

## Leak Testing for Septic Tanks

**DEWATS components including tanks and basins must be watertight and tested to ensure proper function and environmental protection.**



*Worker prepares the surface of a concrete structure for waterproofing. It involves scraping off loose materials and paint, and ensuring there is a clean and dry surface for applying the waterproofing materials.*



*Prior to leak testing the septic tank, ensure that all risers and cleanouts are installed to the proper grade and sealed with grout or tar. The water level for the leak test should be filled to a point 10 cm above the highest level where a pipe or riser enters or attaches to the tank.*

*TIP: leak test the septic tank in two stages before backfilling to help see the location of any leak or seep.*

*For more information, refer to <http://precast.org/precast-magazines/2010/05/watertight-precast-concrete-septic-tanks/>*

### Background

Achieving water tightness for DEWATS components may involve sealing concrete tanks with tar or waterproof paint, installing plastic liners, and properly connecting and gluing plumbing pipes and fittings. Each tank or basin in your DEWATS system must be leak tested once installed to verify water tightness.

**Waterproofing for concrete tanks and basins:** Properly precast septic tanks rarely require additional waterproofing materials such as tars or membranes, as the concrete itself acts as an effective barrier. Cast in place or block tanks however, must often be waterproofed prior to being placed into service. To accomplish this, follow these steps:

- Prepare the surface. The wall surface must be clean, dry, and free of loose material. Loose or peeling paint and grout should be removed with a wire brush;
- Read the label of the waterproofing material and apply as directed. Some products require a prime coat, while others use an epoxy that is prepared by mixing two products, and applied in a single coat;
- Ensure all locations where pipes or equipment penetrate the tank are sealed with grout or tar;
- Allow product to dry thoroughly prior to being placed into service.

**Leak testing procedure for tanks:** Once sufficiently waterproofed, use this procedure to run the leak test:

- Fill the tank with water to an elevation 10 cm above the flow line of the tank or basin or any connecting pipe or structure;
- Allow it to sit overnight (12 hours minimum);
- Refill the tank or basin as needed to bring the water level back up to 10 cm above the flow line or level of any protruding pipe or structure;
- After filling, measure the water level exactly from a fixed point (the top of the tank or a mark you place on the tank wall);
- Calculate the water level drop after 1 hour. For septic tanks, if more than .5 cm drop in water level in 1 hour, drain tank and repair;
- TIP: for small seeps, add 1 kg of Portland cement to the tank water and keep it in suspension by stirring with a paddle for 4 hours. As the water seeps out, the Portland cement particles will fill the hole. After sealing repeat the leak test to verify.

For persistent leaks, remove the contents of the tank and install a PVC membrane in the tank. PVC membrane is available at larger plumbing supply outlets.