



2021 IRC Inspection Checklist

Footings and Foundations

This checklist is intended for use to prepare for an inspection. This is only a general list and is not intended to address all possible conditions. References are to the 2021 International Residential Code (IRC) (IRC sections referenced as (R) and American Concrete Institute (ACI) 318 as referenced by R612.

Please verify the following before calling for the footing or foundation inspection.

Permits and Plans

- Job address is posted in a visible location. (R319)
- Permit and approved plans are on site and accessible to the inspector. (R106.3.1 and R105.7).
- Permit information is correct (address, permit number, description of work, etc.)
- Plans have been reviewed for any special inspection requirements. (R401.4).
NOTE: If special inspections are required by the jurisdiction have the special inspector note on the permit each time they are on the site. Make sure the inspector is certified to perform the required type of inspection.
- Check approved plans for identification of flood hazard area and associated requirements for construction. (R109.1.3 & R322)
- Check approved plans for building height restrictions. (Per the local jurisdiction)

Location on Property

- The footings and foundation are not located within the setbacks.
- Protected areas and erosion control measures that need to be maintained and/or protected are marked per the approved plans. (Per the local jurisdiction)

Footings

The footings are constructed per the approved plans. (R403)

- All loose soil, mud, or water is removed from the bottom of the footing. Debris, water and/or ice removed from spaces to be occupied by concrete. (R404.4.6 & ACI 318)
- Steel reinforcement is properly placed and is the correct grade (#4 grade 40 is most common). (R404.1.2.3.7, & ACI 318-7.7.1)
 - To a minimum of 3" when cast against and permanently exposed to ground.
 - To a minimum of 2" for No. 6 through No. 18 bar when exposed to earth or weather.
 - To a minimum 1.5" for No. 5 or smaller bar when exposed to earth or weather.

- The reinforcement steel is spliced per approved plans with two ties per lap. 20" lap for #4 bar. (R404.1.2.3.7.5)
- Footings for masonry chimneys are a minimum of 12" thick and extend not less than 6" outside the chimney wall and project below-grade as required. Reinforcement steel is per approved drawings. (R1001.2)
- Footings are level or stepped if the ground slopes more than 1 foot in 10 feet. (R403.1.5)
- Minimum 1" clear spacing between parallel reinforcing bars. (ACI 318.7.6.1)

- Footings project beyond the face of the foundation wall at least 2 inches, but not more than the thickness of the footing. (R403.1.1.)
- Footings don't bear on frozen soil. (ACI 318)
- Reinforcement thoroughly clean of loose scale, rust, ice, mud, oil or other deleterious coatings. (ACI 318)

FOUNDATION

- Top of the wall will project a minimum of 6" above finished grade. (R404.1.6)
- Foundations in flood prone areas per Table R301.2.4, (by local jurisdiction) shall be designed per R322, and elevation determined per FEMA maps and/or surveyed/sealed by design professional (R324.1.3, [AO zones]). Flood resistant materials must be used.
- Surface drainage away from foundation walls min. 6" for the first 10 feet. On narrow lots provide 5% slope to drains or to approved (2%) sloped swales. (R401.3 exception.)
- The joists within the building footprint maintain a minimum 18" above grade in the crawl space or be treated wood or wood of natural resistance to decay. (R317.1)
- The beams within the building footprint maintain a minimum 12" above grade in the crawl space or are treated wood or wood of natural resistance to decay. (R317.1)
- The foundation wall is at the thickness shown on the approved plans.
- The reinforcement steel grade, size, cover, spacing, and splicing is per the approved plan. (ACI 318)
- When the concrete is poured, the anchor bolts will have a minimum 7" of cover, putting the bottom of anchor bolts within steel. (R403.1.6)
- The required holdowns are placed per approved plans. Note: Holdown straps and embedded bolts for holdowns may not be wet set. Requirements may vary per jurisdiction.
- Crawl space vents incorporated into foundation walls properly sized, spaced and installed. (R408)
- Walls exposed to weather are to have a minimum of 3000 psi concrete strength, and air entrained (5-7%). (Table R402.2)
- Retaining walls that are not laterally supported at the top and that retain in excess of 48 inches (1219 mm) of unbalanced fill, or retaining walls exceeding 24 inches (610 mm) in height that resist lateral loads in addition to soil, shall be designed in accordance with accepted engineering practice to ensure stability against overturning, sliding, excessive foundation pressure and water uplift (R404.4)
- Waterproofing/Damp proofing of foundation exterior walls required. (R406)

General

- Cold weather requirements. (ACI 318-19.4) Concrete being placed during freezing or near-freezing weather complies with the following:

1. Adequate equipment provided for heating concrete materials and protecting concrete during freezing or near-freezing weather.
2. Concrete materials and reinforcement, forms, fillers and ground with which concrete is to come in contact is free from frost.
3. Frozen materials or materials containing ice not being used.

- Hot weather requirements. (ACI 318-19.2) During hot weather, proper attention is given to ingredients, production methods, handling, placing, protection and curing to prevent excessive concrete temperatures or water evaporation that could impair the required strength or serviceability of the member or structure.
- Field bending of steel. (ACI Table 18.6) Minimum diameter of bend 6 times the diameter.