

## 10 Little Known Mistakes to Avoid When Building a Deck

The addition of a deck to your home can add beauty, additional usable living space, and value to your home. However, an improperly built deck can also add years of headaches, additional costs and potential legal problems. Careful planning is very important – from location, to design, to materials and to deck fasteners – each step should be carefully thought-out before any construction begins.

Following are ten tips to help you avoid potential short-term and long-term problems when building a deck.

### 1. Apply For All Necessary Permits

Before you buy any materials, dig any holes, or nail any boards together – you need to have all of the required building permits applied for and approved. Check with your county, city or town, subdivision and homeowners association for their required permits. To apply for these permits you will be required to submit drawings and specifications.

There may be a fee associated with these permits, but it will be worth the initial expense in problems prevented later. If you finish your deck without the required permits, it is possible that some local authority or inspector could demand you tear it all down. Have your permits before you begin any construction.

The primary purpose of required building permits is not to harass homeowners – it is safety. Submitted plans allow building inspectors to ensure your new deck meets all safety codes. Having your plans reviewed and approved will help ensure your deck is safe for you and your family to use for many years. Building requirements may vary between cities and counties, so be sure your plans comply with all applicable jurisdictions.

### 2. Plan for needed clearance and access

Carefully review your deck plans for any access that may be restricted or blocked by the new construction. If there are any basement egress windows, be sure there is a minimum of a 36" escape path under the deck. Check for outdoor water faucets and be sure to maintain access. Other items to consider include air-conditioning units, exterior lighting, dryer vents, drainpipes, soffits and electrical outlets.

Additionally, be aware of stairs that will be part of your deck. If they are close to windows, these may need to be replaced with tempered glass. Overhead wiring must be at least 10 feet above or 3 feet away from a deck. Service panels for electrical, phone or cable must remain accessible.

### 3. Start Off On The Right “Footing”

Every construction project needs a good foundation, and decks are built on footing piers. Do not skimp when it comes to digging footings for your deck. Freestanding decks, with their footings set on the surface of the ground, are prone to shifting and moving. Changes in temperature and moisture can cause the

footings to heave, particularly where the ground has been disturbed, such as backfill created during construction of the home.

Footing piers should be set at least 12" inches into undisturbed soil. In climates with cold weather, the piers should be set below the depth of the average freeze level. This may be as much as 48 inches. Additionally, if the footing piers closest to the house are in an area of backfilled ground, they may need to be as deep as 10 feet in order to reach undisturbed soil.

#### **4. Select the Best Materials**

Wood has typically been the popular material chosen for a new deck, but other materials are now available. It's essential to select material that is specified for outdoor use to maintain the beauty and safety of your deck, in addition to ensuring it will last a long time.

If you select natural wood for your deck, you may want to use pressure-treated redwood or cedar. Other woods, such as ipe and jarrah, are also available at a higher initial cost, but these hardwoods are very durable and long lasting, and offer an elegant look. All natural wood will need to be sealed to prevent splintering and warping, and to extend wear.

Decking materials made of vinyl and a composite of plastic and wood are also available. They are typically more expensive than wood decking, but they are essentially maintenance-free and longer lasting.

#### **5. Attach Ledgers Properly**

The method used to attach the deck to the house is an important consideration, and one that often is not given sufficient attention. Bolting the ledger directly to stucco, brick or cladding is typically in violation of building codes.

If possible, the ledger should be directly connected to existing floor joists using high-quality deck fasteners. The fasteners should extend through the ledger board, through the house rim board and then into the ends of the floor joists or wall studs. Use two deck fasteners every 16" and alternate top and bottom.

After the ledger board is properly attached, bend flashing around the edges to prevent moisture from entering around the top and corners. Add silicone caulking to further seal the edges and prevent leaking. Do not puncture the flashing with nails or screws.

#### **6. Correctly Bolt and Splice Beams**

Avoid bolting deck beams directly to the sides of any support posts. This is a particular problem with small to average size decks with a lesser number of posts. The fewer the number of posts, the greater the load will be on the beam connections. When a beam is bolted to the side of a post, the increased load will distort the wood around the bolt and weaken the connection. It is more effective to connect beams directly over posts using the correct deck fastener.

Beam splices should also be positioned directly over a deck post. This will reduce bending and deflection. If positioning splices over existing posts is not possible, it may be necessary to add additional posts, sunk to the proper depth.

## 7. Don't Overspan

If you are installing deck boards diagonally, you will probably need additional joists and deck fasteners. Wood and plastic composite decking material in particular may need additional support when using “decorative” installation, and on stair treads. Each type of composite material will list its individual span limits, and you must be aware of these specifications before you begin planning your deck.

Typically, decking floor joists are installed at 16” on center. With composite materials, that may need to be reduced. Stair treads are required to hold a load of 300 lbs. over a four-inch-square area. With some composite materials, more support may be necessary to meet this requirement.

## 8. Build Stairs for Access, Safety and Beauty

If you are adding stairs to your deck, there are several points to remember. Their location should not only provide easy access, but easy escape if necessary. Avoid stairs that are overly steep or narrow. Additionally, avoid applying a finish or paint that may become slick or slippery in wet weather. Make each step as close to the same height as possible; most building codes specify a maximum variation of only 3/8 inch between steps.

Leaving any open space between stairs can be hazardous; feet can easily be caught in the openings, leading to falls and injuries. Open risers also look unfinished and will detract from the finished beauty of your deck.

## 9. Add Both Guardrails and Handrails

Improperly attached guardrails can be very dangerous. Always use a high-quality deck fastener to connect guardrail posts to the deck framing; never use wood screws alone. Most building codes require a guardrail be able to resist a focused load of at least 200 pounds from any direction. A post connected only by screws to the top deck boards is not sufficient to handle this type of load. By connecting directly to the deck frame or joists and using the proper deck fasteners, this requirement can be met.

The height of the guardrail will also be established by local codes, as will the space between the balusters. A continuous cap running between guardrail posts and covering the balusters will not only add a finished look to the deck, but will help to strengthen the guardrail by distributing the load between posts.

Handrails are required on all stairs with four or more steps. A handrail must be graspable by a person walking up or down, for the entire length of the stairs. There must be no posts extending through the top, therefore a guardrail with posts that extend above the balusters will not qualify as meeting code for a handrail.

## 10. Use the Best Deck Fasteners

You can have the best deck plan, approved by all the building inspectors, set securely on proper footings, and made of the best materials – but it will not be of any value if it isn't held together tightly and securely with reliable deck fasteners.

For more than 100 years, the BECK Fastener Group® has been manufacturing and distributing innovative and versatile construction fasteners, including the family of SCRAIL® Fasteners. These nail-screw hybrid fasteners come in many varieties that are excellent choices for decking projects, such as the double-threaded BeckDeck® variety and the InvisiDeck® Hidden SCRAIL® Deck Fastening System.

*BeckDeck® SCRAIL® fasteners:*

- Feature a double-thread design that dramatically reduces the unsightly mound of material around the fastener head created when the fastener is driven into composite material referred to as "mushrooming" or "volcanoeing." BeckDeck® fasteners automatically pull down this displaced composite material, driving the SCRAIL® fastener heads in flush with deck surfaces the first time.
- Versatile SCRAIL® BeckDeck® fasteners can also be removed easily for quick and simple adjustments. This adjustability helps you create a perfect fit, allowing you to precisely fit deck components such as railing systems and trim pieces together that can then be disassembled for painting.

*The InvisiDeck® Hidden Deck Fastening System:*

- Flawlessly smooth deck board surfaces.
- Saves time and labor costs.
- Designed for use with wood, PVC or composite materials.
- When properly installed, this system surpasses the hold-down force necessary to withstand Category 5 winds.
- Hybrid nail and screw SCRAIL® Fasteners can easily be adjusted or removed, if necessary.
- The InvisiDeck® Hidden Deck Fastening System was named [Best Products Winner for 2010](#) by Builder News Magazine.
- Two types of clips and a custom installation tool are available.
  - InvisiDeck® I-CLP Clips are made of heavy gauge stainless steel and are designed for use with one-inch or thicker pre-grooved decking material. They may also be used on non-grooved boards that have been modified with the InvisiDeck® Groove Cutter. By utilizing the InvisiDeck® Tool, it is possible to install I-CLP Clips at increased speeds of three to five times over conventional installation.
  - For non-grooved boards or manual installations where an air compressor is not an option, the B-CLP is available. These clips do not require the InvisiDeck® Tool.

### **Want to know more?**

- Complete details on the InvisiDeck® Hidden Deck Fastening System are available [online](#).
- This [downloadable file](#) outlines safety tips for using InvisiDeck® clips.
- Step-by-step installation instructions can be reviewed through this [downloadable file](#).

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To learn more about the InvisiDeck® Hidden Deck Fastening System and other SCRAIL® construction fasteners, [contact](#) our main office or the regional manager serving your area. Additional information is also available on the SCRAIL® [Facebook Page](#) and videos are on [YouTube](#).

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