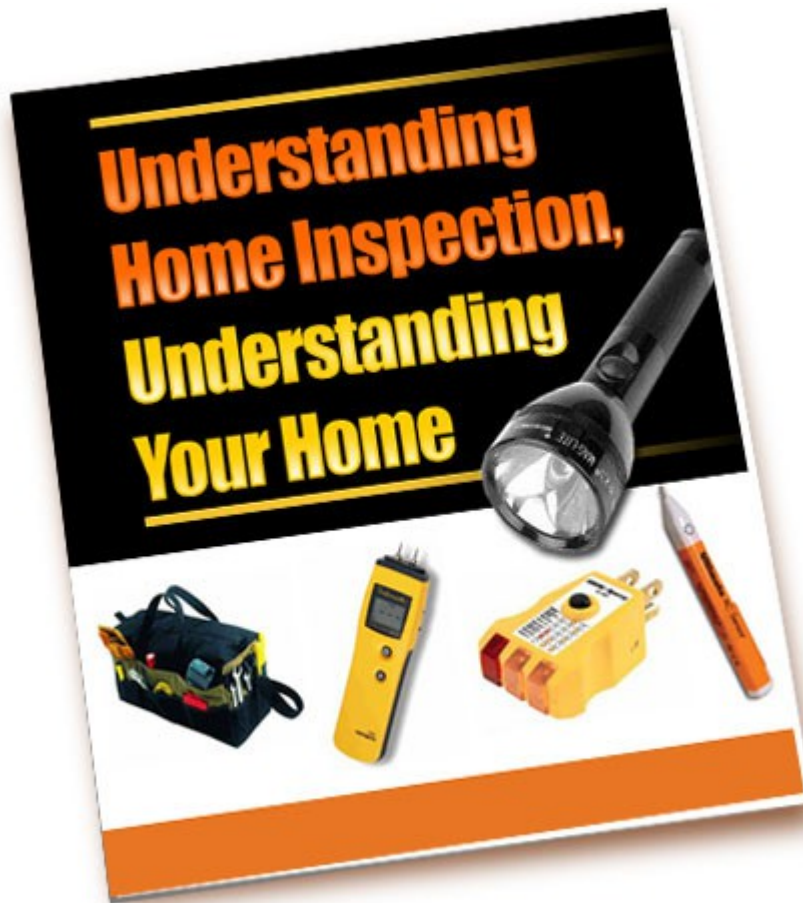


Understanding Home Inspection, Understanding Your Home



The most fundamental element of your home is its structure. Just as the skeleton of a human person is what gives him poise and form, the home's structure is what makes your house stand on its own.

At times, building method varied from region to region. However, despite this regional variation, some basic elements are present in all homes. These elements include the following:

- Foundation

- Walls
- Floors
- Ceilings
- Roof Framing
- Support Members

A typical home owner would be familiar with the above structural elements of a home. And if you're not, a home inspector is usually there to guide you through it. In fact, that is precisely the reason why it is very important that you are present during the home inspection of your potential new home.

During the walk-through, you can typically ask the home inspector about any concerns you may have. And yet, how can you expect to ask the right questions when you don't even know the first thing about the structure of your home? The answer, of course, is you learn as much as you can beforehand. Start with this page.

Basement

A typical home would have a basement located in an area below the first floor and with a minimum height of 6 feet 8 inches. Basements may be unfinished while others may have portions that are finished and are used as living areas. Typically, basements are used to store personal belongings, but, because of their location (out-of-the-way), they are also used to house mechanical systems such as the HVAC system, electrical panel, and main plumbing controls.

It is estimated that 90 to 95 percent of all basements will experience water penetration problem at some time, which causes damage not only to the personal belongings held in storage but also to the vital mechanical systems. In addition, if the water penetration problem is bad, it might cause serious structural problems,

not to mention health problems due to mold and mildew because of excessive moisture. Excessive moisture in the basement can also lead to the development of wood destroying fungus and create conducive conditions that can lead to infestation of wood destroying insects such as termites.

But how does moisture get into the basement in the first place? And how do you prevent it from happening in your home?

How to Control Water Penetration

The first step to controlling water penetration in your home is to ***identify the source of the water***. Most of the water or excessive moisture in the crawlspace or basement of your home may be a primary result of improperly controlled surface water. Surface water is moisture from rain or snow which runs off on the roof to either enter through or pool below the foundation wall. Sometimes, however, moisture penetration may also be caused by groundwater, as when groundwater in the soil (water table) rises to or above the crawlspace floor or basement slab.

Now, once you have identified the source, consider the following factors:

- Severity of the problem
- Frequency of water penetration
- Budgetary concerns
- Foundation type (basement or crawlspace)
- Foundation material (poured concrete, concrete block, stone, etc.)
- Determining need and feasibility for prevention or management or both

One of the easiest methods to preventing surface water from entering your basement is to direct water away from the home. Try to check if your home has a gutter and downspout system in conjunction with proper surface grading around

the home. If your home inspector can't find any, the next thing he will look for is an exterior perimeter drain as this is another easy method to diverting water from the home and preventing water penetration in the basement.

Piers and Columns

If you're familiar with Greek and Roman architecture, then you might already be familiar with piers and columns. Piers and columns are designed to support a specific point of contact on a support beam or girder.

Now, when speaking about piers and columns in modern construction, they are usually made with poured concrete. Sometimes, however, they may also be made with concrete blocks or CMU and supported by a pad footing. Stone, brick, and wood may also be used to construct piers. Check to see if the piers and columns in your home are made with poured concrete or concrete blocks.

In the construction of crawlspaces, piers made with concrete blocks are commonly used as a supplementary support to prevent the over-spanning of beams and girders. Concrete piers are also used to support porches and decks. If you are planning to make small additions to the home, concrete piers may be used as an inexpensive primary support system in place of a continuous foundation wall and footing.

Foundation

In the United States, there are three common types of foundation in use. These are basements (which have already been discussed above), crawlspaces, and slab-on grade.

Crawlspace

Crawlspaces are somewhat similar to basements in that they are located right below the first floor of the home and right above the soil. However, while a basement has a minimum height of 6 foot 8 inches, a crawlspace is only a shallow area and usually uninhabitable.

Like a typical basement, a crawlspace generally extends below the frost line or to a stable substrate. They are generally constructed with foundation walls and footings, also like basements, although piers may be used when the crawlspace is above grade.

For new homes, consider the following guidelines for crawlspaces:

- Minimum access opening is 18 inches by 24 inches
- Minimum access opening if mechanical equipment (i.e., if an HVAC system is located in the crawlspace) is 30 inches by 30 inches
- Minimum clearance between the soil and joists is 18 inches and 12 inches between the soil and beams
- Minimum ventilation, every 150 square feet of floor space, requires a one square foot ventilation opening

Typical problems encountered in crawlspaces are water penetration which could lead to infestation by wood destroying fungus and insects and in extreme cases, undermining the foundation (refer to Basement for information on how to manage water penetration in crawlspaces).

Slab-on Grade

Unlike basements and crawlspaces, the slab-on grade foundation does not provide any space between the soil and the first floor of your home. Instead, what it provides is a concrete floor (slab) that is poured directly at grade or ground level. This actually acts as the first floor sub-substance. To support the slab, some houses use continuous spread footing, piers, or piles and grade beams.

Outbuildings

Aside from the main structure of the house, there may also be other structures that are located on the same property but not physically connected with the main house. These structures are commonly termed as outbuildings and they are just as vital to home inspection as the main house itself.

An outbuilding may be as complex as a pool house with its own electrical, plumbing and HVAC system. They can also be as simple in design as a mere shed where you keep all your tools.

Typical examples of outbuildings include:

- Detached garage
- Detached carport
- Storage shed
- Smokehouse
- Root cellar
- Barn
- Pool house
- Boat house
- Outhouse
- Apartment/In-Law's Residence

If your outbuildings are not meant to be inhabited, then don't be surprised if their structural standards are below that of the primary dwellings. Generally, the purpose of these outbuildings would be storage. Other than that, their purposes of keeping one in the property are very limited.

Common Concerns found in Outbuildings

Just because outbuildings are uninhabited does not mean that they do not undergo the same problems as those commonly found in primary dwellings. The greatest reason for maintenance-related problems in outbuildings is the attitude we have about them – the so-called “out of sight, out of mind” attitude.

During home inspection, watch out for the following problem areas:

- Deteriorated siding, framing, roofing and trim
- Broken windows
- Inadequate roof or wall framing
- Insufficient or damaged foundation
- Water penetration
- Structural movement

Remember, Home Inspection is not a scary topic. In fact, with a few tips and some advice you can make the most of your inspection.