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# Underground Water Tank Installation

- for tanks over 7,000 litres

***Please note that we provide installation guidelines only. A full site survey should be completed prior to installation. A qualified civil engineer should advise on the details of installation, after inspection of ground conditions. A reliable ground-working team, preferably with experience of underground tank installation, such cesspits, septic tanks and rainwater harvesting, should be employed to install the tanks.***

It is not advisable to install large underground water tanks in wet ground conditions (where at any time the ground water may rise above the base of the tank).

All large underground tanks should be buried in concrete. Superimposed loads, such as vehicles or walls, should NOT be allowed within the protection area which is a minimum 2m from the outer edge of the tank. The area should be fenced or clearly marked to restrict access.

If this cannot be followed, a reinforced concrete slab must be designed and installed by a qualified civil or structural engineer so that no loads are transmitted directly on to the tank.

The tank must not be located where root matter can disturb the concrete surround.

The standard installation depth of 500mm, to the top of the tank body, should not be exceeded.

## Before Installing Your Tank

Inspect your Ecosure tank for damage before installation. Our tanks have been fully tested before despatch from our factory. Once the tank has been installed, we cannot accept claims for damage. Due to movement on transportation and off-loading of the tank, on filling and first use, all connections must be checked for leaks. If any leaks are found, these should be made good.

## Excavation

Allow a minimum of 270mm all round the tank and approximately 500mm below the tank for hard core and concrete. Allow for suitable pumps to keep the excavation dry until the installation is complete. Use suitable planking and strutting as necessary.

## The Base

The tank must be installed on a firm, smooth base built in accordance with good building standards and engineering principles. Lay a minimum 250mm thick hard core, then 60mm sand blinding. Lay 500 gauge polythene sheet over the base of the excavation and extend around the sides. If necessary, set temporary shuttering to contain the concrete surround. Lay a wet bed of concrete 150mm thick (Strength 20N/mm<sup>2</sup>. Slump test 50mm)

## Lowering the Tank

- Lower the tank slowly onto the concrete and check the tank is true and level.
- Haunch concrete 350mm up around the base of the tank.
- Allow a minimum 200mm ground protrusion to stop rainwater entering the tank (see diagram)

## Back Filling

It is vital to ensure that the tank is filled with 300-500mm of water ahead of the concrete back fill.

Back fill evenly around the tank with concrete (minimum 15 N/ mm<sup>2</sup>) in 150 mm layers. Alternatively the concrete can be placed around an empty tank in four progressive lifts with a 12 hour delay between each lift to limit the concrete pressure.

Do not use vibrating pokers to consolidate the concrete and do not discharge concrete directly onto the tank.

Complete concrete backfill to 200mm below tank lid. Finish with gravel or earth. Ensure that the tank lid is not covered and is protruding a minimum of 200mm from the ground.

## Aftercare

Most underground water tanks do not need aftercare immediately. If the water is undisturbed for a period of time, it may become stagnant. Over years of use the tank may require cleaning, which can be done using a mop.

## Filter Box Installation

- The filter box can be installed anywhere along the inlet pipe *between the tank and the down pipe*. Ensure you can gain access to the filter for cleaning. *Please note that the filter box lid is designed to withstand foot traffic only.*
- Run your pipe work, ensuring that the inlet from the filter has an adequate drop to ensure water flow. A fall of 25mm every meter is recommended.
- Ensure the inlet pipe from the down pipe, is fitted to the 4" connector on the filter box with the 90° elbow on it.
- Back fill the area around the filter box with pea shingle.
- More detailed instructions are available on a separate sheet.

## Fitting a Pipe to Underground Water Tanks

- Drill out the hole for the pipe using a 108mm hole cutting saw.
- Cut the 110mm pipe square, using a fine tooth saw.
- Chamfer the end of the pipe, using a medium file or rasp.
- Remove dust and filings from the end of the pipe
- Push the pipe into the hole drilled in the tank. The end of the pipe can be lubricated

*If you have any further questions, please contact our technical helpline.*