kN/m ²)	Weight
084917	Mini Ladder Safe Platform	72	650.00kg
084919	Collapsible Ladder Safe Platform	98	179.00kg



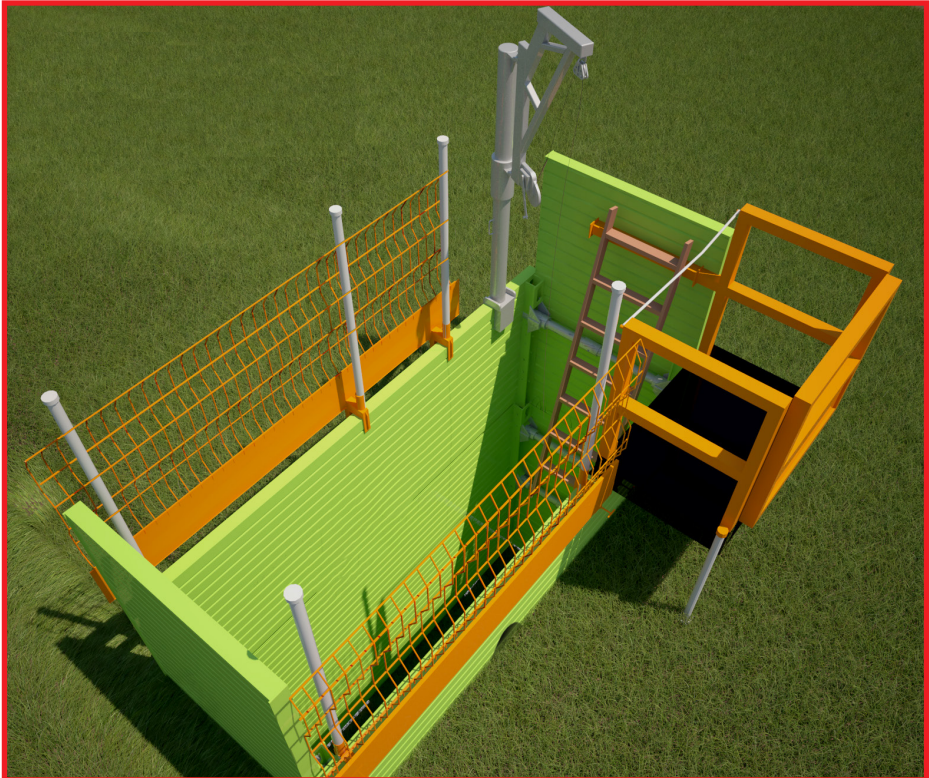
Trench Box Safety Ancillaries

Davit Arm



Altrad Generation Davit Arms' unique four piece construction allows single operative installation and ease of use on site. Allowing its manual rescue winch to easily lift upto 140kg from all types of box and sheeted excavations.

Code	Product/Dimensions W X H	SWL (kN/m ²)	Weight
089408	Davit Arm	140	75.00kg



Alloy Waler Rails



Alloy Waler Rails are used as an alternative to Trench Boxes where cross services are an issue. They are mainly used in city center and highway excavations where ground movement must be kept to a minimum. They offer a two-sided hydraulic support system used in conjunction with Altrad Generation Trench Sheets to allow a clear working area for the inspection/laying of utilities.

Code	Waler Cylinder	Min Length	Max Length	Swl (Kn)	Weight
086090	Type A	505mm	805mm	80	12.00kg
086091	Type B	705mm	1205mm	80	15.00kg
086092	Type C	1105mm	1605mm	80	22.00kg
086093	Type D	1505mm	2005mm	80	28.00kg
086101	1m Waler Cylinder Extensions to achieve 3m width			80	18.00kg

Code	Rail Size	Width	Swl (Kn/M)	Cylinders Required	Weight
086020	2000mm	100mm	22.91	2	22.00kg
086025	2500mm	100mm	22.91	2	27.50kg
086030	3000mm	100mm	22.91	2	33.00kg
086040	4000mm	100mm	22.91	2	44.00kg
086050	5000mm	100mm	22.91	3	55.00kg

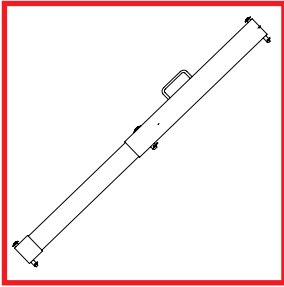
Code	Waler Cylinder	Min Length	Max Length	Swl (Kn)	Weight
086090	Type A	530mm	820mm	80	10.00kg
086091	Type B	780mm	1310mm	80	16.00kg
086092	Type C	1260mm	2010mm	80	23.00kg
086101	1m Waler Cylinder Extensions to achieve 2.75m width			80	18.00kg

Code	Rail Size	Width	SWL (kN/m)	Cylinders Required	Weight
086120	2000mm	180mm	58	2	21.00kg
086125	2500mm	180mm	24	2	26.00kg
086130	3000mm	180mm	16	2	31.00kg
086140	4000mm	180mm	8.2	2	41.00kg
086150	5000mm	180mm	4.9	3	52.00kg



Alloy Waler Rails

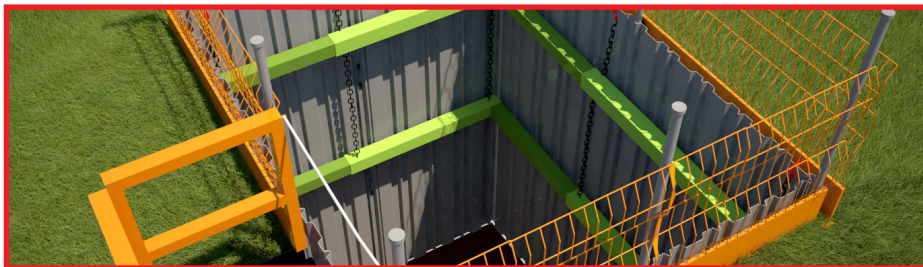
Waler End Bearers



Our Aluminium Waler End Bearer system has been developed to be used with a wide range of Aluminium Waler Rails to provide lightweight support to non-battered ends of trenches. To be used in conjunction with Trench Sheets/existing Waler systems, this product offers a safe and efficient replacement to less suitable methods, such as timber or road plates, by retaining backfill, preventing accidental dislodgement of loose material and also a barrier to prevent unauthorised access to the excavation

Code	Min Length	Max Length	Weight
086102	530mm	820mm	13.50kg
086103	780mm	1310mm	20.00kg
086104	1260mm	2010mm	30.00kg

Standard Hydraulic Manhole Brace

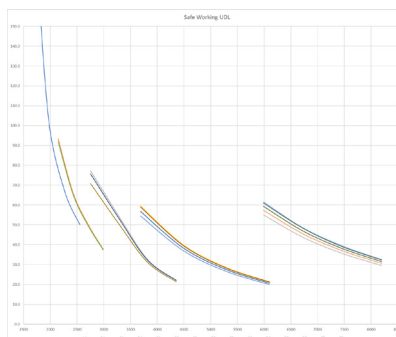
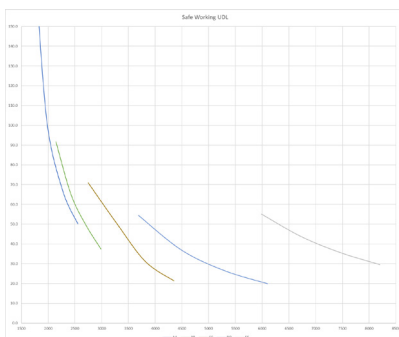


Hydraulic Manhole Braces are suitable for both square and rectangular excavations from 1.6m up to 9.4m.

The Double Acting Manhole Brace system incorporates a hydraulic system of adjustment which is designed to extend or retract the frames under conditions of no or low loading: e.g. as when first installed or as they become redundant after backfilling the excavation. Once they are sustaining significant ground loads, hydraulic extension or retraction of the frames is inadvisable this allows a safe working environment for manhole inspection work or new build projects. Hydraulic Manhole Brace is used with an installation kit when the soil conditions do not allow for a Manhole Box to be used, or, if cross services are involved in the scheme.

Code	Leg	External Min	External Max	Width Of Beam	Weight
085105	Type A	1600mm	2200mm	140mm	125kg
085106	Type B	2100mm	3000mm	140mm	150kg
085107	Type C	2700mm	4200mm	150mm	208kg
085108	Type D	3700mm	6000mm	180mm	316kg
085109	Type E	6347mm	9447mm	250mm	1300kg

Leg Type	Clear Internal Dimension (X)		Dimension Over Frame (Y)		Frame Weight
	Min	Max	Min	Max	
A	1320mm	1920mm	1600mm	2200mm	500kg
B	1820mm	2720mm	2100mm	3000mm	380kg
C	2420mm	3920mm	2700mm	4200mm	1004kg
D	3340mm	5720mm	3700mm	6000mm	1720kg
E	5847mm	8947mm	6347mm	9447mm	5200kg





Raptor Brace



RAPTOR BRACE

Altrad Generation's Raptor Brace is used with trench sheets or sheet piles to create small to large cofferdams, for the construction of chambers, tank installations drive pits etc. Thanks to the Raptor Brace's unique and innovative design, there is no loss of allowable bending moment at the joint between extensions and hydraulic ram unit. This eliminates the logistical and potential safety issues associated with lower performance joints or those with limited reverse bending moment capacity.

Faster

The pinned joints of Raptor Brace allow a faster and easier installation compared with other pin and nut/bolt systems, eliminating the need for spanners or air ratchets.

Easier

Our in-house engineering teams will create full drawing requirements with easy to follow build sequences for our Raptor Brace system.

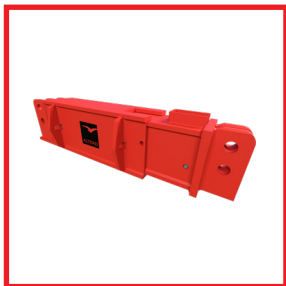
Versatile

The Altrad Generation Raptor Brace is extremely quick to install and remove and can be used in practically any shape of excavation.

Altrad Generation's Raptor brace is a 300 series frame that uses an easy-to-connect Pin System and are available in complementary, various fixed length component sections.

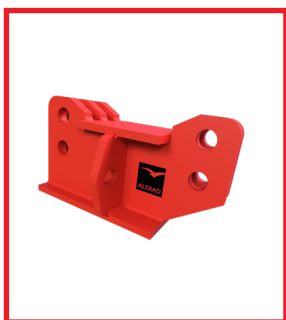


Raptor Brace Components



Hydraulic Unit

Code	Product	Operating Range	Weight
087300	Short Unit	1290mm - 1890mm	730kg



Beams

Code	Length - End To End (Plate)	Weight
087305	500mm	242kg
087310	1000mm	382kg
087315	1500mm	382kg
087325	2500mm	573kg
087360	6000mm	1308kg



Pins

Code	Weight
087393	127kg

Raptor to Geo

Code	Description	Weight
087394	2 Finger Corner Connector	145kg
087395	3 Finger Corner Connector	174kg



Mammoth Plus

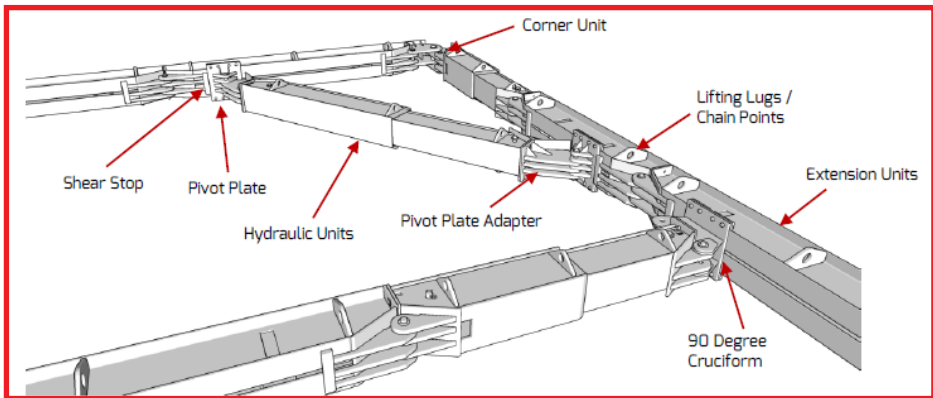
Mammoth Plus is the new and improved version of the market leading Mammoth Brace from Altrad Generation. The re-engineered and strengthened joint design means Mammoth Plus now offers significantly higher capacity, now 30% stronger, greatly improving the overall spans and allowing for larger excavations to be easily achieved. New hydraulic modules ensure outstanding flexibility and modularity with the Mammoth Plus system, allowing for a wider range of uses in the groundworks industry. These new improvements to the original Mammoth create an improved user experience, improve ease of installation and extend the application range significantly, certifying the new Mammoth Plus as a market leader.



Excavation supports using Mammoth Plus should be designed in accordance with the latest industry legislation, standards and guidance including:

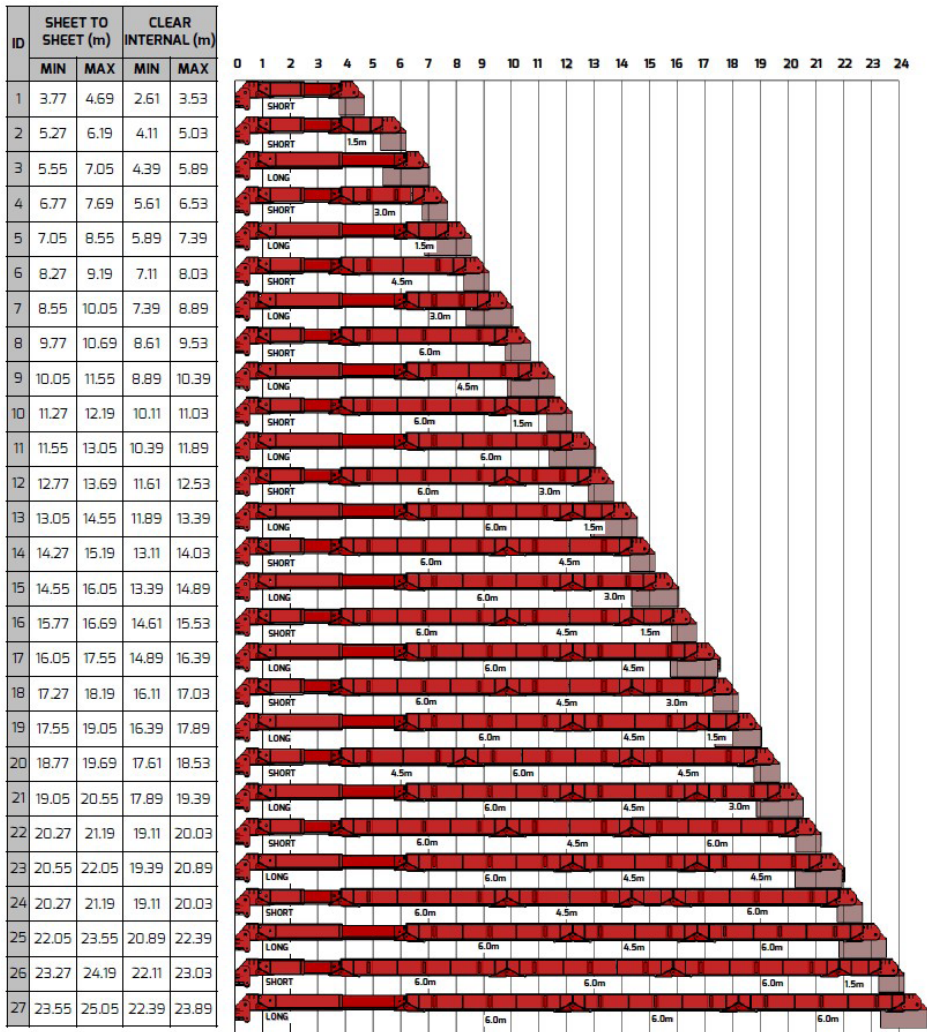
- The Health and Safety at Work ACT 1974
- BS 5975:2019 Code of practice for temporary works procedures and the permissible stress design of falsework
- BS 6031:2009 Code of Practice for Earthworks
- Construction (Design and Management) Regulations 2015
- Piling Handbook (9 th Ed) by Arcelor Mittal
- Ciria Reports 104, 510, 760 and Special Publication 95

Due to its weight and size, consideration should be given to the lifting and moving of assembled components along with support chain or support bracket locations.





Brace Length Chart



The above configurations are a guideline. Where possible it is good practice to keep joints away from high sagging and hogging moments.

Clear internal dimensions do not allow for deflections



Mammoth Plus Components



Hydraulic Units

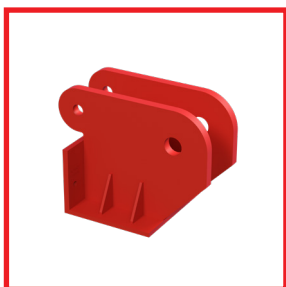
Code	Product	Operating Range	Weight
087201	Short Unit	2080mm - 3000mm	1384kg
087200	Long Unit	3660mm - 5360mm	2467kg



Extension Units

- 100ø lifting eye/chain point.
- Lugs connected with single 50ø pin.

Code	Length - End To End (Plate)	Weight
087210	1000mm	382kg
087215	1500mm	382kg
087230	3000mm	573kg
087245	4500mm	981kg
087260	6000mm	1308kg



Corner Units

- Corner pieces connected with single 80ø pin.
- Single 50ø pin to Hydraulic/Extension units.

Code	Weight
087290	261.10kg



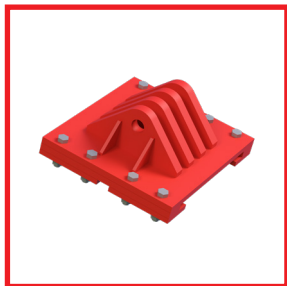
90 Degree Cuciform

- Flange hanging plate.
- Single 50ø pin to Hydraulic/Extension units.
- M24 Bolts Gr 8.8

Code	Weight
087292	231.10kg



Mammoth Plus Components



Pivot Plate

- Flange hanging plate.
- 50ø pin to pivot plate adapter
- M24 Bolts Gr 8.8

Code	Weight
087291	200.00kg

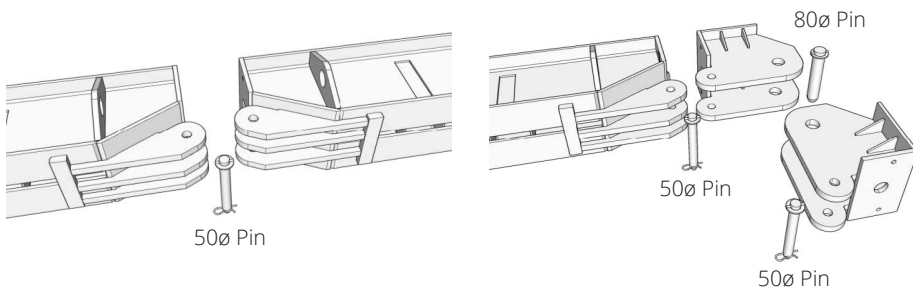


Pins

Code	Description	Weight
087293	50ø Pin	3.00kg
087294	80ø Pin	4.00kg

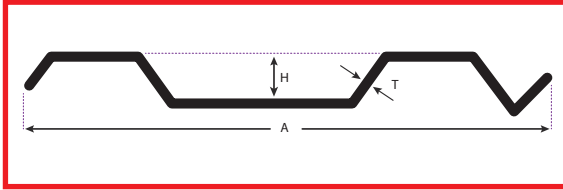
Components

Full Assembly and Installation Guidance can be found separately.





Trench Sheeting - Available Nationwide



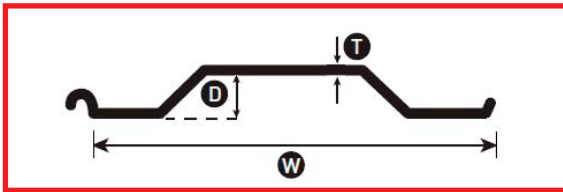
Standard Overlapping

Code - 115

Overlapping profile in mild steel, available in lengths from 2m to 5m.

A (mm)	Effective Width Per Sheet	H (mm)	T (mm)	Kg/m	Kg/m ²
350	330	35	3.4	10.86	32.91

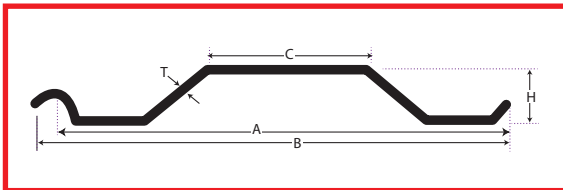
Section Modulus Per Sheet	Section Movement Knm/m	Available Lengths
15.93	7.75	2000mm - 5000mm



KD 4 Sheet Overlapping

Steel Grade	Width (mm)	Depth (mm)
S 275 JR	400	50

Thickness (mm)	Weight (kg/m)	Section Modulus Z (cm ³ /m ²)
6.0	21.90	40.34



BD500 Overlapping

Code - 245

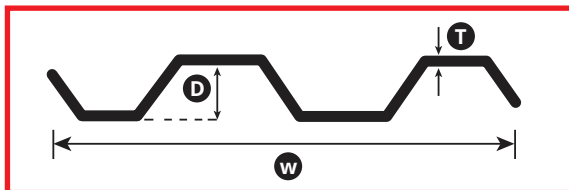
Overlapping profile in high yield steel, available in lengths from 3m to 7m.

A (mm)	B (mm)	C (mm)	H (mm)	T (mm)	kg/m	kg/m ²
508	552.9	220	50	6	27.74	54.61

Section Modulus Per Sheet	Section Modulus cm ³ Per Sheet	Bending Movement Knm/m	Available Lengths
51.25	100	36.41	3000mm - 7000mm



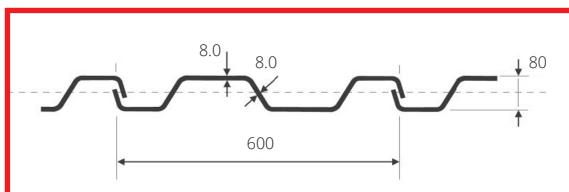
Trench Sheet piling - Available Nationwide



**KKD 600 Sheet
Overlapping**

Steel Grade	Width (mm)	Depth (mm)
S 275 JR	600	80

Thickness (mm)	Weight (kg/m)	Section Modulus Z (cm ³ /m ²)
6.0	37.40	179.0

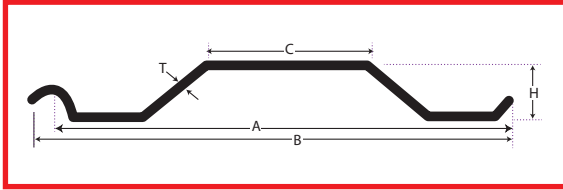


**KD6-8 Overlapping
Code - 260**

Sectional Area (cm ²)	Mass Single Pile (kg/m)	Mass Per m Wall (kg/m ²)	Moment of Inertia (cm ⁴)	Elastic Section Modulus (cm ³)	Radius of Gyration (cm)
64.44	50.00	83.33	968.00	242	3.00



Trench Sheeting - Available Nationwide



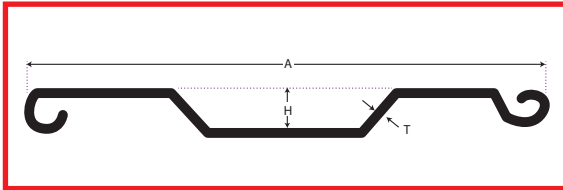
HD2 Overlapping

Code - 215

Overlapping profile in high yield steel, available in lengths from 3m to 8m.

A (mm)	B (mm)	C (mm)	H (mm)	T (mm)	kg/m	kg/m ²
742	764	267	90	8	54.17	73.01

Section Modulus Per Sheet	Section Modulus cm ³ Per Sheet	Bending Movement Knm/m	Available Lengths
187.91	253.25	59	3000m - 8000m



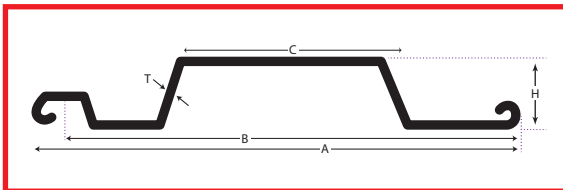
L8 Interlocking

Code - 120 (Sale Only)

Interlocking profile in mild steel, available in lengths from 1m to 5m.

A (mm)	Effective Width Per Sheet (Mm)	H (mm)	T (mm)	Kg/m	Kg/m ²
460	432	35	3.4	14.52	33.61

Section Modulus Per Sheet	Bending Movement Knm/m	Available Lengths
22.23	8.22	1000mm - 5000mm



BVI500 Interlocking

Code - 395

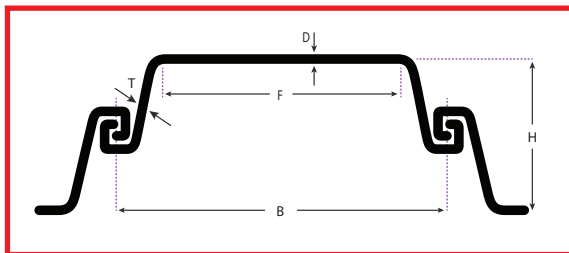
Overlapping profile in high yield steel, available in lengths from 3m to 8m.

A (mm)	B (mm)	C (mm)	H (mm)	T (mm)	kg/m	kg/m ²
535.2	494	230.6	75	6	33.53	67.88

Section Modulus Per Sheet	Section Modulus cm ³ Per Sheet	Bending Movement Knm/m	Available Lengths
43.11	91.863	50.3	3000mm - 8000mm



Trench Sheet Piling - Available Nationwide



Available Nationwide

Larsen Range Interlocking

Altrad Generation Steel Sheet Piles are used for permanent and temporary works structures. The section of the pile interlocks producing a continuous wall with a succession of closely fitting joints. A range of corner and junction piles are available to suit all requirements.

Section	L601	L602	L603	L604	L605	L606	L607
B (mm)	600	600	600	600	600	600	600
H (mm)	310	310	320	390	420	420	435
D (mm)	7.5	8.2	9	9.5	10	16.5	21.5
T (mm)	6.4	8	9	9.5	10	9.2	9.8
F Flat Of Pan (mm)	253	250	384	382	367	348	380
Sectional Area (cm ² /m)	98.3	115.4	137.6	157.3	174.9	201.3	243
Kg/m	46.3	54.3	66.5	74.2	82.4	94.8	114.4
Kg/m ²	77.2	90.5	110.8	123.5	137.5	158	191
Combined Moment Of Inertia (cm ⁴ /m)	11496	13075	20178	32599	42420	52,631	69600
Section Modulus (cm ³ /m)	742	845	1261	1671	2020	2506	3200

Altrad Generation also supplies Piling Hammers, Pipe Lifters. Call all our excavation safety experts on **0800 779 7113** or email groundworks.enquiries@altradgeneration.com to discuss your project requirements.

Piling Hammers



Probst Pipe Lifters





Groundwork Ancillaries



Manhole Shutters

Modular Steel Shutters used to form concrete surround around Manhole Rings in situ. Combination of three panel sizes allows great flexibility on site to cover all Manhole Ring sizes ranging from 675mm to 3000mm diameter and available in two heights: 900mm and 1800mm.

Diameter of Manhole (mm)	Thickness (mm)	Number of Sections Required to Form Shutter			External Diameter of Concrete (mm)	Theoretical Thickness of Concrete (mm)	Volume of Concrete Surround (m ³)	
		A	B	C			900	1800
675	65	2	1	0	1171	182	0.51	1.02
900	75	2	2	0	1368	159	0.54	1.09
1050	85	3	0	1	1541	160	0.63	1.25
1200	100	3	1	1	1738	169	0.75	1.50
1350	112	3	2	0	1855	141	0.68	1.36
1350	112	3	2	1	1935	181	0.90	1.80
1500	115	4	0	1	2028	150	0.79	1.58
1500	115	4	0	2	2107	189	1.02	2.05
1800	115	4	2	0	2342	156	0.96	1.93
2100	120	5	1	0	2632	146	1.03	2.05
2100	120	5	1	1	2712	186	1.33	2.66
2400	135	6	0	1	3002	166	1.33	2.66
2700	162	6	2	0	3316	146	1.31	2.62
2700	162	6	2	1	3396	186	1.69	3.38
3000	210	7	1	1	3686	133	1.34	2.68
3000	210	7	2	0	3800	190	1.94	3.89

Height (mm)	Weight Of Sections (Kg)		
	A	B	C
900	27.5	12.5	6
1800	55	25	12

Product Codes	A	B	C
900 Model	085291	085292	085293
1800 Model	085204	085205	085206

Groundwork Ancillaries



Manhole Safety Platform

Code	To Suit Manhole Ring Dia. (mm)	Weight
085207	1200	211kg
085208	1800	402kg
085209	2400	549kg



Driving Caps

Driving Caps are used with Altrad Generation Trench Sheets to minimise damage to the sheet during driving.

Code	Driving Caps	Weight
140001	Universal	8.00kg
140005	BD	20.00kg
140004	HD	25.00kg



Hydraulic Installation Kits

Double acting Hydraulic Installation Kit for use with Altrad Generation hydraulic shoring equipment such as Alloy Waler Systems and Manhole Braces.

Code	Kit Component	Weight
085120	Double Acting Pump	12.00kg
085126	Male Manifold	2.00kg
085127	Female Manifold	2.00kg
085124	6m Female Hose	7.00kg
085125	6m Male Hose	7.00kg
089198	1 Litre Shoring Fluid (Sale Only)	n/a



Groundwork Ancillaries

Lifting Equipment



Quick Release Pitching Shackle

Used to install Altrad Generation Trench Sheets, our quick release Pitching Shackle uses a spring loaded pin and release system to grip the Trench Sheet through the Trench Sheet's lifting hole. The sheet can then be driven into position.

Code	Product	SWL (Tonnes)	Weight
083002	2t Quick Release	2	19.00kg
083003	3t Quick Release	3	23.00kg

Four Leg, Hanging & Snatch Chains



The Four Leg Lifting Chain is used to safely lift all shoring equipment. Our wide range of lifting chains are all fully LOLER compliant and come supplied with all relevant certificates.



The Hanging Chain is used to hang hydraulic support from Trench Sheets.



The Snatch Chain is used to safely extract all shoring equipment. Snatch Chains are fully LOLER compliant and come supplied with all relevant certificates.

Code	Product	SWL (Tonnes)	Length (m)	Weight
083012	Four Leg Waler Chain	3.15	4	30.00kg
083010	Four Leg Lifting Chain	6.7	4	45.00kg
083007	Four Leg Lifting Chain	6.7	6	65.00kg
083015	Two Leg 13mm Lifting Chain	7.5	7	63.00kg
083011	Heavy Duty Hanging Chain	N/A	2	3.00kg
083013	Snatch Chain	8	1.5	18.00kg

Groundwork Ancillaries



Extraction Clamps

Used to extract Altrad Generation Trench Sheets, note that Extraction Clamps should never be used to pitch Trench Sheets.

Code	Product	SWL (Tonnes)	Weight
420007	Extraction Clamp	5	25.00kg
420008	HD Extraction Clamp	7.5	30.00kg



Trench Safety Covers

Our range of Trench Safety Covers are ideal for protecting against falls when working on pavement excavations.

Product	Thickness (mm)	Width (mm)	Length (mm)	Weight	Weight Tested (kg)
Safe Cover 16/12	25	1600	1200	33.00kg	Up to 2000
Safe Cover 12/8	30	1200	800	12.00kg	Up to 2000
Trench-Pro	30	1000	1100	15.00kg	Up to 2000



Elite TrenchCross™

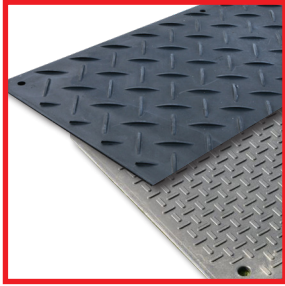
The strongest, lightest and most versatile trench cover that provides the complete site solution.

- Detachable handrails
- Easy to lift
- Anti-slip
- Reflecting film
- Handles
- Can be fastened to the ground
- Anti-slip caps
- Full plastic frame

Code	Product	Width (mm)	Length (mm)	Weight	Maximum Load (kg)
081872	Elite TrenchCross™	100	170	20.00kg	1000



Ground Protection



Ground Guards

Ground-Guards provides temporary ground protection, traction and access over sand, mud, marshy areas whilst protecting your personnel, equipment, vehicles and turf.

It is a simple and very easy to use system. When locked in place Ground-Guards form temporary roadways and car parks for vehicles and trucks as well as solid surfaces for events, drilling, civil engineering and other industrial applications.

- Lightweight mats are easy to move around using the Handy-Hook and easy to lay by hand
- Quickly connect together using No-Tools joiners
- Life time guarantee against breakage by vehicles up to 120 tonnes (conditions apply)*
- Eliminate cost of continually replacing slippery splintered plywood boards
- Super tough 100% recycled poly-ethylene plastic 1/2" thick – flexible enough to conform to ground contours

Relocatable roadway gives rapid site access

A Ground-Guard trackway is the smart solution for your rapid site access requirements. It protects your ground and turf, minimises reinstatement costs, prevents vehicles getting bogged down, keeps your jobs on schedule, and keeps your workers SAFE!

Why get bogged down without Ground-Guards?

Weighing only 39kg, the panels can be installed by hand without a crane lorry, yet are so tough that they are guaranteed unbreakable by vehicles up to 120 tonnes making them ideal for manoeuvring heavy equipment around on site with minimal disturbance to the turf.

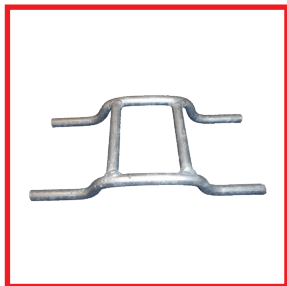
Code	Core Thickness	Width (mm)	Length (mm)	Weight (kg)
460010	14	1217	2433	39.00kg

Loading Rating	Material	Traction
Unbreakable by vehicles up to 120 tonnes*	100% recycled HDPE. Resistant to acids, alkalis and solvents	Patented ribbed tread pattern provides extra traction and stiffness, without additional weight

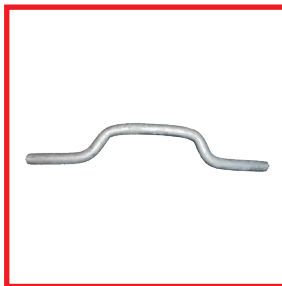
*Ground-Guards are guaranteed when used by vehicles up to 120 tonnes. The guarantee does not extend to damage caused by lifting the Ground Guard by mechanical means or damage due to misuse. Note, it is the customer's responsibility to assess the load bearing capacity of the ground and determine what weight of vehicle it is capable of safely supporting. Traversing of steel tracked vehicles will damage the tread of the Ground Guard and may result in damage charges. To prevent damage, the Ground Guard should be laid pedestrian side up if steel tracked vehicles are to be traversed. Operation in straight lines is permitted.



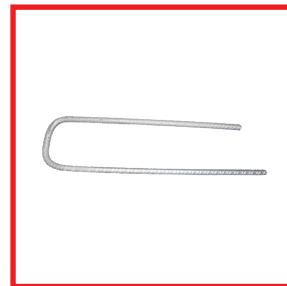
Ground Protection



Code	460011
Desc.	Double Joiners
Wt.	0.74kg



Code	460012
Desc.	Single Joiners
Wt.	0.26kg



Code	460013
Desc.	Ground Anchor
Wt.	0.90kg



Code	460014
Desc.	Handy Hook
Wt.	0.96kg

How to avoid damaged turf

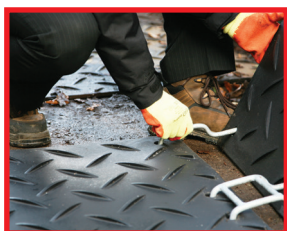
Planning the use of Ground-Guards into your job before you start can save you from ruining your turf, and the extra safety that they provide could also save someone from having a serious accident.

Ground-Guards feature a patented diamond design giving the maximum traction in the wet and dry as well as reducing sideways movement and slippage. They have now become recognised as standard equipment for use on many sites. This is largely due to the fact that they are virtually indestructible.

The use of a geo-textile membrane is recommended where the ground guard will be used in very wet conditions, long term applications or where heavy vehicles will be used.

1 Load of Ground-Guards = 32 Loads of Stone!

A large arctic lorry can hold 500 Ground-Guards. Enough to make a 600m roadway. To do that in stone, 3m wide and 250mm deep requires excavating and shifting 450m³ of earth and bringing in approximately 32 x 25 tonne lorry loads of stone. Then reversing the whole process afterwards. 64 lorry journeys compared to 2 for Ground-Guards!





Ground Protection



Road Mats & Plates



- Easy to install ground protection for pedestrians, planes and vehicles up to 80 tonnes.
- Fast, temporary access, working areas and trackways.
- Unique non-slip reflective markings for night safety (optional).
- Unique 'Cats Eyes' reflectors for night safety (optional).
- Save time and money in reinstating ground.
- Made from 100% recycled High Density Polyethylene (HDPE) reduces landfill waste and cost.
- Avoid severe rutting eco damage to environmentally sensitive areas.

Products	Roadmat Light	Road Plate Oxford 15/5	Endura Mat Large	Endura Mat Small
Thickness (mm)	14	12	12	12
Width (mm)	1200	500	1220	1220
Length (mm)	2400	1500	2440	1220
Weight (kg)	35	32	32	16
Weight Tested (Tonnes)	Up To 60	Up To 40	Up To 80	Up To 80
Material	100% Recycled Hdpe	-	-	-
Traction	High Definition Chevron Traction System	-	-	-
Connectivity	Various Steel And Hdpe Connections Available	-	-	-

Ground Protection

Road Plates



Steel

- 3/4" Steel plate
- 4 Lifting holes per plate
- Available in sizes 8' x 4' and 6' x 4' with or without an anti-skid coated surface
- Anchor holes after coated surfaces

Anti Skid Coating

Chinese bauxite 1-3mm size aggregate coating supplied by Jobling Purser. Type 1 BBA Approved high friction surface combining a two part polyurethane resin technology with a high PSV calcined bauxite road grade aggregate.

Code	Product	Weight
420110	8' x 4' x 3/4" Steel Road Plate	420kg
420115	6' x 4' x 3/4" Steel Road Plate	315kg
420112	8' x 4' x 3/4" Anti-Skid Road Plate	420kg
420117	6' x 4' x 3/4" Anti-Skid Road Plate	315kg



Ground Protection



Trenchlink

Trenchlink is a system of interlocking, ductile iron mini road plates which can be easily handled by operatives on site in order to secure a trench for the immediate passage of vehicular or pedestrian traffic. They have an integrated, permanent skid resistant surface and cannot move out of position once they have been placed over an open trench. They require no anchoring while the crew is on site and can be quickly removed for permanent reinstatement.

- Minimal traffic delays, resulting in reduced vehicle emissions.
- No temporary tar- no transport, disposal or re-cycling costs.
- Maintain traffic flow and speed
- Temporary reinstating eliminated
- Increase productivity
- Reduce costs
- Locks securely over trench
- Integrated skid resistant surface

Code	Description	Weight
260191	Trenchlink 500 Max Plate	26.00kg
260192	Trenchlink Width Adjuster	0.50kg
260193	Trenchlink-Adjuster Pin	0.01kg
260194	Trenchlink-Stillage	30.00kg

Trench Struts



Available stock in four sizes, Altrad Generation's Trench Struts feature clawed base and head plates to enable a better grip to the trench lining and hold it tightly in place preventing collapse. All struts are manufactured to BS4074:2004 and are thread rolled to ensure there is no cutting away of material or loss of strength.

Safe Working Load (SWL) of 3 tonne at any length.

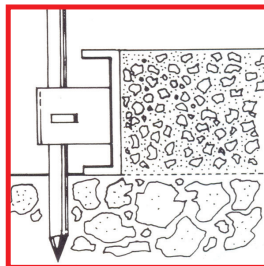
Outer Tube: 60.3mm dia / Inner tube: 48.3mm dia.

Base and Head Plate: 75mm x 75mm x 6mm

Clawed c/w 2 nail holes.

Code	Size	Height (mm)	Weight
405009	0	0.32m - 0.47m	4.99kg
405007	1	0.49m - 0.73m	6.58kg
405008	2	0.69m - 1.09m	8.62kg
405011	3	1.03m - 1.73m	8.62kg

Roadforms

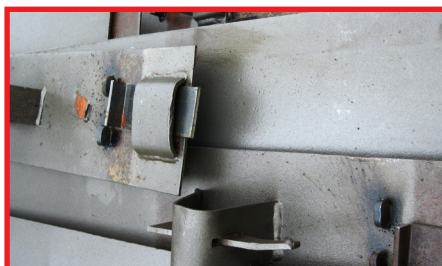


Roadforms provide a simple, robust, accurately aligned edge formwork for use when constructing ground slabs, roadways, pathways and foundations up to 300mm. Made of strong square section steel and using a series of ground stakes to secure in place. Roadforms create a smooth uniform finish to any poured concrete slab. Each Roadform is tongued to allow continuous runs.



Square Edged

For all types of edge formwork necessary for the construction of ground slabs, roadways, foundations and footings, etc. Three welded stake housings are incorporated together with a locking tongue for accurate alignment of adjacent forms.



Flexible

Used for radius work and whenever it is essential for a smooth curve. Five stake housings are incorporated to ensure accurate settings to any desired curvature. Provided with a locking tongue and designed for the use in conjunction with Altrad Generation Square Edged Roadforms.

Code	Product	Depth (mm)	Length (mm)	Weight
410006	6" Standard Roadform	150	3000	25.80kg
410008	8" Standard Roadform	200	3000	30.50kg
410009	10" Standard Roadform	250	3000	35.20kg
410010	12" Standard Roadform	300	3000	50.00kg
410016	6" Flexible Roadform	150	3000	19.50kg
410018	8" Flexible Roadform	200	3000	24.20kg
410019	10" Flexible Roadform	250	3000	28.90kg
410020	12" Flexible Roadform	300	3000	46.00kg
410050	600mm x 22mm Stake	-	-	2.00kg
410055	Stake Extractor	-	-	5.00kg
410105	5 Litre Mould Oil	-	-	5.00kg

GROUNDWORKS BRANCHES NATIONWIDE

Groundworks Numbers:

UK: **087 0870 8484**

IRL: **00353 1 601 1500**



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HIRE & SALE**

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