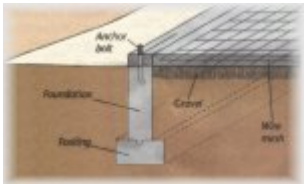
Three Types of Concrete Foundations

T-Shaped



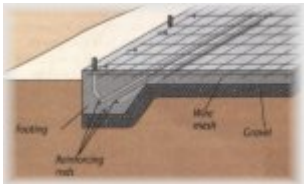
Click Picture for a Larger View

A traditional foundation method to support a structure in an area where the ground freezes. A footing is placed below the frost line and then the walls are added on top. The footing is wider than the wall, providing extra support at the base of the foundation. A T-shaped foundation is placed and allowed to cure; second, the walls are constructed; and finally, the slab is poured between the walls.

In summary:

- T-shaped foundations are used in areas where the ground freezes.
- First, the footing is placed
- Second, the walls are constructed and poured
- Lastly, the slab is placed.

Slab-on-grade foundation



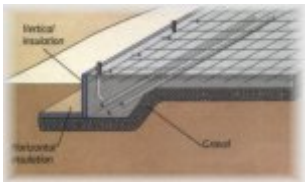
Click Picture for a Larger View

As the name suggests, a slab is a single layer of concrete, several inches thick. The slab is poured thicker at the edges, to form an integral footing; reinforcing rods strengthen the thickened edge. The slab normally rests on a bed of crushed gravel to improve drainage. Casting a wire mesh in the concrete reduces the chance of cracking. A slab on grade is suitable in areas where the ground doesn't freeze, but it can also be adapted with insulation to prevent it from being affected by the frost heaves. (see below)

In summary:

- Slab on grade used in areas where ground does not freeze.
- The edges of the slab-on-grade are thicker than the interior of the slab.
- The slab-on-grade is monolithic (poured all at one time).

Frost Protected



Click Picture for a Larger View

This method only works with a heated structure. It relies on the use of two sheets of rigid, polystyrene insulation-one on the outside of the foundation wall and the other laid flat on a bed of gravel at the base of the wall-to prevent freezing, which is a problem with slab-on grade foundations in areas with frost. The insulation holds heat from the structure in the ground under the footings and prevents heat loss from the edge of the slab. This heat keeps the ground temperature around the footings above freezing.

In summary:

- Only works with a heated structure.
- Has the benefits of a the slab-on-grade method (concrete poured monolithically) in areas subject to frost.
- Concrete is poured in one operation, versus 3 pours required for T-shaped foundations.