

## RESIDENTIAL DECK INFORMATION GUIDE

(This guide assumes all lumber to be pressure-treated Southern Pine)

1. **GENERAL:**
  - All wood should be pressure-treated or an approved alternative.
  - Metal connectors should be galvanized or an approved alternative.
  - Deck structures shall be designed for a minimum 40 lb. per sq. ft. live load.
2. **PLANS:**
  - 2 sets of plans drawn to scale showing all proposed levels are required. Framing plans need to clearly show each level. Computerized plans from Home Centers/ Lumber Yards with separate material list will not be accepted unless framing plans have the structural elements clearly labeled on the drawings themselves.
3. **FOOTINGS:**
  - Poured concrete footings should be a minimum of 8" wider than the posts (4x4 post – 12" min. width, 6x6 post – 14" min. width), a two level deck or deck with roof – 24"x24".
  - The bottom of the footings must be a minimum of 36" below finish grade level.
  - Footings must be a min. of 8" thick below post bottom.
  - Suggest footings be placed at least 48" away from the house foundation to avoid a back-filled area.
  - Pre-cast footers on a gravel base are allowed.
4. **POSTS:**
  - Post can be set directly on the footing with tamped back-fill or on top of a pier at grade with an approved post anchor.
  - Posts should be a minimum 4x4 lumber size. Recommend using 6x6 lumber size for posts over 8'0" tall.
  - For posts over 10'0" tall, recommend cross bracing.
5. **BEAMS:**
  - Beams must be solidly connected to the posts and joists. Please specify beam sizes on plans for review when you get a permit.
6. **JOISTS:**
  - Joists can be set in hangers on the face of the beam or cantilevered over the top of the beam (See Table 1) or set on a 2x2 ledger attached to the band board.
  - For best strength the maximum cantilever distance should not exceed at 16" o.c.:  
2x8's: 2' – max. 16" OC 2x10's: 3' 2x12's: 4'
7. **BAND BOARDS:**
  - Band boards should be the same size lumber as the joists or larger and shall be properly bolted to solid structure material of the house (not sheathing). Decks or a portion of a deck may be required to be self-supporting when attaching to an existing house cantilever. Also, if the house band board cannot be verified as being structurally adequate, then the deck must be free standing.
  - Bolt size and spacing: (use ½" bolts up to 8' – 23" OC; 8' to 10' – 18" OC; 10' to 12' – 18" OC; 12' to 14' – 13" OC; 14' to 16' – 11" OC; 16' to 18' – 10" OC)

- 8. DECKING:**
- When using different species of lumber or composite material, follow the manufacturer's recommendations.
  - Suggestion: To strengthen the deck structure, the decking may be set at a 45 degree angle across the joists.
- 9. RAILS:**
- Guardrails on decks shall be a minimum of 36" in height above the deck surface and are required on decks over 30" above ground level. Railing systems shall be able to resist a concentrated load of 200 lbs. on or against the top rail at any point and direction.
  - Guardrail in-fill shall be designed to withstand a horizontally applied normal load of 50 lbs. per sq. ft.
  - Guardrails on stairs must be 34" minimum height above the tread nosing, if the stairs are 30" above grade.
  - Balusters/pickets shall have no more than a 4" space between them.
  - Continuous graspable handrails on stairs shall be between 34" and 38" above the tread nosing and are required on stairs of 4 or more risers.
- 10. STAIRS:**
- Minimum stair width is 3'
  - Maximum riser is 8 1/4".
  - Minimum tread is 9" from nosing to nosing. If tread depth is a minimum of 11" no nosing is required.
  - The greatest riser height/tread depth within any flight of stairs shall not exceed the smallest height/depth by more than 3/8".
  - 2x12 stringers on stairs are required to be a maximum of 24" O.C.
  - All interior and exterior stairways shall be provided with a means to illuminate the stairs, including the landings and treads.

**TABLE – 2**

**Maximum Joist Span - #2 Southern Pine**

<u>Joist Size</u>	<u>Joist Spacing</u>	<u>Max Span</u>
2 x 6	12" oc	10' – 9"
	16" oc	9' – 9"
	24" oc	8' – 6"
2 x 8	12" oc	14' – 2"
	16" oc	12' – 10"
	24" oc	11' – 0"
2 x 10	12" oc	18' – 0"
	16" oc	16' – 1"
	24" oc	13' – 1"
2 x 12	12" oc	21' – 9"
	16" oc	18' – 10"
	24" oc	15' – 5"