Precolor

Tank Division

Specialists in water & chemical Storage

UNDERGROUND TANKS

When burying tanks below ground level, care should be taken regarding the ground water table level or the possibility of surface water creating external pressure to the underside of the base and external pressures pressing on the side walls. Tanks have been known to be successfully installed onto a flat sand base, filled with water and then soil etc put around them.
Any ground movement can put great pressure and stresses on this type of installation.

To eliminate stresses, tanks should be encapsulated in a concrete surround which is best achieved by the following method:

a) A concrete base of an adequate thickness and size should be prepared with the top surface made flat and even so that when fully curd a thin sand base can be laid, onto which to settle the base of the tank. Alternatively the tank can be lowered down onto the wet concrete base with a small quantity of water put into the tank so that again the base shape is fully supported by the concrete.

b) When the base has adequately cured, the tank should then be filled with water either in stages if the tank is constructed as a tank liner or completely filled if it is a fully supported tank. External concrete should then be put around the tank in stages, approx 1 '6 deep and allowed to partially cure before the next stage is poured.

IT IS NOT RECOMMENDED THAT EVEN TANKS THAT ARE FULL OF WATER SHOULD BE OVER STRESSED BY POURING A FULL DEPTH OF CONCRETE IN ONE GO AROUND THE EXTERNAL OF THE TANK.

c) When sections of concrete have been poured and cured to a height level with the external top of the tank, concrete beams can be positioned over the tank lid and be supported on the cured concrete side walls to take any further covering materials.
Alternatively, the water can be taken out of the tank, the lid well braced and supported by internal wooden supports which should be positioned on flat spreader boards inside the base of the tank to enable concrete and any reinforcement required to be cast on top of the lid.

d) It would be normal for an elongated access hatch to be made in the lid to the depth of backfill required. This access would normally be specially made and be approx 3' long by 2' wide by the depth to facilitate ease of access into the tank past any ball valve that may be fitted.
After completion of the contract you must keep the tank full of water if there is any chance of external ground water pressure permeating through the concrete.
If there is a likelihood of external water reaching the outside of the tank, then the tank must be designed to take the backpressure. This can be done by changing the shape and increasing the thickness and/or by the addition of regular concrete mechanical fixings attached to the outside of the tank.

ONCE AGAIN WE MUST RE-EMPHASIZE THAT CARE MUST BE TAKEN TO MAINTAIN THE TANK FULL OF WATER WHEN THERE IS A CHANCE OF EXTERNAL PRESSURE BEING PRESENT.

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