Minnesota Pollution Control Agency
Tanks and Emergency Response Section
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ABOVEGROUND STORAGE TANK PROGRAM

Using Concrete for an Impermeable Seal in Secondary Containment Basins

The biggest problem with concrete is cracking, especially in the freeze/thaw wet environment of Minnesota. Concrete can also be fairly expensive. However, if you do choose concrete as the material to create an impermeable seal for your secondary containment basin, the following is recommended:

- ☑ Use Class 2 or Class 5 sulfate resistant concrete.
- ☑ Use a good sand base for the slab to promote water drainage.
- ☑ Use water stops between the wall and the slab.
- ☑ Use two layers of rebar, the first rebar is on the bottom, 12 inches on center each way. The second layer is wire mesh. The first layer uses plastic feet to make sure the rebar is held up in the slab.
- ☑ Tank should, at least, sit on some pea rock or gravel to provide drainage for the tank bottom. If the tank sits directly on the concrete, this may promote corrosion of the tank bottom. Elevating tanks above the concrete with supports is even better -- for leak detection and corrosion protection.
- ☑ If you are putting in a concrete secondary containment basin, you can add sloped grooves in the concrete where the tank is sited. This may increase the cost of the basin installation slightly. This provides excellent and low cost leak detection for the bottom of the storage tank.

These are recommendations, not absolute requirements. A secondary containment basin must meet a performance standard of liquid tightness. Materials other than concrete can be used to meet this standard.