

Vesmaco

Installation Manual for Underground Horizontal Tanks of Glass-Reinforced Plastics (GRP)

The given installation manual provides rules for the typical installation of underground horizontal tanks of glass-reinforced plastics (GRP) in accordance with EN 976-2.

Should you have no experience of installing tanks, make sure to contact the supplier or Vesmaco for a list of certified installers.

Vesmaco is not responsible for any damage caused to the product during transportation or installation or for any damage incurred due to disregard of written instructions.

In case of violation or non-compliance with the installation instructions, warranty card loses its validity.



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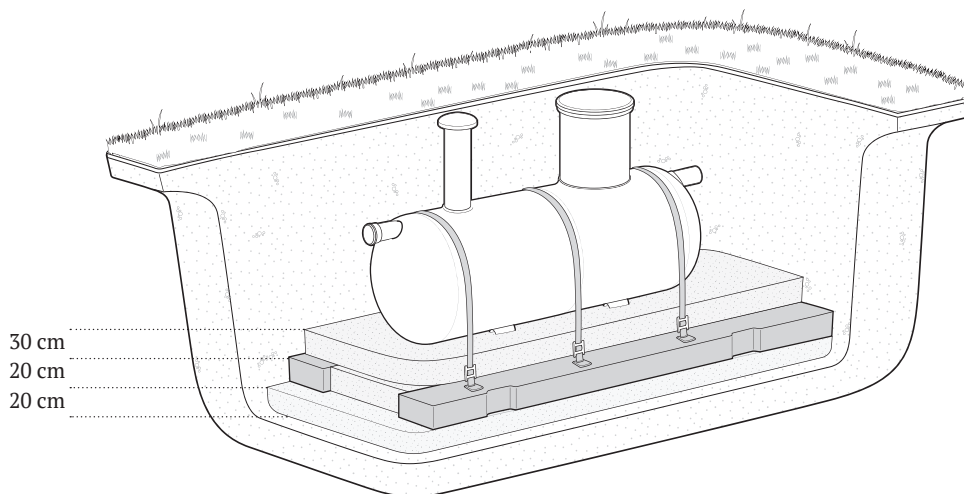
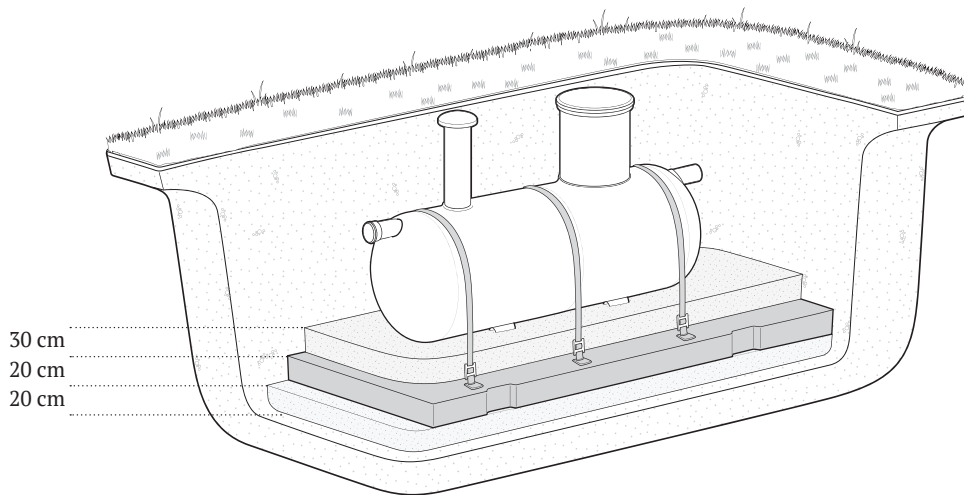
Installation Manual

1. Level the bottom of the excavation and fill it with sand to at least 20 mm. Tamp the sand.
2. Place a 20 cm thick reinforced concrete base slab onto a tamped layer of sand. Pour the base slab with a 20 cm thick layer of sand containing no stones. Tamp the sand.

In the case of stable soils, use of min. 20 cm thick anchor concrete sleepers is allowed.

The base slab/sleepers made from cold-resistant concrete, reinforced with double wire mesh (cell: 150×150 mm, reinforcement diameter: 8 mm).

3. Place the tank onto the tamped layer of sand. Check the horizontal level.



Ensure that the fraction of sand containing no stones is in the range of 0–3 mm; tamp the sand to 95% of the natural soil density (at least 1,500 kg/m³).

The dimensions and weight of the base slab or sleepers are specified by the certified engineering or construction company.

Both the dimensions and the weight should be sufficient to prevent tank uplift after backfilling.

4. Fill the tank with water to a quarter of its volume, install, and tighten the holding down straps.
5. Place first 30 cm lift evenly around the tank. Backfill must be pushed completely beneath the tank bottom, between ribs and under end caps to provide necessary support.
6. Backfill with layers of sand of 30 cm to the level of the inlet and outlet pipes, tamping each layer of sand. When filling the excavation with sand, add water into the tank.

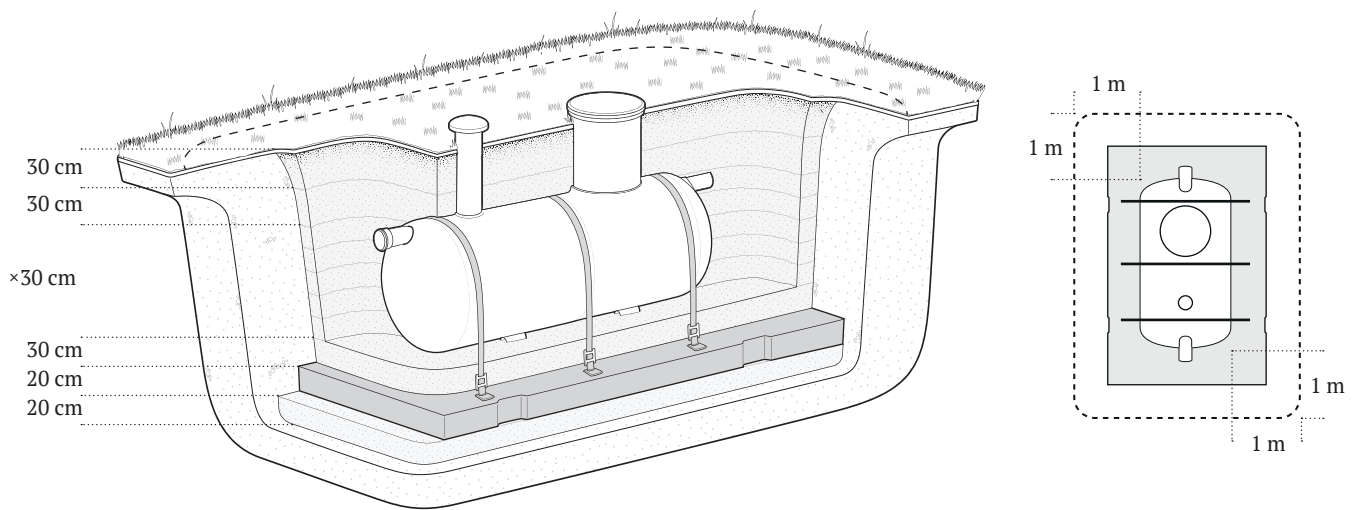


Use only textile straps. Please specify the type, quantity, and value of the straps with your manager.

7. Connect the pipes. Carefully tamp the sand near the pipe joints.
8. When installing level measurement system or alarm device, connect a protective pipe to the tank to secure the sensor cable. Drill a hole in the service pipe or manhole and install level sensor.
9. Fill the excavation to the ground level with 30 cm layers of sand, tamping each layer.

Installation in Green Area

Installing the tank outside the traffic zone (green area), prevent accidental collision with it. The safety zone must exceed the size of the tank by at least 1 m on each side.

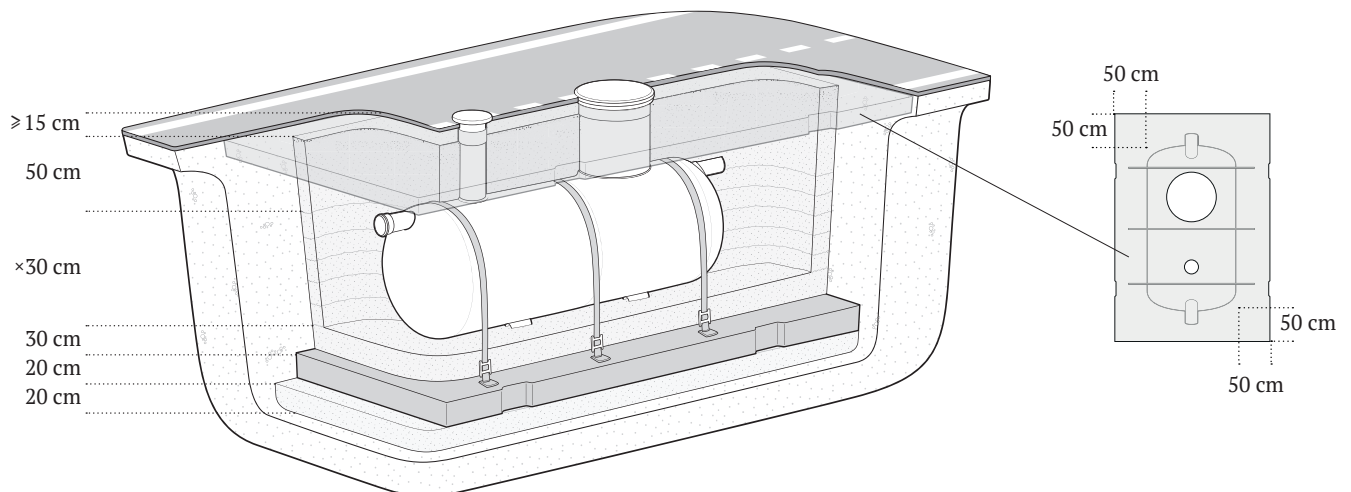


Installation in Traffic Zone

If the tank is located in a traffic zone or parking lot, at a distance of at least 50 cm above it, place a min. 15 cm thick reinforced concrete slab that exceeds the dimensions of the tank by 50 cm on each side.

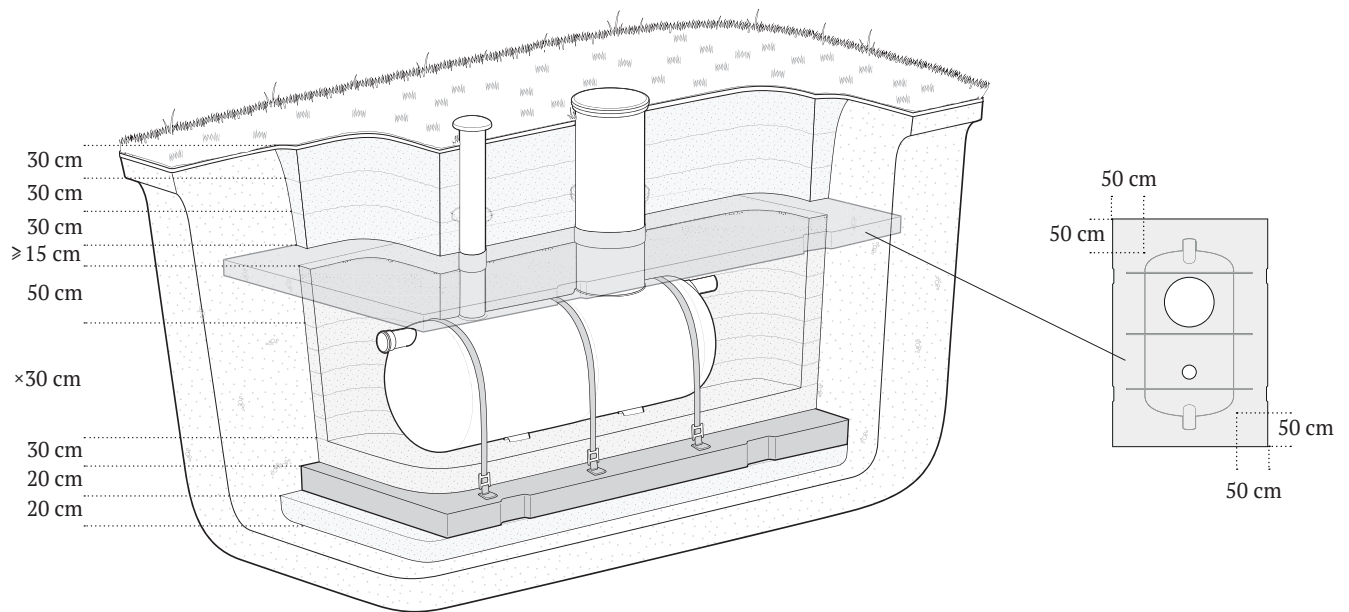
The class/type of the manhole must be appropriate for the place of use. Please check with the company representative.

When using the floating iron manhole, ensure that it does not lean against the upper edge of the manhole top or service pipe of the tank.



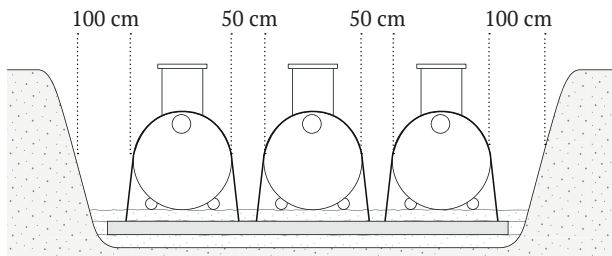
Installation at Depth

If the tank is located at a depth of more than 1.5 m, at a distance of at least 50 cm above it, place a min. 15 cm thick reinforced concrete slab that exceeds the dimensions of the tank by 50 cm on each side.

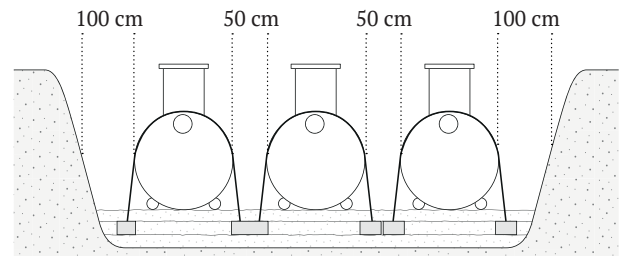


Installation of Multiple Tanks

When installing multiple tanks, make sure to keep a minimum distance of 50 cm between the tanks.



Installation on base slab



Installation on sleepers