

Building and Safety Division

Inspection Standards

Shear and Roof Nail Inspection

The most efficient way to inspect this phase of construction is to pick one feature at a time and check all parts in that feature in a circuit around and into the structure. Following a path through the structure without becoming side-tracked will ensure that all parts of a shear and roof inspection get inspected. Which direction you take does not matter, as long as the inspector can verify all features of the structure are installed correctly.

This standard will start with the mechanical connectors to the foundation and work its way up through the load path to the roof diaphragm. A roof nail inspection can be performed separately provided all trusses and mechanical connectors for the roof system are inspected with the roof nailing. A shear inspection cannot be performed without the roof being ready for inspection or previously approved.

- 1) **Find size and location of all anchor bolts and uplift devices on plans and verify installation of each:**
 - a. Insure correct anchor bolt installation and spacing (slab only).
 - b. Insure uplift devices are connected to full height framing members or that adequate nailing is provided to transfer loads per common engineering practices.
 - c. Check to make sure uplift devices are installed as required by manufacturer. *Some devices require special fasteners, minimum concrete edge/corner clearances, and maximum distances above sill plate.*
 - d. Verify any bolt extensions are coupled with approved couplers and that they are seated properly in the coupler.
- 2) **Verify the following for each shear wall:**
 - a. Correct height, width, and location.
 - b. Correct sheathing type.
 - c. Correct spacing of studs.
 - d. Location of 4x 3x members. *Usually at bearing points, hold-down locations, and perimeter nailing 3" on center. or less.*
 - e. Correct nail size and spacing of ALL nailing. *Field, edge, perimeter, sill, and top plate splice nailing must all be correct for spacing and nail size.*
- 3) **Check shear transfer:**
 - a. Locate each shear transfer detail as noted on framing plan.
 - b. Check shear transfer over each wall line from:
 - i. floor framing to bottom of shear wall.
 - ii. from top of shear wall to 2nd floor framing.
 - iii. from shear wall to roof framing.
 - iv. from roof diaphragm to drag and collector floor framing/roof trusses.
 - c. **Shear transfers shall match details in all aspects to include:**
 - i. nail sizes and location.
 - ii. size and type of metal connectors.
 - iii. wood frame and sheathing sizes.

4) Trusses:

- a. Verify trusses based on approved calculations.
 - i. Location, quantity, and type.
 - ii. Lateral bracing.
 - iii. Gable end bracing size, type, and location.
 - iv. Bearing points.
 - v. Required metal connectors for bearing, lateral, and uplift.
 - vi. Nailing/bolting of multiple ply trusses.

5) Verify installation of ignition resistant eave products.

6) Verify roof diaphragm size and spacing of all nailing to:

- a. Roof deck to shear transfer blocks.
- b. Roof deck to drag and collector trusses.
- c. Roof deck to drag blocking between trusses.
- d. Roof deck field and edge nailing.
- e. Roof deck to eave blocks.
- f. Roof straps to roof deck into blocking/framing below.

***A Shear and/or Roof Framing inspection is considered not ready if any part of the load path system is substantially incomplete *Or* there are more than 10 corrections on any floor level. In addition, if minimum erosion control BMP's, construction waste management, or compliance with SWPPP plan is not met, the inspection may be subject to cancellation.

The builder is responsible for safe access to any roof areas to be inspected.

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