

AUSDRAIN ENVIROMODULE TANKS

FREQUENTLY ASKED QUESTIONS & IMPORTANT INFORMATION

1. What is an AUSDRAIN EnviroModule?

An AUSDRAIN EnviroModule is a box like structure consisting of 4 sides and 3 or 4 internal braces that slide and lock together to form 600x400x450 modules. These modules are then placed on top of and beside one another to form a structural tank in the ground. The tank is surrounded in either a geotextile fabric for infiltration or polyethylene liner for on-site detention or re-use.

2. What are the main applications for AUSDRAIN EnviroModules?

AUSDRAIN EnviroModules create underground tank systems that meet council requirements for stormwater infiltration, on-site detention and rainwater harvesting/ re-use. The modules are also effective for septic tank dispersal trenches replacing the need to use gravel as the drainage medium.

3. What is the difference between infiltration and detention?

An infiltration tank is surrounded in geotextile fabric and is capable of dispersing stormwater back into the ground where permeable soil conditions exist. A detention tank slows down the discharge of stormwater by temporarily storing the water and allowing it to slowly disperse via an orifice plate to a stormwater outlet.

4. How do I calculate the dimensions of a tank?

Each EnviroModule tank is designed using the required number of modules to create the capacity. The tank should be in a square or rectangular configuration using the module dimension of 600mm long, 400mm wide and 450mm high.

5. How many modules are needed for a required capacity?

There are 9.25 modules per cubic metre. The modules have a void capacity of 95% so to achieve 1000 litres or 1 cubic metre would require 9.6 modules. The number of modules should be rounded to the next number to gain a uniform configuration. For example, if you require 49 modules then round this to 50 to create a 2.0x3.0x.9m tank.

6. What capacity should a tank be designed for?

A hydraulic engineer will need to calculate the capacity of an infiltration or detention tank. The capacity will depend on variables such as permeability of the soil, average rainfall/intensity and the surface area of the runoff. The capacity of a rainwater harvesting/ re-use tank will depend on the expected water usage requirement.

7. Are the modules trafficable?

The standard duty module (3 braces) is non-trafficable and should only be installed in a landscaped area. Extra duty modules (4 braces) are suitable for light to medium traffic in a driveway or carpark provided that a 150mm minimum re-reinforced concrete slab is laid over the surface of the tank to evenly distribute loads.

8. Can the modules be installed in sloping terrain?

It is recommended not to install the modules in sloping terrain as this can result in excessive lateral pressures. To avoid this, the tank area should be excavated to a flat surface and retained to relieve any pressures from the slope behind.

9. What type of back-fill material should be used?

It is recommended to back-fill with washed river sand in the case of an infiltration tank to prevent clogging of the geotextile fabric. Detention tanks and re-use tanks should be back-filled with a clean, well compacting fill. Topsoil can then be placed above the tank as the growing medium.

10. How should the tank be compacted?

Avoid using heavy machinery over the tank as this may damage the underlying modules. A light hand operated roller or small excavator on tracks may be used to compact the back-fill once 400mm of cover has been placed over the tank surface.



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11. What are the various tank liners/ membranes available?

An infiltration tank is surrounded in geotextile fabric to allow the water to filter through the fabric and soak back into the ground.

A detention tank is surrounded in a polyethylene plastic that is supplied in rolls. Unless specifically required, the liner does not need to be watertight as the tank is designed to empty regardless following each rain event.

A rainwater harvesting/ re-use tank must be completely watertight and uses a factory welded liner or flat sheet (Flexi PE) that does not require welding or seeling on site. The liner is supplied with a base and lid making installation straight forward.

12. What is the recommended back-fill and cover of each tank?

It is generally recommended to back-fill each tank with clean washed river sand to 100mm above the tank.

A further 300-400mm layer of topsoil can then be placed over the top. Where a re-inforced slab is placed over the tank and extra duty modules have been installed the cover can be reduced to a minimum of 200mm.

13. How are inlet and outlet pipes connected to the tank?

AUSDRAIN supplies a 150mm pipe connector that easily clips to any side of the EnviroModule. Reducers can be used for smaller pipe sizes; otherwise, an opening can be made into the EnviroModule for the pipe to fit through. In the case of large pipe diameters it may be necessary to butt the end of the pipe to the tank and secure with the geotextile or plastic liner.

14. How should the EnviroModules be installed?

Each EnviroModule must be installed with the 450mm side in the upright position to ensure maximum strength. The Modules can be placed on top of each other and side by side to create the required width and length. It is recommended that the modules are installed to a maximum height of 3 modules (1.35m) for standard duty and 4 modules (1.8m) for extra duty modules.

15. Do the modules need to be tied or connected together?

It is recommended to use AUSDRAIN EnviroModule connector pins to create double and triple modules. This will hold the tank firmly together prior to backfilling. Plastic cable ties can be used to secure the tank around the perimeter.

16. What is the recommended overlap for the geotextile fabric or liner?

The geotextile fabric and/or liner should completely surround all sides of the tank and include allowance for 200mm overlap at each seam. Any irregularities or punctures should be noted and rectified prior to backfilling.

17. What maintenance is required for an AUSDRAIN tank?

Due to the crate like nature of each tank, there is no access inside the tank. Pre-filtering of stormwater is essential prior to entering the tank. This can be achieved by utilizing Ausdrain EnviroSump(s), Pre-cast pits with removable trash screens or on larger projects it may be necessary to install a Gross Pollutant Trap (GPT). No maintenance of the tank should be required given that a suitable pre-filtering device is installed.

18. When can the EnviroSump be used?

The EnviroSump is a 600x600x700 unit that is suitable for smaller size projects. In high rainfall areas it may be necessary to install more than one EnviroSump to cope with high rainfall events. On large size projects, a Gross Pollutant Trap may be required. This is particularly important where there is a need for grease and oil separation such as from a driveway or carpark. The EnviroSump does not treat nutrients, grease and oil and other pollutants that would require a more sophisticated filtration system.

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