

Home Inspections and Decks

Home Inspections reveal safety flaws with deck construction.

Deck projects are one of the more common do it yourself projects, often portrayed as straightforward and easy to do. However, recent deck collapses suggest otherwise and in fact, Home Inspectors often discover critical safety concerns with homeowner built decks.

There are three basic structural principles that must be taken into consideration when building an above ground deck: These could be summarized simply by saying the deck shouldn't fall down, it shouldn't pull away from the house and it shouldn't sway side to side. Home Inspections often reveal deck joists which are over spanned, shaky and beginning to sag. Sometimes, the joist hangers are undersized, such as using a 2 X 4 joist hanger on a 2 X 8 joist. This not only compromises load bearing, but also increases the load of the deck along the lower portion of the ledger board, (the board which attaches to the house), making it more susceptible to failure. Many times the joist hangers are not fully nailed off, nailed with the wrong type of nails, or installed with screws, which are simply not rated for such an application.

The ledger board attachment is also a common source of concern, often only attached with nails. To prevent the deck from moving laterally away from the structure, this most critical element should be lag screwed into the framing of the house. Further, the lag screws must be staggered as placing them all in a straight line can cause a stress fracture in the ledger board. Finally, cross bracing to prevent lateral sway may need to be installed as well as metal flashing to prevent water penetration at the deck to house attachment. In one past deck incident, the joist hangers were undersized, the lag screws holding the ledger board were installed in a line and the deck attachment to the house was not flashed. The effect of the increased load on the lower portion of the ledger board which already had a small stress fracture and was beginning to decay led to a catastrophic and deadly collapse.

In the end, it is important to understand that a simple weekend deck project may involve more than what meets the eye, so take the time to do your homework. Local lumber yards can provide considerable expertise in planning your project and are more than willing to help before you drive that first nail.

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