

Designed and manufactured for domestic wastewater disposal

### **ASSEMBLY AND INSTALLATION INSTRUCTIONS**

Parts supplied with each Polymer Tank Riser:

- 1: One moulded Polymer Tank Riser
- 2: Sixteen Stainless Steel Bolts
- 3: Thirty-two Stainless Steel Washers
- 4: Sixteen Stainless Steel Nuts
- 5: One moulded Polymer Tank Reinforcement Band

### **Why Choose a Riser?**

The performance requirements given in the current Australian National Standard for on-site domestic wastewater treatment units, AS/NZS 1546.1:1998 (septic tanks) requires all Septic tanks, and associated treatment vessels and collection wells, when installed in the ground, to have the top surface of the Tank at, or just above, ground level to provide clear access to the Inspections and Access Covers while preventing the ingress of surface water.

Where it is necessary for the Inlet to the tank to be further below ground than normal for the Inlet position, as dictated by the contours of the ground and the distance from the residence, Section 2.2.2.2 of AS/NZS 1546.1:1998 permits the Tank to be installed deeper to match the piping requirements, but the Access and Inspection Covers must still be at, or above, ground level. While the Standard gives only one example of the methods by which this may be achieved, describing the use of "Extensions" which are basically pipes fitted to the top of the Tank, and having Inspection and Access Covers fitted at their upper ends, such "Extensions" have been found to have at least one major disadvantage, in that the weight of the soil used to cover the buried Tank may place a load on the Top Cover which approaches, or exceeds, the Top Load Test criteria. Such a situation could cause the failure of the Tank Top Cover while in service.

Section 1.3.3 of the Standard does not prohibit the use of other designs which comply with the same performance criteria as those described in the Standard. Everhard Industries Pty Ltd have, for many years, manufactured for their range of steel-reinforced concrete tanks, "Riser" products, intended to allow the deep installation of Tanks, while keeping the Access and Inspection Covers at, or above, ground level while also not causing extra loading on the Top Cover. This concept has been extended to the Everhard Industries range of Polymer Septic Tanks and Collection Wells.

### **What is a Septic Tank Riser?**

A Riser is an extension to the upper wall of the Tank, of the same diameter as the Tank itself, and intended to be positioned on, and attached to, the rim of the Tank, thereby providing a duplicate of the Tank rim which can then accept a standard Top Cover and bring the Access and Inspection openings, and their Covers, to ground level. Inlet and Outlet connections to the tank remain unchanged, and the upper rim of the parent tank is still regarded as the upper rim for determining Tank capacity.

**Risers are not intended to increase the volume of fluid which a Tank is designed to accommodate.** The connection between the Tank and the Riser is not exposed to contact with, or immersion in, the Tank contents.

### **Are Risers Approved?**

Everhard Industries Pty Ltd are the holders of Standards Licence Number 1950, issued to show that its range of Injection Moulded polymer Septic Tanks has been examined and found to comply with all of the relevant parts of AS/NZS 1546.1:1998.

Applications have been made to each principal regulatory authority for the approval of the Risers where this is necessary, and approval has been granted for their use by the State Health Departments of New South Wales and South Australia.

## Engineering Certification

Everhard Industries Pty Ltd hereby certify that tests carried out to prove the resistance of a septic tank to the applied lateral load required by AS/NZS 1546.1:1998, have successfully demonstrated that Everhard 2500 and 3000 litre Polymer Septic tanks fitted with a single 300mm Riser adequately comply with the test criteria, provided that a Reinforcement band offering a performance at least equal to the Everhard design is first fitted to the interior of the tank, and that the appropriate installation instructions are rigidly adhered to.

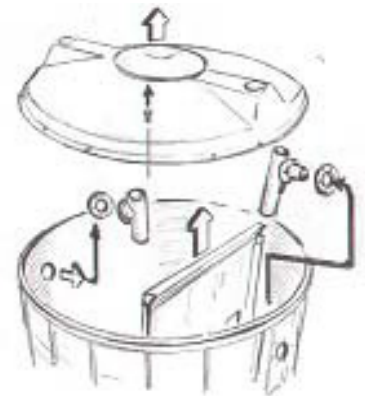
## How Many Risers?

Only one Riser should be fitted to any installed Tank. As depth increases, so does the potential for external hydrostatic load. Increasing the depth of the tank by more than one Riser may result in hydrostatic loads being greater than those supportable by a Tank fitted with a Reinforcement Band. Because of the taper of the Tank and the Band, it is only possible for one Band to be fitted. EVERHARD 3900L Polymer Tanks are already fitted with the Band because of their greater depth, and so they cannot also be fitted with a Riser.

Risers are produced from the same materials, and to the same exacting manufacturing quality standards, as the existing range of Injection Moulded Polymer Septic Tanks. They are designed to provide a 300mm high extension to the top of the wall of the Everhard Polymer Septic tank. The lower edge of the Riser fits into the rim of the parent Tank, and the upper edge exactly duplicates the rim of the parent Tank, providing the same labyrinthine "water-seal" arrangement with the edge of the Polymer Tank Top Cover – a prominent feature of the Everhard Polymer tank design.

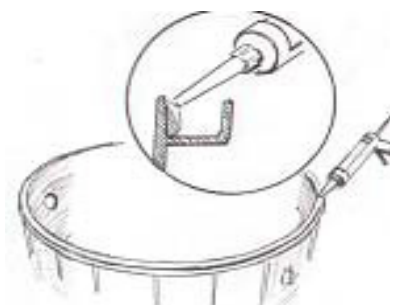
### Figure 1

Remove the Tank Top Cover assembly from the standard Everhard Polymer Septic Tank or Collection Well, after carefully noting the position of the Top Cover compared with the Tank Inlet. Clean the rim of the Tank to remove any dirt or foreign matter. Mineral Turpentine may help remove the remains of original sealant. Methylated Spirits on a clean cloth should be used to remove traces of turpentine or other oily residue. If the Tank is fitted with a Partition, this must also be removed. It may also be necessary to remove fitted Inlet and Outlet connections. Retain all Stainless Steel Screws etc.



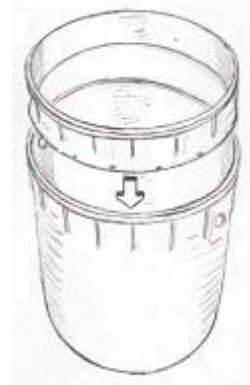
### Figure 2

Apply a full, even bead of suitable flexible silicone sealant around the outside of the inner Tank Rim. Everhard uses and recommends Dow Corning Silastic 732 or 791. Methylated Spirits on a clean cloth should be used to help ensure that the Tank Rim and the skirt of the Riser are clean.

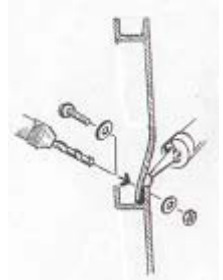


**Figure 3**

Place the Riser 1 on the Tank, so that the lower skirt is positioned in the Rim of the Tank. The flat outer panels of the Riser must be immediately over the flat panels of the Tank.


**Figure 4**

Drill sixteen holes 5mm diameter through the Riser skirt and the inner rim wall of the tank. These holes should be equally spaced, and between the screw holes in the Tank rim. Fit M4 Stainless Steel Bolts 2 with Stainless Steel Washers 3 under the head, into the drilled holes from the outside, with Stainless Steel Washers 3 and Stainless Steel Nuts 4 on the inside of the Tank. Fill the rear of the joint, inside the Tank, with sealant.

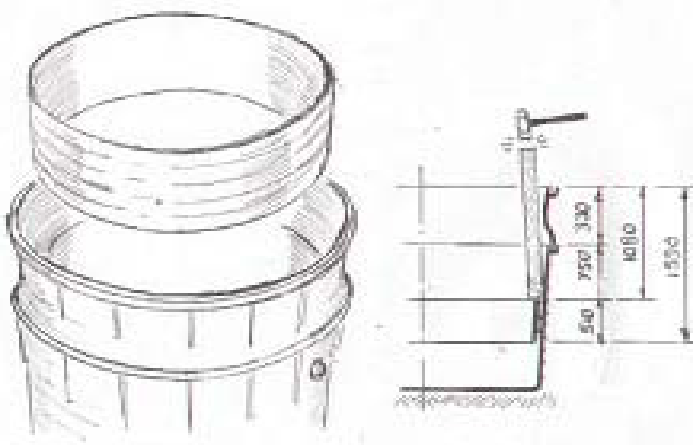


Apply sufficient sealant to the joint, insides and outside the Tank, to ensure that groundwater cannot enter the Tank. Ensure all the Bolts are fully tightened.

**Figure 5**

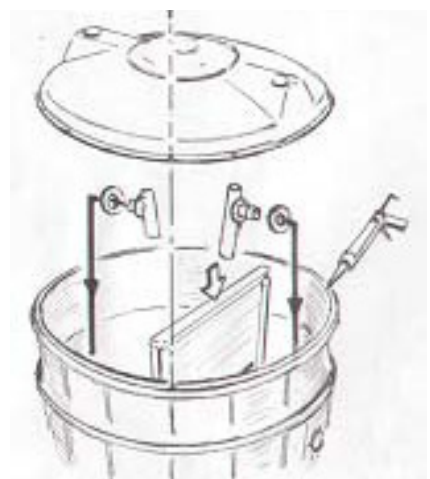
Place the Polymer Reinforcement Band 5 inside the Tank. Ensure that the taper on the Band matches the taper inside the Tank. Press the Band firmly down until it wedges in place. The Band must be level, and not less than 750mm down from the rim of the original Tank all round. The Reinforcement Band is made from the same material as the Tank, and may be "Hot-Air" welded to the Tank if desired as an added precaution.

It is only necessary to have an interrupted (50mm on - 150mm off) weld around the upper edge of the Band. Other means of securing the Band may be employed at the installer's discretion, but care must be taken to ensure that the integrity of the Tank Wall is not breached.


**Figure 6**

Replace any fittings removed from the original Tank. When replacing the Partition, or installing any component which makes contact with the Tank wall at the location of the Reinforcement Band, it will be necessary to alter the component to accept the Band. Everhard Partitions require a cut to be made in the edge flange where it meets the top and bottom of the Band. This will allow a section of the Partition to be folded 12mm back from the original fold and this step-back in the Partition edge will accommodate the Band.

Thoroughly clean the Tank Rim and the Top Cover flange with Mineral Turpentine and then with Methylated Spirits. Apply a full even bead of sealant around the seating surface of the Riser rim and place the Tank Top Cover on the Riser so that the Top Cover is aligned with the correct Inspection Opening above the Tank Inlet. Replace the sixteen Screws first removed from the Tank rim and drive home with a hand-held ordinary or power screwdriver. **DO NOT OVER-TIGHTEN ANY SCREWS.**



### CAUTION

**ONLY ONE RISER SHOULD BE FITTED TO ANY POLYMER SEPTIC TANK OR COLLECTION WELL.** After backfilling around the Tank, ensure that the Reinforcement Band has not been dislodged. Installing a Riser will increase potential buoyancy – Extra Ground Anchorage is essential. For all further details for Polymer Septic Tanks or Collection Wells, refer to the installation and connection instructions supplied with each unit.

Each Polymer Riser to suit EVERHARD Polymer Septic Tanks and Collection Wells will ONLY be sold with a suitable Reinforcement Band, and installation instructions for its' satisfactory deployment. Company agents and other bodies selling or passing these products to other agents or end-users are responsible for ensuring that all such components and instructions are forwarded. The responsibility for compliance with the installation instructions shall be with the final purchaser and/or installer. No standard Polymer Tank supplied from the factory with a Riser shall be supplied without a Reinforcement Band unless the purchaser undertakes to ensure that the Tank is NOT installed to a depth greater than that set by the upper part of the Access Opening of the parent Tank, and absolves Everhard Industries Pty Ltd of all further responsibility.

### IMPORTANT NOTES

EVERHARD Polymer Septic Tanks and Risers have been tested to support the 5kN (500kg) top load and likely side loading required by the National Standard AS/NZS1546.1:1998 for small septic tanks. This is not an indication that Tanks can be expected to safely withstand continually applied loads. No regular pedestrian traffic over Tanks should be permitted. No vehicle traffic should be permitted within 600mm of any tank unless an approved, load carrying, hard-stand traffic area is provided. Tanks MUST NOT be completely buried. There must be clear access to the Access and Inspection Covers at all times.

When positioning pipes and Septic Tanks, note that The National Plumbing and Drainage Code AS/NZS3500.2.2:2003 Section 3.7 specifies minimum cover over sanitary drainage piping as follows:

Location	Cast or Ductile Iron	For Other Materials and if Insufficient Cover
Public roads, rights of way, areas open to heavy vehicles	30mm minimum/ 500mm minimum	50mm overlay and 150mm paving
Other driveways, light vehicle areas	30mm minimum/ 450mm minimum	50mm overlay and 75mm paving
Elsewhere - No vehicles, pedestrians only	NIL/ 300mm minimum	50mm overlay and 50mm paving

Polymer Risers allow pipes connected to the Inlet of a Tank to be laid in trenches with up to 580mm cover.