PREMIER TECH

INSTALLATION GUIDE

REWATEC™

Below Ground Storage Tanks

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Installation Guide

Rewatec Below Ground Storage Tanks

FST Concrete Surround

Manual Version OMI013 UTG9508 Rev 3

Created On: June 2022

Installers: To Safeguard Warranty Please Ensure You Are Using The Latest Installation Manual

Customer Checklist

Complete Installation Record

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Register Warranty

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Familiarise Yourself With This Manual

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Installation Record

Please record details of your below ground tank installation here and keep this document in a safe place.

Unit Installed

Serial Number:

Commissioning Date:

Commissioning Company

Name: ----------

Address: ----------

Contact: ----------

Service Company

Name: ----------

Address: ----------

Contact: ----------

If you require assistance finding a service company, please contact Premier Tech. Your warranty is invalidated if you do not keep to a regular servicing schedule.

PT Water and Environment Ireland

Quartertown Industrial Estate
Mallow
County Cork
IRELAND
P51 PY20
+353 (0) 22 51411
sales.ptwe.ie@premiertech.com
Premiertechaqua.com/en-ie

WARRANTY

Thank you for purchasing a Premier Tech product.

25 YEAR WARRANTY

To activate your warranty complete the form below to receive your warranty certificate by email:

https://www.premiertechaqua.com/en-ie/warranty-activation

- Your below ground storage tank is supplied with a 25-year Parts and Workmanship guarantee.
- This warranty is dependent upon the tank being installed, operated and maintained in accordance with this Installation, Operation and Maintenance manual.
- Proof of correct installation and plant maintenance (servicing) including purchase of serviceable parts MUST be retained, as these will be required in the event of any warranty claim.

Failure to comply with the above Terms and Conditions will invalidate the warranty.

Premier Tech Water & Environment Ireland accepts no liability for any damage or loss, including consequential loss, caused by the failure of any equipment supplied.

Contents

General

1. These guidance notes refer only to the installation of Premier Tech below ground GRP FST Tanks suitable for concrete surround.

2. These guidance notes do not provide site specific installation instructions.

3. If in any doubt about any aspect of the installation please contact Premier Tech on 0191 5878699

4. Generally the FST tank finishes at ground level; do not increase the depth of installation without consulting with Premier Tech.

Transportation Unloading & Storage of Tanks

1. Tanks must be held down during transportation using nylon straps, do not use chains, cables or wire ropes to hold tanks.
2. Do not over tighten straps, causing deformation of the tank shell.
3. Tanks are best lifted by a crane utilising webbing lifting straps. Do not use chains, cables or wire ropes in contact with the tank.
4. It is recommended that a lifting beam is used for tanks longer than 8 meters.
5. Smaller tanks may be lifted with other suitable site equipment, but greater care is needed to control the lift and to ensure the tank is not damaged.
6. Not all tanks will have their centre of gravity at the centre of the tank. Therefore, the lifting straps need to be arranged to ensure the tank is stable during lifting.
7. Move tanks only by lifting and setting, do not drag or roll.
8. Do not drop or roll tanks from the delivery vehicle.
9. Place tanks carefully onto a smooth level even surface, free from rocks, large stones or other debris that could cause point loads on the tank shell.
10. In high wind conditions consideration should be given to strapping down tanks to prevent damage.

Pre-Installation Inspection

1. Tanks should be subject to a visual inspection prior to installation. Special consideration should be given to strap positions. Check for:

- Fractures to the shell or ribs
- Delamination of the GRP
- Scratches and abrasions deeper than 1.5mm
- Stress cracks or star crazing

2. Any damage should be notified to the delivery driver and to Premier Tech.

3. Do not undertake any unauthorised repairs, as this will invalidate the tank warranty.

4. Check that the invert depth is correct, the tank is correct grade for concrete surround and that the inlet and outlet pipe orientations are correct.

5. Where present, all fixings (nuts, bolts, screw fixings etc.) should be checked and retightened to correct any movement during transport. Conder do not accept responsibility for fixings that have not been checked prior to the tank entering service

Excavations

1. Excavations should be planned with due regard to Health and Safety requirements, and should be either shored or battered back to a "safe" angle.

2. The excavation should allow for the minimum concrete surround thickness of 200mm while taking into account any shoring used.

3. Ground instability at formation level e.g. running sand, saturated excavation etc. may necessitate additional excavation and stabilisation with hard core or blinding concrete.

Buoyancy & Anchoring

1. It is not considered that buoyancy and anchorage will be necessary for th installation of the tank. Where there is a risk of high ground water level to avoid flotation during installation the tank will need to be weighted down.

2. A factor of safety of 1.2 minimum is recommended against flotation; increase the thickness of the concrete base to provide the 1.2 FOS where additional mass is required.

3. It is the responsibility of the end user and the installer to confirm the volur of concrete required for installation.

Concrete Specification

1. The specification for the concrete backfill must be selected by the tank installer and considering actual site conditions product location and application.

2. For a typical non-structural application in good ground with non-aggressive soils a C25/30 concrete mix with 25mm to 50mm slump is adequate.

3. Obtain specialist advice for non-typical applications.

Concrete Placing

1. The rate of rise in m/h for the specific concrete type used must be limited to ensure that a design pressure of 15kN/m2 on the walls of the tank is not exceeded.

2. The design of the tank assumes minimal compaction of the surrounding concrete. Where necessary, this may be extended to include light internal vibration. Do not use deep vibration which will substantially increase the pressure on the tank, possibly causing failure.

3. The effects of concrete discharge impact are considerable. These effects must be considered to ensure the maximum pressure of 15kN/m2 on the tank is not exceeded. Under no circumstances should concrete be discharged directly onto the tank.

Live Load

If the tank is installed in an area where traffic, or other superimposed loadings are applied, a structural engineer must be consulted, to design the reinforced concrete surround to the tank to prevent loads being transmitted to the tank.

Control of Groundwater

Tanks must not be subjected to buoyant forces during installation, taking account of ground water levels and surface water run-off, and their accumulation in the tank excavation. This applies even if the tanks are mechanically anchored.

Installation Procedure

1. Maintain a dry excavation until the final pour of concrete has set. Failure to do this may result in voids around the tank and subsequent tank failure.

2. Place the concrete in the base of the excavation to form a level and smooth base onto which the tank can be placed at least 24hours prior to seating the tank. The base concrete thickness should be in accordance with the information provided above.

3. To ensure adequate and even bearing of the tank pour 25mm to 50mm of wet concrete on to the base concrete slab and seat the tank in the concrete while it is still wet.

4. Connect the pipework to the tank, ensuring correct alignment

5. Fill the tank with clean water to a depth of 300mm above the base of the tank and recheck the pipework levels and connections.

6. Commence backfilling evenly around the tank with concrete ensuring there are no voids, particularly at the bottom of the tank shell. Continue filling the tank with water whilst evenly backfilling with concrete around the tank ensuring that the progressive water level is no more than 300mm above the concrete level.

7. The rate of rise in m/h for the specific concrete type used must be limited to ensure that a design pressure of 15kN/m2 on the walls of the tank is not exceeded. Where an increased rate of rise is required then the tanks can be propped temporarily.


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