WATER TANK INSTALLATION GUIDE

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Contents:

1. Slimline Tank Requirements

Slimline tanks must be installed on a concrete slab, failure to do so will void your warranty, all other tanks are optional.

- All tank installations must be positioned in accordance with requirements of your Local Council or building authority.

a. Cement Slab

- The dimensions of the cement slab required for Slimline Tanks are as follows:

  2100L Slimline – 2420mm L x 750mm W (Steel mesh – minimum grade F52)
  3000L Slimline – 2490mm L x 870mm W (Steel mesh – minimum grade F52)
  5000L Slimline – 3120mm L x 1170mm W (Steel mesh – minimum grade F52)

- Cement slab is to be minimum 100mm thick.
- One layer of reinforcing mesh 25mm from the bottom is also required as will minimize the possibility of your slab cracking under the weight of the tank.
- Using a level make sure the top of the formwork is level along its length and across the width of the slab.
- To form the slab, set up formwork so the inside dimension is of the minimum size of a Slimline Tank (as quoted above) or 20mm wider, this also applies to Round Tanks if you choose to install a slab.
- Either use ready mixed concrete or mix your own on site to form the slab.
- Make sure all the corners are filled with concrete mix and no air pockets have been captured under the surface of the slab.
- Smooth and level the top of the slab using a flat piece of timber, then finish with a timber or steel trowel.

Slimline Tanks are moulded with their own supportive structure.

- Without having to employ special lifting equipment where the access to the site is rough and uneven, use wooden boards to create a smooth surface for easier manoeuvrability.

2. Round Tank Requirements

- Round tanks can be installed on Quarter Minus, sand, cement slab, dirt or grass site, ensure soft surfaces are compacted very firm.
- You must ensure the surface is completely clear of stones or branches as these will pierce through the base of tank.
- Your cleared surface is required to be 20mm wider than the dimension of your tank.
- All tank installations must be positioned in accordance with requirements of your Local Council or building authority.

a. Quarter Minus/Sand

- Prepare boxing 20mm wider that the dimension of your tank.
- Shovel 40 – 50mm of Quarter Minus/sand into prepared boxing.
- The Quarter Minus/sand may be 50mm at the lowest point and 10mm at the highest point.
- Distribute evenly and level with the shovel.
- Totally wet all Quarter Minus/sand.
- Walk over the entire base to compact the Quarter Minus/sand.
- Shovel another 50mm of Quarter Minus/sand into the boxing.
- Distribute evenly, wet down, and compress.
- Repeat this activity until the box is full.
- When level with the top of the boxing use a level or a long flat piece of timber to screed off.
- Wet down and compress.

b. Dirt/Grass

- Remove all organic material, plants or tree roots from the ground.
- When installing tanks onto grass, the layer of grass must always be removed.

 If it is not removed the Quarter Minus base/sand will sink when the grass

decomposes.

- Place the tank into position and mark the outline of the tank into the grass.
- Remove the grass within the outline.
- Ensure the area within the outline is smooth and level.
- Now your surface is ready to install your Round Strongform Rainwater Tank.

3. Underdeck Tank Requirements

- Underdeck tanks can be installed on Quarter Minus, sand, cement slab, dirt or grass site.
- These tanks are usually placed in an area that has minimal head room.
- Prepare the site by clearing a level area, place 100mm of sand or Quarter Minus on the prepared area.
- Place the tank carefully on top of the base.
- The overflow unit can be situated anywhere around the tank approx 20mm from the top seam.
- The ball valve can be placed anywhere around the base of the tank, approx 20mm from the base.
- Cut a 25mm hole, using a hole saw (remove any shavings), remove the nut off the flange, position the flange into the hole then tighten the nut onto the outside of the hole to keep the flange in place.

  One way to position the flange is to put the flange onto a broom handle or piece of yellow tongue, put the end of the pole through the hole you cut for the flange and let the flange slide down the pole and into the hole.

  Carefully pull the flange the rest of the way into the hole and tighten the nut onto the outside. NB. The rubber washer stays inside the tank to prevent water leakage.
- A support pole is provided with the underdeck tank. This support pole is placed inside the tank, to one side of the inlet hole. The pole helps support the roof of the tank. Fixing a screw through the roof of the tank and into the pole will secure it in position.
- The strainer is then placed in the inlet hole and secured with stainless steel screws.
- All tank installations must be positioned in accordance with requirements of your Local Council or building authority.

4. Setting up the Tank

a. The Overflow Unit

- All tanks are factory fitted with the flanged outlet "overflow unit" - (except the Underdeck tank)

  NOTE: The mozzie screen and connecting pipe work should NOT be glued in place to allow for regular removal and cleaning of the screen.

b. The Tap and Ball Valve

- To install your tap and ball valve, determine which of the threaded inserts are in the most convenient position for your needs.
- Cut out the blank behind the inserts you are going to use. Using a hole saw cut around the inside of the insert and remove the blank and shavings from the tank, alternatively use a 25mm hole saw.
- Use plumbing tape around all threads, then carefully screw the ball valve onto the other end. (Figure 1a).

Figure 1a

5. Pipe Work

- Confirm the positioning of the tank, the inlet and outlets, and check where the existing down pipes is positioned.
- Make sure the overflow faces the direction back to the existing down pipe to allow for a neat job.

a. Materials

- Typically 90mm PVC pipe is used for tank installations, however, 100mm is becoming increasingly more popular.
- Measure all distances and angles from the gutter to the inlet strainer and from the overflow to the drain.
- Cut lengths of PVC accordingly.
- Connect all lengths and connectors together to check for fit. 90° bends and square to round adapters are also available in Merino and Mist Green.
- Use *Solvent Cement type P for PVC pipes* to glue each piece together.
- Start from the top and glue each piece into position as you go to ensure all angles are correct.

b. Location of Pipe work

- Position pipe work so that it does not interfere with the normal operation of the following:
  (1) A doorway, (2) window and access opening, (3) other aspects of the normal operation of a building or (4) where it does not cause a nuisance or injury to persons.
- The suggested position would be: (1) as close as practical to the wall of any building or supporting structure or (2) at least 100mm clear from any other pipe work.

c. Horizontal Pipe Work

- Horizontal pipe work shall be supported by brackets at a maximum distance of 1.2m.

d. VerticalPipe Work

- Vertical pipe work shall be supported by brackets at a maximum distance of 2.5m.

e. Connection to Tank Inlet

f. Connection from Tank Overflow

g. Square to Round

- 100 x 75mm to 90mm diametre square to round adapter.
- Remove entire down pipe.
- Connect the square to round adapter to the gutter outlet.
- Run pipe to the centre of the inlet strainer.
- Connect the overflow to the drain.

h. First Flush Systems

1. First Flush Inlet

2. First Flush Outlet

i. First Flush Inlet

- The t-junction diverts the first water washed off the roof and collects it in a downpipe. The recommended collection is 20L. For a 90mm pipe the length is about 3m.
- Once this down pipe fills up the ball floats up and blocks the downpipe.
- The water then runs over the ball and into the tank.

NOTE: Ensure the piece in (Figure 5b) is in position when the downpipe is glued in.

Figure 5a

Figure 5b

Figure 5c

j. First Flush Outlet

- Glue the outlet onto the bottom of the downpipe.
- The outlet should be at least 250mm off the ground.
- Once glued into position, unscrew the bottom half of the outlet and place the ball inside.

Figure 5d Figure 5e Figure 5f

k. First Flush Filter

- The red washer (Figure 5g) comes in a couple of sizes; use the washer with the smallest hole.
- The washer size controls the rate of dripping from the outlet.
- Push the washer into the bottom of the nozzle.
- Push the filter (Figure 5h) into the bottom of the out let and screw the nozzle on (Figure 5i).

Figure 5g Figure 5h

I. Outlet Assembly
Figure 5i

m. First Flush Operation

- When it rains the contamination in the initial runoff will be diverted to the downpipe. Once the downpipe is full the ball will block the downpipe and water will start flowing into the tank.
- Water will continue to drip from the outlet after the rain has stopped.
- If it is not dripping the filter may be blocked.
- To clean the filter, unscrew the nozzle, remove the filter, and hose off.
- Every so often clean the stormwater pipe using a hose.

6. Multiple Tank Connection

- Each tank should have a ball valve connecting the tanks together.

  If there are problems with any of the tanks each one can be isolated and the minimum amount of water would be lost.
- Position tans so overflows can be connected.
- Install the overflow unit (as shown in figure 6a) but do not install the mozzie screens on the joining pipe.
- Join the overflow units using 90mm stormwater pipe.
- If possible push the 2 tanks together to ensure a tight fit.
- Only glue them together once the bottom connection has been setup.

Figure 6a

- The 2 x Threaded inserts in the base of the tanks should be facing each other.
- Screw a ball valve onto each thread, after removing the blank in the tank
- Screw the flexible hose into both ball valves.

Congratulations!

You have successfully installed your Strongform Rainwater Tank.

7. Troubleshooting

Problem	Cause	Preventative Measure	Maintenance	Corrective Action
Water leaking from overflow	Blocked overflow strainer	Keep overflow strainer clean. The intake of fine sediment to the tank that may cause blockages can be minimised by installing a first flush water diverter.	Clean overflow strainer regularly and keep roof and gutters free of leaves.	Remove overflow strainer, clean and replace.
	Insufficient fall on overflow pipework		Inspect all tank pipework every 3 months.	Alter pipework connection to overflow to ensure it falls away from the tank
Outlet fitting is loose or leaks	Tightening nut is loose – This is not a manufacturing fault. Fittings may vibrate loose in transit or your installer may have loosened it to connect a valve.			The nut on the outlet fitting has a left hand thread and needs to be turned counter-clockwise to tighten it. (See figure 3) If you are unable to do this contact your installer or local plumber.
Tank overflowing from inlet	Blocked overflow	Keep overflow strainer clean. The intake of fine sediment to the tank that may cause blockages can be minimised by installing a first flush water diverter.	Clean overflow strainer regularly and keep roof and gutters free of leaves.	Remove overflow strainer, clean and replace.

Troubleshooting (continued)

Problem	Cause	Preventative Measure	Maintenance	Corrective Action
tank overflowing from Inlet (continued)	Insl.lffiCiaril overflow capacity	E.risl.lrelliafyol.lr overflow capacity is equal to or greater than your inlet 91lPil9ily	clean overflow strainer regularly and keep roof and gutters free of leaves	Trista:lladclitlonar or larger overflow ▮ reduce volume of water entering tank
	Backflow from blocked stormwater	Use a physical air break or non return valve at **connection of** overflow to stormwaler	s!ormwalei system may need inspection by a plumber if problem is persistent	Unblock slormwater **drain and use a** physical air break or non return valve between the tank overflow and stormwater connection
Sulphide/ sewerage odours	Accumulated sediment at the bottom of tank allowing Anaerobic growth	Minimise contaminants flowing into tank by keeping catchment area clean. Consider installing first flush or leaf heads on the lank connection	Inspect tank internally every 2 years.	Clean tank if required and disinfect tank and pipework by flushing with chlorinated water.
	Stagnant water and slimes in pipework	Avoid U-bends and other pipework that can hold stagnant water. If such pipework is unavoidable of drainage ports at these locations is recommended.		Remove stagnant water or flush pipework with chlorinated water or use Davey installation Aquasafe which destroys virtually all bacteria and viruses
	Dead animal in gutters or downpipe	Install gutter guards and **remove** overhanging branches	Inspect gutters and pipework regularly	Remove animal and flush lank and pipework with chlorinated water.

Troubleshooting (continued)

Problem	Cause	Preventative **Measure**	Maintenance	Corrective Action
Musty Odours	Water contaminated by decomposing leaves, pollen and other matter accumulated in gutters or inlet strainer	Install gutter guards and **remove** overhanging branches	Inspect gutters and pipework regularly	Clean gutters and inlet **strainer**
	Ugiit penetration into lank or pipework causing algae growth.	tiisureliiJiit guard is installed and check for other points of light	TnspecHBni< water every 6 months	close points **of** light penetration.
Slime on inside of lank	Mii:rol:lial9roW1:ii	J>llnllt!"fliticm All tanks that continuously hold water will develop some slime below the water level	Nonereiil.lirec:l	Nonerequirec:l as these slimes are naturally occurring and are not harmful.
Little or no water collecte in tank after rain	Tank is connected to a downpipe that services a small roof area	Check the fall of roof catchment areas and which downpipes collect the most water before instllllingll3,nl<		Re-direct another downpipe to tank.
	OuUet valve left open or faulty	Ensure outlet is in closed position when not using water		Check that outiet is secure and valve closes properly
	First flush system installed incorrectly or malfunctioning	Install any water diverters or other such systems as per the manufacturer's instructions		Check operation of water diverters.

- If you have tried all of the suggested remedies to the problems above and still have problems you may need to contact your installer or local plumber.
- Strongform Water Products warrant its goods under tl1e terms of our 10 year Warranty agreement which can be found online at www.strongformwater.com.au
- A minimum call out fee plus labour and materials used will be charged if Strongfonn are called to fix any problem that is not a result of faulty workmansl1ip.

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