Standard Placement & Backfill Requirements for Concrete Tanks - Best practices

Excavation and tank hole preparation:

After excavating the tank hole ensure the base of the hole is a firm and undisturbed substrate, nominally level, with no large rocks present. Ensure the hole is at least 12" wider and longer than the tank being placed. Specific to a septic tank, ensure the front wall, or inlet side, of the excavation is as square and vertical as possible. Once the preparation of the base is complete, add a minimum of 4" of *washed* sand or a granular bed into the excavation. Spread the sand around with a hand shovel; then with a rake, a long straight edge and hand level ensure the sand base is level in all directions.

Specific to a septic tank, measure from the top of the levelled sand to the bottom of the inlet pipe trench to ensure the appropriate inlet height is achieved.

In areas with a high-water table, either seasonal or permanent, an anti-flotation pad, a diversion trench, dry well and/or geo-textile cloth may be required to ensure the integrity of the tank.

Setting the tank:

Set the tank, or the base of the tank, into the excavation, prepared as above. Specific to a septic tank, ensure the inlet side of the tank is as close to the front wall of the excavation as possible. Check for level.

If setting the base of a tank ensure the groove is both clean and dry by scouring the bottom and sides of the groove with a wire brush, dust with a bristle brush and/or cloth and then dry with a torch if required. Place the butyl rubber tape provided into the groove and lightly press down on the wax paper as you roll out the tape. When joining two rolls of tape peel back the wax paper and overlap the butyl rubber by 4".

When preparing the top section of the tank ensure the tongue is both clean and dry by following the same procedure as with the base.

When you are ready to set the top section onto the base peel off the wax paper from the butyl rubber in the base (be careful that no debris falls onto the butyl rubber at this point). Line up the edges of the two sections carefully as you are setting the top.

Cold weather could affect the compressibility of the butyl rubber tape. In low temperatures ensure that you keep the butyl warm and pliable. As well, when joining sections of a tank in cold weather allow 24 hours for maximum settling before the tank is used. The tank should be backfilled within the 24 hours but it should not be used.

Installing the manhole:

When installing concrete manhole extensions, the mating surfaces need to be clean and dry; follow the same procedures as for the tongue and groove of a tank.

When installing Green Manhole (GMH) extensions you need to ensure all mating surfaces are clean and dry. Once this is achieved lightly sand all mating surfaces. Dust off any sanding residue. Apply two-part epoxy to the outer edges of the Grade Ring Insert (GRI) and set it into the GMH extended from the tank. Carefully place the cut piece of GMH extension onto the GRI and give it an $1/8^{th}$ of a turn. Use any remaining two-part epoxy to further seal the outside of the GRI (one tube of two-part epoxy : one GMH extension connection).

In summer months ensure the two-part epoxy is stored in a cool location.

Inlet / outlet lines:

For the inlet pipe (supply line) a 4” ABS pipe, or a certified alternative pipe, should be installed with a minimum slope of 1% on solid ground to allow for proper drainage. If using an alternative pipe, ensure that proper bedding is used.

The outlet pipe should be installed in such a manner that fluids are able to drain out of lines or installed below frost level to protect against freezing. Specific to a septic tank, a 4” ABS sleeve should be utilized, sliding over the outlet pipe and extending from the groove around the outlet of the tank to the solid ground of the discharge trench. This is to protect the pipe from kinking and/or shearing.

Use of brass connections for poly lines should be utilized to prevent breaks from pressure or impact caused by backfilling and settling.

Inlet and outlet lines, as well as any other external connections to the tank, need to be protected from possible shearing or breaking. This can be ensured by keeping tanks close to banks to allow inlet and outlet lines to be as close to virgin ground as possible and blocking and/or bridging any lines when able.

Backfilling:

When backfilling a septic tank, the cavity between the inlet side and the supply line trench should be filled with sand and hand tamped. The cavity between the outlet side and the discharge trench should also be filled with sand and hand tamped. Any other external connections to the tank and/or extensions, as well as electrical lines, should be bedded in sand.

The earth from the excavation can be used to backfill the rest of the tank but it should be free of large stones (greater than 3" in diameter), frost lumps or other debris. When backfilling around extensions it is important to backfill around the circumference of the extension evenly in a circular pattern to prevent the extension from shifting.

The earth should be built up around the extension(s) and extra dirt should be left to allow for settling to ensure that once the ground settles it will not leave a low area. Allow the backfill material to settle naturally.

Artificial compaction is not recommended around the tank and is not allowed on top of the tank. All track or rubber tire equipment and all vehicles must remain off the backfill directly above the tank and should maintain a 3ft. berth from the perimeter of any tank. Not abiding to any of the above will void any potential warranty claims.

Questions?

If you have questions regarding any of the above, please feel free to contact us at any time; an AWS representative will be happy to help you.

ALBERTA WILBERT SALES
QUALITY AND SERVICE SINCE 1987

20-Year Conditional Warranty of Precast Concrete Tanks

Alberta Wilbert Sales Ltd. (to be referred to as the "Supplier" "Manufacture") tanks are warranted against any defects in the materials and workmanship, and will perform according to our specification provided that installation is proved to be satisfactory to the supplier.

In the event that a tank proves defective, during the first year, it will be replaced free of charge (f.o.b. our yard) to the Original Owner or repaired upon the Supplier's option. The second year, the cost to the Original Owner will be 5% of the cost under the same terms as above. For each additional year the cost to the Original Owner will increase by an additional 5% per year until the 20-year lifetime for the tank has been reached.

Permission to replace, alter, or repair must first be obtained from the supplier. Labor costs, transportation, excavation or any other extraneous costs will not be allowed.

This warranty does not include, concrete collars, replacement of any materials lost through leakage, or damages arising there from.

This warranty is limited to the original owner and the original installation and is valid for a period of 20 years from date of original installation.

The Supplier does not assume liability for a tank damaged or made defective because of improper installation, improper usage, negligence, or for a tank damaged by any other cause. Furthermore, the supplier also assumes no liability for any consequential damage to persons, property, or the environment due to discharge from a tank. We do not assume, nor do we authorize any other person to assume for us, any other responsibility to this purchase.

The term "Original Owner", as used in this warranty is understood to mean the person who originally requested the installation of the tank on his property and the term "Original installation" shall mean the first installation of such tank on such property.

*****IMPORTANT*** "No tank should be left empty between October and March; a minumum of one (1') of fluid depth should be placed in the tanks to prevent the ground under the tanks from freezing and heaving a tank, increasing the risk of cracking".**

Alberta Wilbert Sales Ltd. / Head Office
16910 – 129 Avenue
Edmonton, AB T5V 1L1
Toll Free: 1-800-232-7386
Bus: (780) 447-2222
Fax: (780 447-1984

Alberta Wilbert Sales Ltd. / Calgary
4315 – 58th Avenue S.E.
Calgary, AB T2C 1Y3
Bus: (403) 230-1666
Fax: (403) 276-4176