

Residential Deck Inspections

What to look for

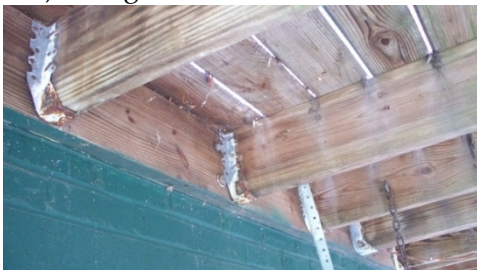
Although often not given its proper due respect, residential decks should be carefully reviewed and inspected to hopefully limit failures and injuries. Realtors, clients, and inspectors should be aware of some of the following most frequently overlooked shortcomings on residential deck construction.

- Deck ledger attachment to a stone or brick veneer, cantilever, and to engineered floor truss systems are prohibited by most standards without proper engineering design, approval, and inspection.



Missing hangers @ beam, joists not doubled

- Deck ledger attachments are with ½” lag screws, lag bolts, or structural wood screws that are staggered.
- Approved corrosion resistant flashing should be present in most installations at the exterior attachment of porches, decks, and stairs to prevent water intrusion into the wall cavity.
- Visually inspect hardware (hangers, nails, screws, anchors, etc.) for signs of corrosion



Corroded hangers & fasteners

“Completely Remodeled” – Red flag words

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The words “Completely Remodeled” can be an indication of a wonderfully updated property or a long home inspection list and heightened expenditures for the buyers. The first step to hopefully lowering the possibility of issues would be to confirm local inspection and compliance of the work, particularly relating to structural changes or additions, electrical, and plumbing modifications or additions. This can be done by contacting the local code office and see if permits were issued and if the work “Passed” all of the inspections. Even if permits were issued and passed, don’t be shocked if your home inspector still finds some outstanding items.

- Although some jurisdictions still allow carriage bolts for post to beam and guard post (rail) attachments, carriage bolts do not meet design standards –the proper fasteners are ½” through bolts with washers and approved anchors. (details & drawings are available)
- Guards and railings built to standards are required for all elevations more than 30” above grade (for stairs, porches, decks, etc.) and if installed for lower elevations still must comply with standards.



Even when guards & rails are not required, if installed they should meet standards

- Proper & approved footings for posts are required
- Posts and joists are to be properly anchored to prevent lateral movement and uplift



Substandard post to beam attachment and improper anchor selection

- Stair stringers should not be toenailed, stringer hangers are required in most jurisdictions
- Open stair risers greater than 4” are not to current standards



Open stair risers do not meet current standards



- Check for deterioration of deck support posts & proper load transfer



Deterioration failure of deck support post materials



Beam break not supported by post to transfer loading



Substandard construction not to current standards

While this list certainly does not cover all of the standards for all jurisdictions, these items are generally fairly obvious and if decks are found with some of these items they may not be unapproved or unsafe, this would be an indication that further review by a qualified professional would be warranted. Don't assume that even a "new" deck was inspected or even compliant. As recently as December we inspected a new home and along with structural, plumbing, and electrical items in need of attention the deck had a

number of items "not to standards" as well. The home had been passed final inspection by the local jurisdiction but still had items that needed to be addressed so we can't assume everything is always correct. Extensive research and development is ongoing at Virginia Polytechnic Institute, Washington State University and Simpson Strongtie to improve safety and standards for construction. For further information: ask your home inspector, consult the local jurisdictions building department, NADRA.org, or Simpson Strongtie.com, ASME, NDS.

Qualified Home Inspectors

Ken Cox, Bil, Greg, Mark Linebaugh, Steve Messerschmidt,
Bob Murphy, Bob Rust, Rob Rust, Joe Sorbello

