



Backfilling Foundations

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Proper backfilling of the foundation is one of the first steps in good residential construction. The method used can have long-lasting consequences on the life of a new home. This is especially true when considering basement-type foundations. Improper backfill has the potential of creating structural failures within the foundation. Good planning can help to avoid these costly failures.

Soil loads and drainage capabilities around foundation walls are just two of the factors to consider in the construction of a new foundation. Keeping the foundation free of cracks and moisture is crucial to its longevity. The best practice for backfilling the foundation is a step-by-step backfill procedure that considers soil types and lateral loads.

Backfilling begins once you install the utilities, drainage tile, insulation and waterproofing. First, though, make sure the concrete has reached its proper strength. Provide permanent lateral support for the foundation walls. This is done by means of the basement slab, which provides lateral support at the bottom of the wall; installing the floor framing takes care of the top.

Once the walls are supported in this way, the actual backfill can begin. Start at the corners with a coarse-grained soil that drains well. Once the soil pressure is distributed evenly at the corners, fill in the sides to complete the process.

Not so long ago, the most popular method of backfill was to use whatever soil was on site. This method runs the risk of getting a soil that retains moisture, giving it the tendency to freeze and expand and greatly reducing the life of the foundation itself, if not actually causing structural failure. We also risk having to deal with mold, higher utility bills, and even expensive structural repairs.

A method of backfilling the foundation that considers the loads applied to it as well as the soil drainage around it is a first best step to a structurally sound home.