

Residential Deck Construction Guide

Purpose

This one-page guide highlights common deck construction requirements and key updates in the 2024 IRC. It is intended to help homeowners and contractors avoid common inspection issues.

Footings & Foundations

- Footings must extend below frost depth – 42" deep (including bottom of stringers)
- Footing size must support deck loads – table R507.3.1
- Posts must be anchored to concrete footings – R507.5
- Space between posts depends on the type of beam used

Posts, Beams & Framing

- Notched post to beam connection must have (2) $\frac{1}{2}$ " Diameter through bolts or approved equivalent connector – R507.5.2
- Built-up beams must use proper fasteners and spacing – if using screws, they need to be structural rated
- Beam Span chart – R507.5

Ledger Board Attachment

- Ledger boards must follow the pattern outlined in R507.9.1.3(1)
- Ledger flashing – R507.9.1.5
- Water resistant barrier – R507.9.1.6
- Lateral load connectors are required and do not replace ledger fasteners – R507.9.2

Joists & Hangers

- Joists must comply with allowable span limits – R507.6
- Only manufacturer-approved fasteners may be used in joist hangers
- Blocking is required at beams and cantilevers

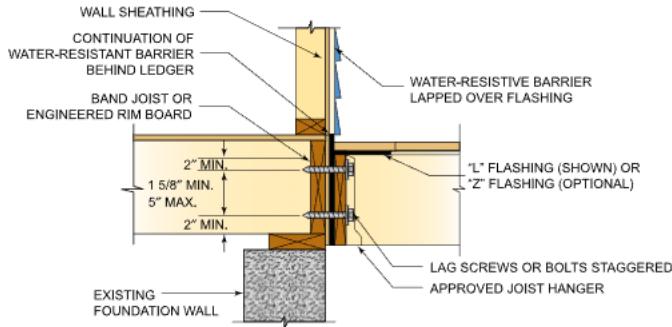
Guards, Stairs & Handrails

- Guards required when walking surface is more than 30 inches above grade
- Guards must be at least 36 inches high and resist loads and blocking under guard posts
- Riser height shall not be more than $7\frac{3}{4}$ " and no more of a difference between risers by more than $\frac{3}{8}$ "
- Tread depth than not be less than 10" and no more of a difference between tread by more than $\frac{3}{8}$ "
- Handrails need to have a graspable handrail and return at the ends with a height between 34"-38"

Common Inspection Issues

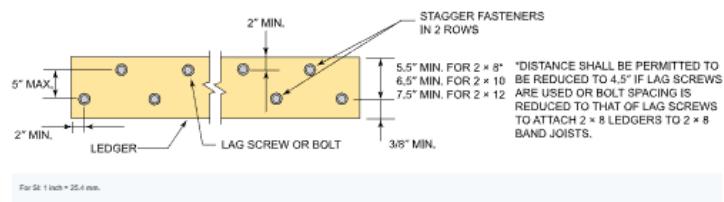
Permit Card not posted, improper ledger attachment, incorrect fasteners, weak guard connections, and inconsistent stair dimensions.

FIGURE R507.9.1.3(2) PLACEMENT OF LAG SCREWS AND BOLTS IN BAND JOISTS



THIS DETAIL IS SHOWN AT A TYPICAL FOUNDATION WALL LOCATION. SIMILAR AT WOOD WALL.

FIGURE R507.9.1.3(1) PLACEMENT OF LAG SCREWS AND BOLTS IN LEDGERS

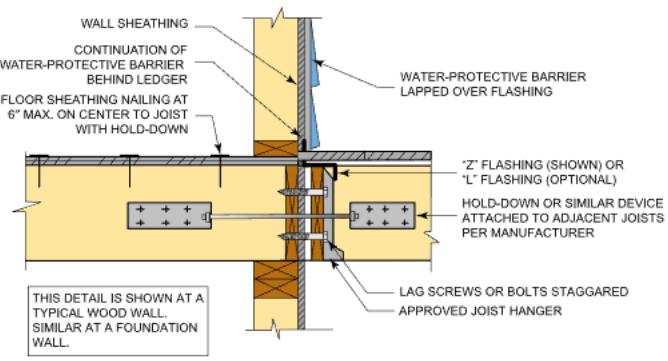


For 5/8" 1 inch = 25.4 mm.

Important Reminder: This guide is a summary only. Approved plans, manufacturer instructions, and engineered designs (when required) must be followed.

For questions regarding permits or inspections, contact the LaSalle County Building Department.

FIGURE R507.9.2(1) DECK ATTACHMENT FOR LATERAL LOADS



For Scale: 1 inch = 25.4 mm.

FIGURE R507.9.2(2) DECK ATTACHMENT FOR LATERAL LOADS

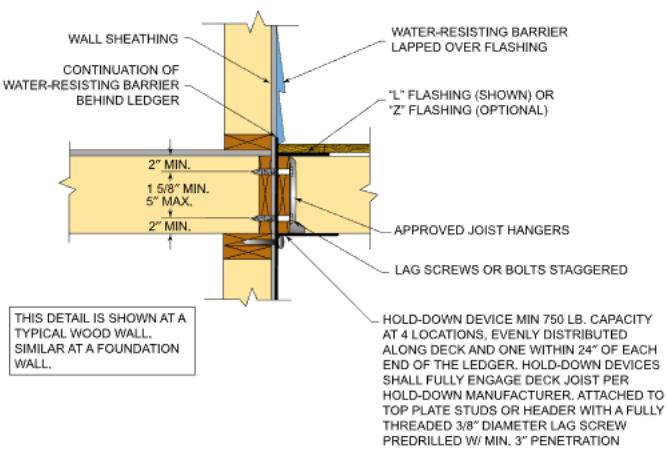
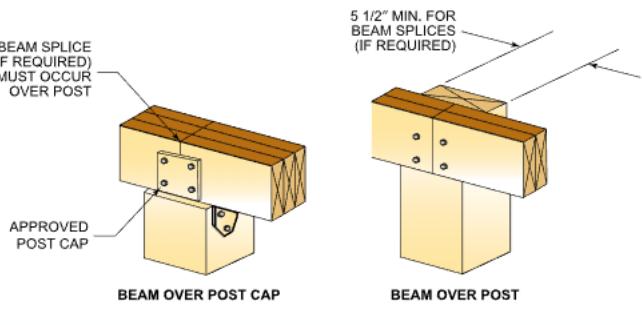


FIGURE R507.5.2(1) DECK BEAM TO DECK POST



For Scale: 1 inch = 25.4 mm.

FIGURE R507.5.2(2) NOTCHED POST-TO-BEAM CONNECTION

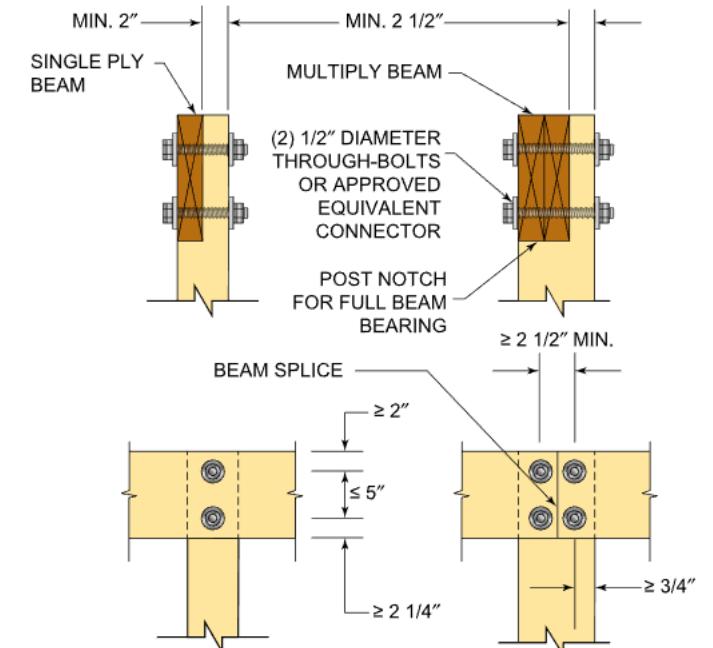
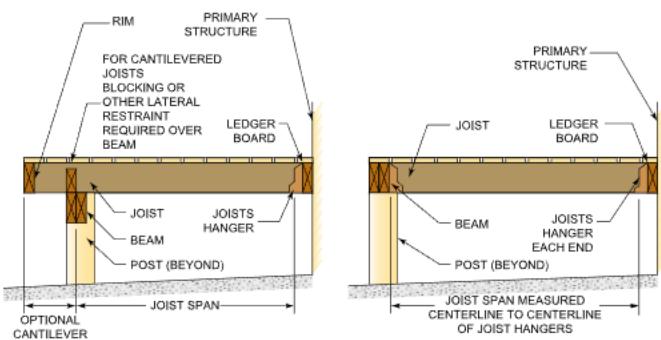
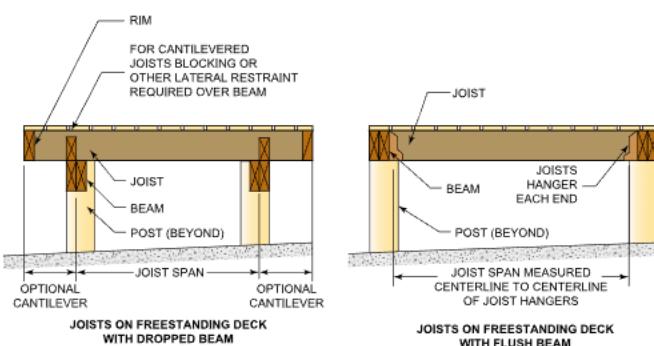


FIGURE R507.6 TYPICAL DECK JOIST SPANS



CANTILEVERED JOISTS WITH DROPPED BEAM

JOISTS WITH FLUSH BEAM



JOISTS ON FREESTANDING DECK WITH DROPPED BEAM

JOISTS ON FREESTANDING DECK WITH FLUSH BEAM