

Tank Liner Installation Guide

This guide is for an open space water tank (no support columns)

DURATANK
Range of Durable Tank Liners

Please thoroughly read through this installation guide before starting.

WARNING: You must ensure that the tank is structurally sound before a liner can be installed.

Also you must ensure there is adequate ventilation and no fumes when working in confined spaces. Your water tank must be safe to work in before you can enter. Always seek professional advice if you are unsure.

Also refer Appendixes A, B, C & D for extra installation information where necessary.

This installation guide can also be viewed as a video at <https://youtu.be/ywQap2q1E68>

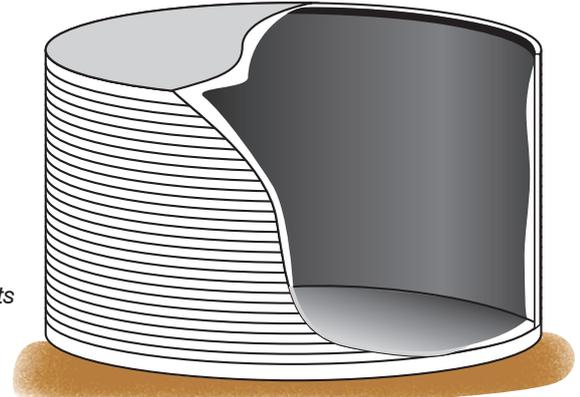
BEFORE YOU START

We recommend that you have the following:

- Wet / dry vacuum or dust pan & brush
- Heavy-duty PVC tape
- Chalk stick for marking out
- Screwdriver / stillson for removing outlet fittings
- Sand, newspaper or geotextile underlay
- Drill (preferably cordless) with 5mm bit
- Ladder
- Stanley knife
- Rubber mallet
- 1 cartridge of silicone natural cure sealant per 6m of tank perimeter when using extrusion
- File and Hacksaw (for removing sharp edges and old fittings)

OPTIONAL ITEMS

- 5mm pop rivets & rivet gun (or suitable fasteners, depending on type of tank)
- Faceplate to seal around existing outlets
- Fixing extrusion (or other fastening method)
- Old garden hose & wire (optional for securing corrugated tanks)



Make sure the tank is clean, dry and free of anything that can damage the liner.

PREPARATION

IMPORTANT: Don't let hot drill bits or other sharp tools come into contact with the liner!

Your new tank liner can be fitted into corrugated, poly, flat steel and concrete tanks that have either open or closed tops. The type of tank you have will determine how the tank liner is to be installed.

Prior to placing, unfolding and installing the tank liner, ensure that:

- i. the tank structure is completely dry and clean of all rust and scale.
- ii. any metal surfaces should be coated with suitable rust proofing agent(s) and cured thoroughly.
- iii. the tank is completely drained.
- iv. make sure there are no hazards such as sharp edges, protrusions, stones, roots etc that have the potential to damage or puncture the tank liner.
- v. do not wear shoes or any other footwear that could damage the liner.
- vi. ensure any tools or ladders are placed on protective fabric or have protective feet/boots attached.
- vii. you drill a new overflow outlet into tank wall if needed, refer to Appendix A for guidance.
- viii. you choose a suitable method to secure the liner, see Appendix A on available methods.

UNDERLAY

If you are using a geotextile protection underlay (highly recommended) it will be supplied in two pieces, a base and a wall section. The base is simply placed on the floor as evenly as possible. The wall underlay will then be temporarily hung in place until the tank liner is installed.

For closed top tanks, hang the geotextile protection underlay along the wall about 100 mm below where the liner will be hung from. At this point you only need to secure about 1 metre apart, making sure that the geotextile is not tight between each anchor point. For open top tanks, hang the liner over the edge. It is often a good idea to then drill all of the fixing positions prior to hanging the liner. (Ensure all drill swarf etc is removed before hanging geotextile and liner). If you do pre-drill all of the fixing locations for hanging the liner, make sure that there is a gap of at least 200mm between each fixing location.

The wall underlay will also overlap the base underlay by a small amount. You can tape any excess floor geotextile to the wall and overlap any excess material from the wall and or floor.

Put pressure on the geotextile adjacent to any hazards to make sure none of the hazards penetrate the geotextile. If the hazard pierces or is likely to pierce the geotextile, remove the puncture point.

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LINER REPLACEMENT

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There are two ways to secure the tank liner, depending on the type of tank you have. With *open top tanks*, the liner is folded over the edge by about 150 mm and secured around the outside. With *closed top tanks*, the liner is secured around the inside of the tank, above any inlet points.

SECURING A LINER IN A CLOSED TOP TANK - Diagram A

With closed top water tanks, the liner can be secured with rivets, self-tapping screws or concrete wall anchors, depending on the type of tank. See Appendix A for the different specific variations on this method.

Carefully unroll the liner on the tank floor and open the liner up, making sure that the centre of the liner (marked with a circle) is exactly in the centre of the tank. Take care when unfolding the liner and ensure that you unfold each fold one at a time. As the tank liner is made 3% bigger, make sure that the wall to base seam (the welded seam that continuously goes all the way around the tank) is evenly pushed just **above** the floor/wall juncture (where wall meets the floor of the tank).

Start hanging the liner wall in a similar manner as you used when hanging the geotextile on the wall the 12, 3, 6 and 9 o'clock positions or the four corners. Ensure that the wall section is hung vertically, by checking that the pleats (folds) are hanging vertically. When you start to hang the rest of the wall, hold the geotextile underlay wall material behind the liner wall and attach both of them at the same time.

If the folds (pleats) on the tank liner wall are not vertical then the tank liner will have to be re-adjusted.

As the liner is provided slightly oversized, at **NO POINT** should the liner to be under any tension in any place.

SECURING A LINER IN AN OPEN TOP TANK - Diagram B

Check both the inside of the tank as well as the rim of the outside of the tank for any sharp or protruding objects that can either damage or puncture your liner. The Geotextile protection underlay should help protect the liner as much as possible when it is dropped over the top of the tank.

Once the liner is inside the tank, unroll the liner and make sure the liner is in place by checking the perimeter wall to base seam is just above the wall to base join of the tank. Fold both your Geotextile protection underlay wall (if you have not done so already) and your liner over the top of the tank. As the liner is made 3% bigger, there will be some small wrinkles. Make sure that the pleats (folds) are hanging vertically.

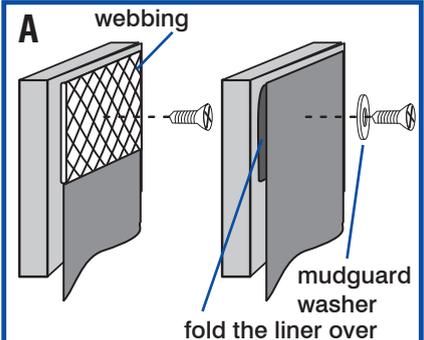
Once the wrinkles/pleats are evenly distributed, fix the liner to the outer rim of the tank by tying fencing wire around the perimeter of the tank or secured by use of a baton bar. Make sure that there is plenty of slack at the bottom of the liner wall inside the tank so that it is easier to install your tank fittings.

Please Note: Due to potential risk of the fencing wire damaging the liner, it is strongly recommended that the wire is covered (example: Garden Hose). See appendix A for other securing options.

Examples of Securing Methods

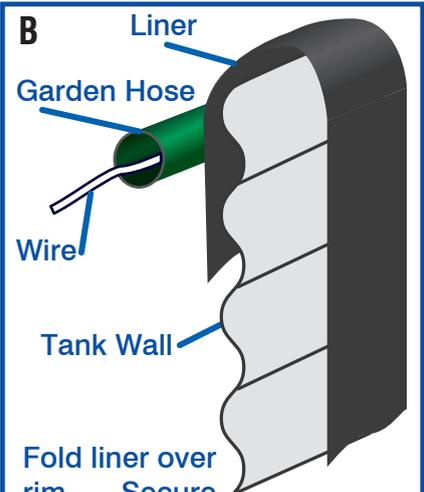
Please read appendix A for different ways of securing!

Closed Top Water Tanks



If your liner has webbing, make sure to secure into this area. If not, make sure to use a mudguard washer or similar. Increase support by folding the liner over.

Open Top Water Tanks



Fold liner over rim. Secure with wire around perimeter of tank, using an old garden hose to protect the liner.

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RE-ADJUSTING THE LINER

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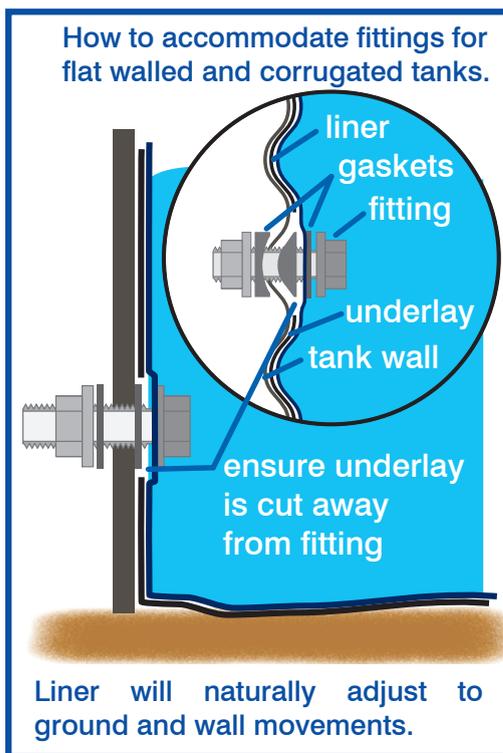
The easiest way to do this is to leave excess material between the four initial hanging points and then keep attaching in the middle (between 2 points). Once the 12, 3, 6, 9 o'clock or corner positions have been attached, go to the mid points between each of the above initial attaching points. Continue attaching mid points until the liner has been completely attached in each section.

Once the liner wall has been fully hung (attached) all the way around the tank and the folds/pleats are all about the same size and spacing all around the perimeter, walk around the base floor junction and start pushing the wall to base seam (the same as talked about in step 2) into where the floor of the tank meets the wall. If done correctly then there should be some overhang where the liner wall folds over itself near the base, the reason for this is so that when filling the tank there is no stress on the wall.

FITTINGS (Poly and Metal Tanks)

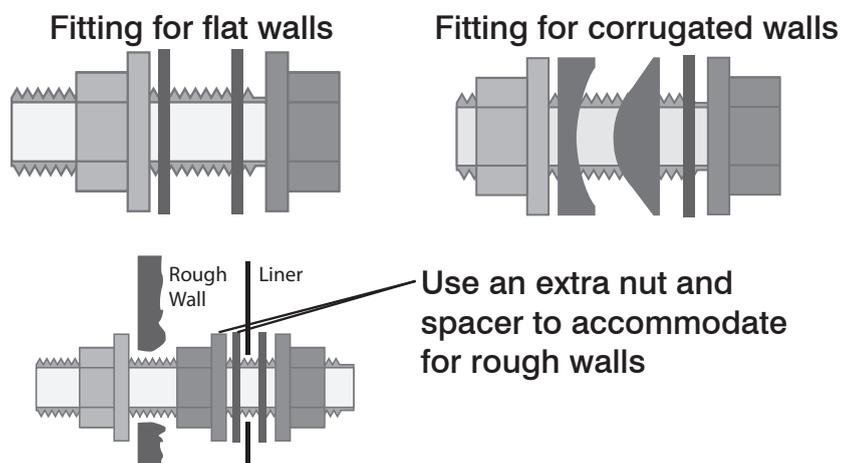
When installing a fitting, ensure that there is sufficient slack material all around the penetration. There should be no stretching of material near or at the fitting. Locate where your fitting needs to be positioned and cut a hole smaller than the threaded pipe for your fitting into the tank liner.

Once this has been done, put a bead of potable grade silicon around the threaded pipe of the fitting (just above the rubber gasket) and push the fitting through the hole of the liner, making sure the fitting goes through the tank penetration to the other side of the tank.



After the fitting has been installed from the internal side of the tank to the external side, tighten the second nut of the fitting against the outside of the tank, making sure that the fitting is as tight as possible.

Go back inside the tank and put a big bead of silicon all the way around the outside of the circumference of the fitting, as this will create an extra layer of waterproofing. Once this has been done, let the silicon dry and start checking the liner.



AFTER INSTALLATION

The final step is to check the liner. In order to do this you will need to partially fill the tank (around 300mm to 400mm). If for any reason the tank cannot be filled or at least have 300 – 400mm of water covering the floor, you must secure the liner in such a way as to prevent any movement of the liner within the tank. When filling, if there is any stress or tension on the liner, drain the tank and re-adjust the liner to eliminate the problem.

Disclaimer: Fabric Solutions Australia Pty Ltd has taken all care in the preparation of this guide but accepts no responsibility for any errors or omissions. This publication is intended as a guide only and not as a substitute for professional or tradesman's advice. No person should act in reliance upon it without appropriate advice and knowledge of workplace health and safety requirements.