

# BALMORAL TANKS

## UNDERGROUND BULK LIQUID STORAGE TANK INSTALLATION INSTRUCTIONS

### Before installation

- It is the end users responsibility to ensure the tank application will meet any environmental and legislative requirements that may apply to their particular installation
- It is recommended that a full risk assessment be completed on the site, installation process and all parts prior to installation

### Unloading

- Upon receipt of tank, it is the responsibility of the client/installer to inspect for damage or missing parts. If observed, the tank should not be put into service and the carrier/manufacturer notified accordingly

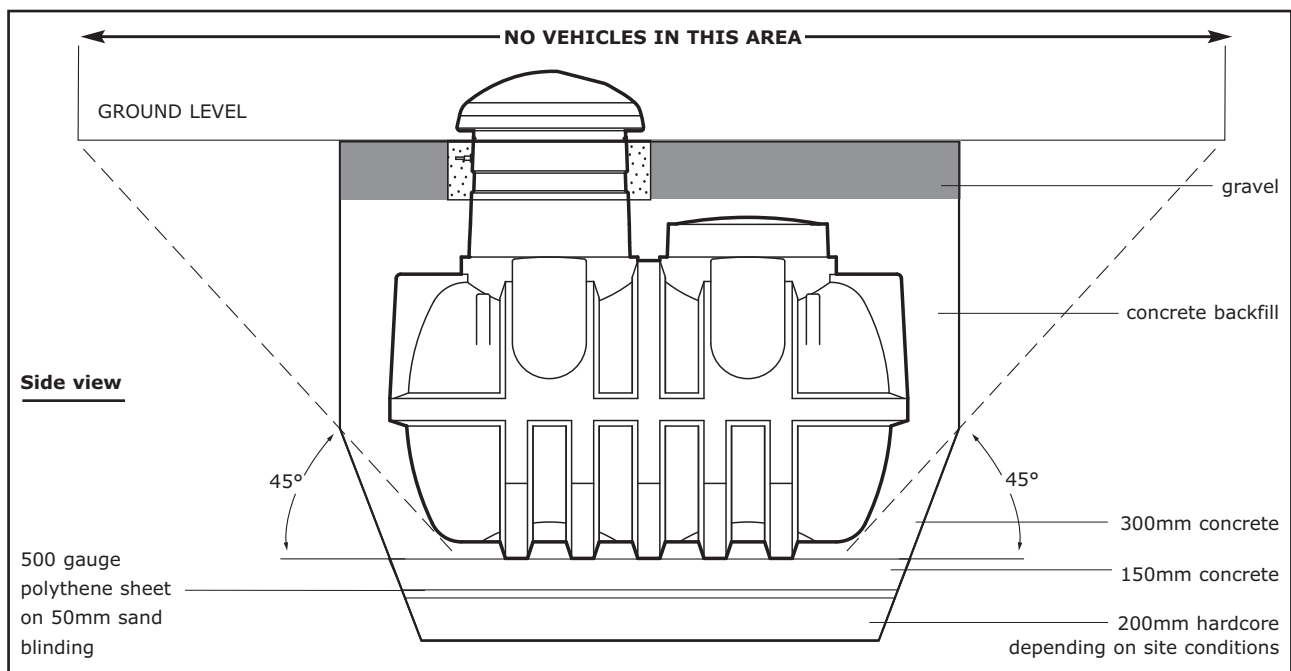
### Location of tank

- All underground tanks **MUST** be buried in concrete
- Superimposed loads, such as vehicles, should **NOT** be allowed within the protection area shown in the illustration below (minimum 2m from the outer edge of the tank). The area should be fenced or clearly marked to restrict access
- If this cannot be followed a reinforced concrete slab must be designed/installed by a qualified civil/structural engineer so that no loads are transmitted directly on to the tank
- The standard installation depth of 500mm, to the top of the tank body, **MUST NOT** be exceeded

### Installation guidelines

- Underground tanks cannot be installed in wet ground conditions where at any time the groundwater may rise above the base of the tank
- The excavation should allow for a minimum of 250mm all round the tank and approximately 500mm below the tank for hard core and concrete
- Allow for suitable pumps to keep the excavation dry until the installation is complete
- Fit suitable planking and strutting as necessary

- Lay:
  - 200mm thick hard core (or as necessary or site conditions)
  - 50mm sand blinding
  - 500 gauge polythene sheet over the base of the excavation
- If necessary, set temporary shuttering to contain the concrete surround
- Lay a wet bed of concrete 150mm thick (strength 20N/mm<sup>2</sup>, slump test 50mm)
- Lower tank carefully onto the concrete. Check that the tank is true and level
- Haunch concrete 300mm up around base of tank
- Back filling:
  - Back fill evenly all around the tank with concrete (minimum 15N/mm<sup>2</sup>) proceeding in 150mm layers. It is vital to ensure that the tank is filled with water 300-500mm ahead of the concrete back fill, then emptied of all water and refilled with the intended liquid to be stored.
  - Alternatively the concrete can be placed around an empty tank in four progressive lifts with a 12 hour delay between each lift to limit the concrete pressure. The tank will have to be carefully restrained by temporary strutting to prevent any chance of flotation during this process. Ensure that there are no voids or areas of differing pressure around the tank.
- **Do not use a vibrating poker**
- Complete concrete backfill to 200mm below tank lid
- Finish to ground level with 12-15mm gravel or earth
- Ensure that the tank lid is a minimum of 150mm above ground and is situated in an area where ground water will not lie
- Ensure that the tank lid has the ability to hinge open to 90°
- Ensure that all holes placed in the tank (eg. for outlet pipes etc) are sealed to prevent ingress of water



This information is for guidance only and can form no part of any contractual agreement either with Balmoral Tanks or any third parties. Balmoral Tanks can accept no responsibility for any assumptions or agreements made as a result of this information.

# BALMORAL TANKS

Head Office & Factories

Balmoral Park, Loirston, Aberdeen AB12 3GY, Scotland  
Telephone +44 (0)1224 859000 Fax +44 (0)1224 859123  
E-mail [chemical@balmoral.co.uk](mailto:chemical@balmoral.co.uk) [www.balmoraltanks.com](http://www.balmoraltanks.com)



  
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