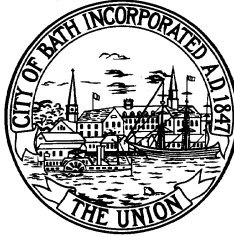


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DECKS

Fastening requirements from the Maine Building Code (2009 IRC)

R502.2.2 Decks. Where supported by attachment to an exterior wall, decks shall be positively anchored to the primary structure and designed for both vertical and lateral loads as applicable. Such attachment shall not be accomplished by the use of toenails or nails subject to withdrawal. Where positive connection to the primary building structure cannot be verified during inspection, decks shall be self-supporting. For decks with cantilevered framing members, connections to exterior walls or other framing members, shall be designed and constructed to resist uplift resulting from the full live load specified in Table R301.5 acting on the cantilevered portion of the deck.

R502.2.2.1 Deck ledger connection to band joist. For decks supporting a total design load of 50 pounds per square foot (2394 Pa) [40 pounds per square foot (1915 Pa) live load plus 10 pounds per square foot (479 Pa) dead load], the connection between a deck ledger of pressure-preservative-treated Southern Pine, incised pressure-preservative-treated Hem-Fir or *approved* decay-resistant species, and a 2-inch (51 mm) nominal lumber band joist bearing on a sill plate or wall plate shall be constructed with 1/2-inch (12.7 mm) lag screws or bolts with washers in accordance with Table R502.2.2.1. Lag screws, bolts and washers shall be hot-dipped galvanized or stainless steel.

TABLE R502.2.2.1 FASTENER SPACING FOR A SOUTHERN PINE OR HEM-FIR DECK LEDGER AND A 2-INCH NOMINAL SOLID-SAWN SPRUCE-PINE-FIR BAND JOIST^{c, f, g} (Deck live load = 40 psf, deck dead load = 10 psf)

| JOIST SPAN | 6' and less | 6'1" to 8' | 8'1" to 10' | 10'1" to 12' | 12'1" to 14' | 14'1" to 16' | 16'1" to 18' |
|---|--|------------|-------------|--------------|--------------|--------------|--------------|
| Connection details | On-center spacing of fasteners^{d, e} | | | | | | |
| 1/2 inch diameter lag screw with 15/32 inch maximum sheathing ^a | 30 | 23 | 18 | 15 | 13 | 11 | 10 |
| 1/2 inch diameter bolt with 15/32 inch maximum sheathing | 36 | 36 | 34 | 29 | 24 | 21 | 19 |
| 1/2 inch diameter bolt with 15/32 inch maximum sheathing and 1/2 inch stacked washers ^{b, h} | 36 | 36 | 29 | 24 | 21 | 18 | 16 |

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm. 1 pound per square foot = 0.0479kPa.

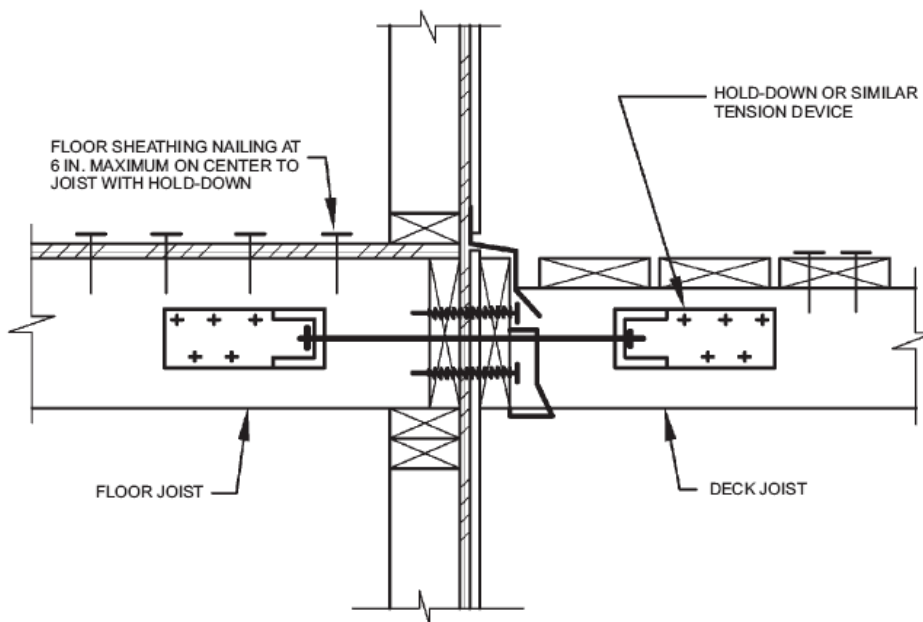
- a. The tip of the lag screw shall fully extend beyond the inside face of the band joist.
- b. The maximum gap between the face of the ledger board and face of the wall sheathing shall be 1/2".
- c. Ledgers shall be flashed to prevent water from contacting the house band joist.

- d. Lag screws and bolts shall be staggered in accordance with Section R502.2.2.1.1.
- e. Deck ledger shall be minimum 2 × 8 pressure-preservative-treated No. 2 grade lumber, or other approved materials as established by standard engineering practice.
- f. When solid-sawn pressure-preservative-treated deck ledgers are attached to a minimum 1 inch thick engineered wood product (structural composite lumber, laminated veneer lumber or wood structural panel band joist), the ledger attachment shall be designed in accordance with accepted engineering practice.
- g. A minimum 1 × 9¹/₂ Douglas Fir laminated veneer lumber rimboard shall be permitted in lieu of the 2-inch nominal band joist.
- h. Wood structural panel sheathing, gypsum board sheathing or foam sheathing not exceeding 1 inch in thickness shall be permitted. The maximum distance between the face of the ledger board and the face of the band joist shall be 1 inch.

R502.2.2.1.1 Placement of lag screws or bolts in deck ledgers. The lag screws or bolts shall be placed 2 inches (51 mm) in from the bottom or top of the deck ledgers and between 2 and 5 inches (51 and 127 mm) in from the ends. The lag screws or bolts shall be staggered from the top to the bottom along the horizontal run of the deck ledger.

R502.2.2.2 Alternate deck ledger connections. Deck ledger connections not conforming to Table R502.2.2.1 shall be designed in accordance with accepted engineering practice. Girders supporting deck joists shall not be supported on deck ledgers or band joists. Deck ledgers shall not be supported on stone or masonry veneer.

R502.2.2.3 Deck lateral load connection. The lateral load connection required by Section R502.2.2 shall be permitted to be in accordance with Figure R502.2.2.3. Hold-down tension devices shall be installed in not less than two locations per deck, and each device shall have an allowable stress design capacity of not less than 1500 pounds (6672 N).



5-24-11