

GRC Installation and Safe Lifting Instructions

Installation Guide – Trade Waste Products

Given the large range of trade waste products, there are various standard installation instructions for our products. All trade waste products are delivered to site with the relevant details attached to the inlet pipe.

It's important to note that all information regarding installation is 'typical' and is to be used as a guide only – it does not take into account site specific limitations or requirements. Installers must observe the relevant codes of practice and standards legislated. This product is to be installed by an experienced and licensed plumber and the product should not be put into use until installation is complete (backfilled etc.). Installers should refer to relevant Plumbing and Drainage Regulations, or codes of practice in the area of installation.

We recommend contractors contact '**Dial Before You Dig**' on **1100** or at www.1100.com.au . Site conditions may require additional reinforcement or a change to these details that may need to be provided by an engineer.

1. Refer to the '**Safe Lifting Instructions**' prior to moving the product on site – see below/attached.
2. Prior to installation, determine the exact location of the inlet and outlet.
3. All products are designed to be installed level.
4. If installation is above ground, the product must be complete with a Mascot Engineering manufactured stand (additional cost) and suitably attached to the finished floor (dyna-bolts or similar – supplied by others).
5. The excavation shall be done to the necessary depth (allowing for thickness of cover).
6. If any soft or unsuitable material is found it shall be removed and all the bearing surfaces under the tank shall be compacted and levelled.
7. A layer of compacted granular material shall be installed under the tank to ensure support that will not yield or deflect when the product is in service. Clean, granular backfill to be used to appropriate level and compacted in layers of no more than 300mm and without machine to ground level.
8. The product is to be bedded on a 50mm layer of stabilised sand with backfill of same to the top of the lower external rib (flat bottom) or to a horizontal level 200mm above the higher point of the sloping base (boat-shaped).
9. All external connections to and from the product are to be completed to the relevant Australian Standard and codes of practice.
10. Venting of the tank should be carried out in accordance with AS/NZS3500 by a relevantly licensed person.
11. Extension risers and covers to be sealed with Mascot Engineering Pipe Joining Epoxy or an approved epoxy compound to form a watertight joint.
12. Compaction should not take place without the cover being in place (installed/attached).
13. For deep installations, we recommend the stabilised sand/cement backfill be increased so that no more than 1800mm below the surface is without the backfill (including cover thickness).
14. Where the water level is greater than 1000mm below the finished surface level a galvanised internal work platform as well as step irons should be fitted.
15. If a solid top pedestrian load cover is being used, ensure transit bolts are removed before fitting.
16. Fix the relevant tank identification plate (supplied by Mascot Engineering) in an appropriate position on the surface of the tank cover or cover slab arrangement with a 2-part epoxy or similar fastening product.

Installation in rock:

To ensure your product doesn't 'float', if your installation is in rock, we recommend seeking instructions from your site engineer and that you backfill with a stabilised sand/cement mix from the base up to the top of the rock as well as no less than 1800mm from the finished surface level. For example, if your installation is

3200mm deep, it is recommended that the backfill is to a minimum of the first 1400mm unless the rock is deeper in which case you will continue to the top of the rock. Please refer to your engineer for specific details.

Recommended Inspection/Maintenance Program

Removal and replacement of access covers:

All covers used (compliant to AS 3996: Access Covers and Grates) are to be removed with Mascot Engineering lifting keys. Covers must be returned to their exact position, first checking that the rebate seat is clean and that a heavy duty grease is applied to all edge surfaces. For more information on direction of covers, refer to our Access Covers installation instructions.

Tank pump out:

The frequency will be determined by your local trade waste authority and should only be done by a registered waste transporter. The sides of the tank must be cleaned and scraped down using a rubber or plastic edge scraper to remove any build up and not damage the surface coating. A visual inspection of the internal coating should be done and rectified if needed.

Yearly requirement:

Given the acidic nature of the contents, it is required that the above pump out and cleaning is done annually to ensure the ongoing efficiency of the product. A visual inspection of the internal coating must be completed and rectified if damaged.

Internal epoxy coating:

All trade waste products are coated internally with epoxy to protect the product from an acid attack. Given Mascot Engineering's products are manufactured from Glass Reinforced Concrete (GRC), there is no steel present, so the possibility of traditional concrete cancer is removed entirely. If the unit is not maintained and cleaned regularly, it may need re-coating. If re-coating is required, the product must be dry for at least 24 hours, then cleaned. Only Mascot Engineering's tar epoxy based coating should be used and allowed to dry (24 hours) before the unit is used.

Guarantee:

If your product fails as a result of poor workmanship within 12 months of purchase, Mascot Engineering will provide a replacement product at no charge.

See Appendix A: Yearly Maintenance Log [SAMPLE].

Appendix A: Yearly Maintenance Log [SAMPLE]

	PRODUCT	DATE			Inspection/Maintenance Details	Inspected by	
		Installed	Commissioned	Inspected		Name	Signed
<i>example</i>	<i>WAGA1000</i>	<i>31/12/2021</i>	<i>10/01/2021</i>				
Year 1				<i>2/03/2022</i>	<i>See 'Recommended Inspection/Maintenance Program'</i>		
Year 2							
Year 3							
Year 4							
Year 5							
Year 6							
Year 7							
Year 8							
Year 9							
Year 10							
Year 11							
Year 12							
Year 13							
Year 14							
Year 15							
Year 16							
Year 17							
Year 18							
Year 19							
Year 20							

Safe Lifting Instructions for GRC

Before you lift

Prepare

- Prior to lifting any of Mascot's Tanks, Pits, Lids or Risers please make yourself aware of the local legislation and codes as well as any specific requirements on your site.
- Ensure the site/area has all relevant hazards and controls in place prior to lifting any Mascot pits, tanks or risers.
- The relevant Australian Standards and guidance for specific lifting equipment should be referenced where required for lifting Mascot pits and tanks, including (but not limited to) the following:
 - Cranes, Hoists and Winches (AS 1418 1-3)
 - Chain slings for lifting purposes (AS 3755 1-2)
 - Flat Synthetic Webbing Slings (AS 1353 1-2)
 - Shackles (AS 2741)as well as using licensed Riggers and/or Dogman to manage the lifting of freely suspended loads, i.e. Mascot pits and tanks. Appropriate licensing should be in place also (e.g. crane or forklift).

Pre-start checks

- Carry out **pre-start checks** on all your lifting equipment, including a visual inspection of the following elements:
 - The lifting device (crane, Hiab, hoist, forklift, etc.) as you would do to lift any item;
 - Round, webbing or flat synthetic slings;
 - Wire rope slings;
 - Chain or mesh slings;
 - Lifting shackles (bow, 'D' or other suitable).
- **Check the Mascot GRC Pit or Tank** for any signs of:
 - Damage around the product that may have occurred in transit;
 - Lifting points of the Pit or Tank are sound (corners, walls, lip of top)



Should there be any signs of sub-standard wear and tear or damage to the integrity of any of your lifting equipment, **please isolate and tag-out the equipment in question and render the equipment not fit for use.**

Do not proceed with the lift until serviceable equipment can be sourced and report to your Supervisor/Manager immediately

PPE required



Ensure your PPE is appropriate and worn at all times

Main equipment for the lift

To safely lift our Pits and Tanks, we recommend the use of lifting equipment with a **WLL >1000kgs** including the following:

- Lifting device** (e.g. crane, hoist, Hiab, etc.)
- Choose the correct lifting equipment** which should have a combined **WLL >1000kgs** including:
 - Round, webbing or flat synthetic slings;
 - Wire rope slings;
 - Chain or mesh slings;
 - Lifting shackles (bow, 'D' or other suitable).
 - Correctly rated shackles, slings and/or chains
 - The Mascot Pit or Tank Lifters.

3. Mascot Pit or Tank Lifters:



Pit Lifters


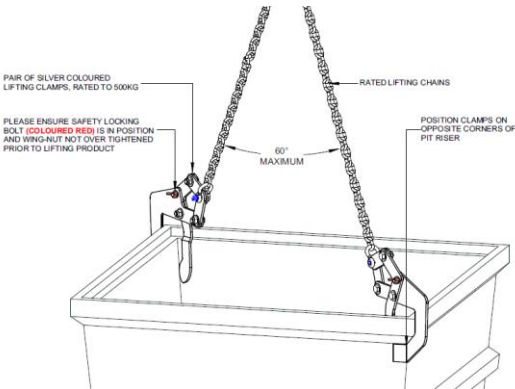

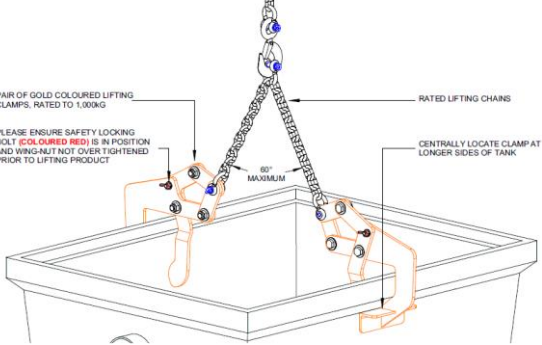
- Silver plated in colour
- Rated to a **SWL of 500kg per pair**

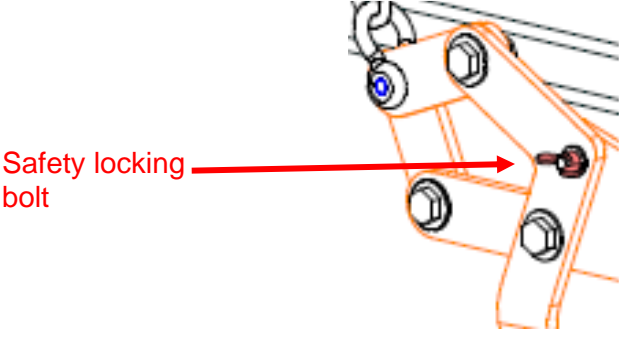
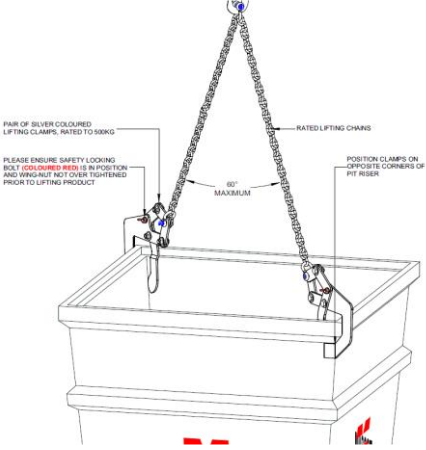


Tank Lifters

- Gold plated in colour
- Rated to a **SWL of 1000kgs per pair**

Procedure

Main Steps	Instructions and Explanation
<p>1. Attaching the tank or pit to be lifted</p>	<p><u>For Pits:</u></p> <ul style="list-style-type: none"> Loosely place the Pit Lifters over the corners of the pit by undoing the safety bolt (coloured RED) wing-nut and placing the clamps over the <i>corner</i> of the pit lip, ensure they drop down past the lip and rest under the lip:   <p><i>Minimum chain or sling length to be >860mm</i></p> <ul style="list-style-type: none"> Set the centre of the D-shackle onto the crane hook, ensuring the lift point allows slings/chains to have a maximum 60degree spread <p><u>For Tanks:</u></p> <ul style="list-style-type: none"> Loosely place the Tank Lifters over the <i>centre of the tank's width or balance point for Boat-Shaped tanks</i> by placing over the tank lip, ensure they drop down past the lip and rest on the lip:   <p><i>Minimum chain or sling length to be >2260mm</i></p> <ul style="list-style-type: none"> Position the crane over the centre of the pit, with chains/slings central and attach the shackles on the ends of the chains to the Lifter points Set the centre of the D-shackle onto the crane hook, ensuring the lift point allows slings/chains to have a maximum 60degree spread Check all 3x D-shackles being used are now fixed into the 2x Lifters and the hoist hook (or equivalent). Nip up the shackles and turn back off half a turn only

	<ul style="list-style-type: none"> Ensure the safety locking bolt (coloured RED) is put back into in position prior to lifting the product and leave loosely fitted – DO NOT OVERTIGHTEN (refer below): 
<p>2. Safely lifting the tank or pit</p>	<ul style="list-style-type: none"> Holding the Lifters, start to lift the tank or pit, noting that as the chains tension, the Lifters will lock into position automatically. As the weight begins to take, check all connections are sound before tank or pit is lifted completely off the ground (shackle points, Lifter positioning, etc.) ensuring the Lifters have locked against the lip of the tank or pit:  <ul style="list-style-type: none"> Checking the area is clear of hazards, it is now ok to proceed to take the full weight of the tank or pit. At a safe distance, lightly support the tank or pit from spinning with an extension tool (where practicable) or your hand if it is safe to do so. Manoeuvre the tank or pit into its required position, lowering it carefully and continue to move crane downwards until chains/slings become slack and tension is released.
<p>3. Disconnecting the Lifters from tank or pit</p>	<ul style="list-style-type: none"> Loosen both Lifters after tension is off from tank or pit being in position. Disconnect both D-shackles from the Lifters and lift them off the sides of the tank or pit. Finally, safely remove chains/slings and D-Shackles and store equipment safely.