



INSPECTION CHECKLIST
Residential Roof Shearwall
April 2011

2009 Codes

This checklist is intended for use to prepare for an inspection. References are from the 2009 International Residential Code (R) and the 2009 International Building Code (IBC).

Please verify the following before calling for a roof sheathing or shearwall inspection.

Permits and Plans

- Job address is posted in a visible location. (R321)
- Permit and approved plans are on site and accessible to the inspector. (R105.7, R106.1.2, and R106.3.1).
- Permit information is correct (address, permit number, description of work, etc.)
- Previous required building inspections are approved. (R104.4)
- All inspections as required by the jurisdiction shall have inspection approvals prior to cover and shall be requested by permit holder or agent. (R109.3)

Exterior Wall Sheathing / Braced Wall Panel

- Exterior wall sheathing inspection is required prior to papering or siding.
- Verify the sheathing is the grade and thickness specified on the approved plans and/or engineering.
- Verify the sheathing is nailed per the shear wall/braced wall panel schedule on the approved plan. As a general rule all nails for vertical or horizontal diaphragms are required to be common nail sizes instead of sinkers, See Tables R602.3(1), R602.3(2), R602.3(3).
- Sheathing edges and end joints must be blocked or occur over horizontal or vertical framing members. (R602.10.8)
- Plate sizes are shear wall schedule/approved plans.[Table R602.3.1]
- Check nailing/attachment requirements for required Double 2x's or 3x's as shown on approved plan and shear wall schedule. (R602) R602.3.1 For stud size, height, and spacing. Table R602.3(5)
- R317.3 Fasteners and connectors in contact with preservative-treated and fire-retardant-treated wood.
- Fasteners and connectors in contact with preservative-treated wood and fire-retardant-treated wood shall be in accordance with this section. The coating weights for zinc-coated fasteners shall be in accordance with ASTM A 153.
- R317.3.1 Fasteners for preservative-treated wood. Fasteners for preservative-treated wood shall be of hot dipped zinc-coated galvanized steel, stainless steel, silicon bronze or copper. Coating types and weights for connectors in contact with preservative-treated wood shall be in accordance with the connector manufacturer's recommendations. In the absence of manufacturer's recommendations, a minimum of ASTM A 653 type G185 zinc-coated galvanized steel, or equivalent, shall be used. Exceptions:
 1. One-half-inch (12.7 mm) diameter or greater steel bolts.
 2. Fasteners other than nails and timber rivets shall be permitted to be of mechanically deposited zinc coated steel with coating weights in accordance with ASTM B 695, Class 55 minimum.
- Fasteners at end joints are not spaced greater than 6" on center and are firmly driven into the framing. Note that the minimum nailing of plywood to roofs and walls is 6 inches on panel edges and 12 inches in the field. Table 503.2.1.1(1), R803.2.3

- Fastener heads or crowns don't penetrate the outer veneer of plywood. (R602.3)
- The approved plan will need to be checked to ensure that field changes were not made to the height of walls that would make the maximum height to width ratio cannot exceed 3.5:1 for shearwalls. (R602.10.5 and IBC Table 2305.3.3) Verify that minimum braced wall line lengths are maintained. (R602.10.1.5) Also, roof/floor diaphragm. (S3401)
- Pressure-treated materials installed wherever concrete is being poured against wood construction. (R317)
- Check plans for lateral restraint or alternate braced panels per R602.10.3.2 and confirm that the construction meets the approved engineering or the prescriptive design. ABWP per Figure 602.10.3.2 and portal frame with hold downs per Figure R602.10.3.3.
- Verify roof eave rafter tails/sheathing does not project into fire separation distance @ property line per R302.1 of 5 feet.
- Stepped foundation-braced wall lines fully fastened to sill plate and sheathed. (R602.11.2)
- Wall bracing for stone and masonry veneer walls. (R602.12)
- Steel wall bracing, vertical exterior strap hold-down devices, and structural sheathing – fastening requirements. (R603, R603.9.2, 3, 4, 5)
- Provide/verify header to king stud attachment and connection requirements in accordance with R603.7 and Tables R603.7(1) and R603.7(2).
- Verify typical outside/inside corners and garage door corners in accordance with Figure R602.10.4.4(1).
- Spaced lumber sheathing is not allowed in seismic category D2. See R803.1 and allowable spans of roof sheathing per R803.1.

Exterior Roof Sheathing

- Roof sheathing inspection is required prior to papering or roofing.
- Mid-span clips are installed as required by approved plan or the APA manufacturing and installation requirements.
- Fasteners at end joints are not spaced greater than 6" on center and are firmly driven into the framing members. (R602.3)
- Check plans for any specified blocking and/or nailing. Example: Shearwall connections to roof diaphragm.
- Check plans and schedules for fastener type and size.
- Field nailing, gable end walls, and perimeter blocking are nailed per approved plan or prescriptive code. (R803.2.3)
- R802.10.3 Bracing. Trusses shall be braced to prevent rotation and provide lateral stability in accordance with the requirements specified in the construction documents for the building and on the individual truss design drawings. In the absence of specific bracing requirements, trusses shall be braced in accordance with the Building Component Safety Information (BCSI 1-03) Guide to Good Practice for Handling, Installing & Bracing of Metal Plate Connected Wood Trusses.
- R802.10.4 Alterations to trusses. Truss members shall not be cut, notched, drilled, spliced or otherwise altered in any way without the approval of a registered design professional. Alterations resulting in the addition of load (e.g., HVAC equipment, water heater) that exceeds the design load for the truss shall not be permitted without verification that the truss is capable of supporting such additional loading.
- R802.10.5 Truss to wall connection. Trusses shall be connected to wall plates by the use of approved connectors having a resistance to uplift of not less than 175 pounds (779 N) and shall be installed in accordance with the manufacturer's specifications. For roof assemblies subject to wind uplift pressures of 20 pounds per square foot (960 Pa) or greater, as established in Table R301.2(2), adjusted for height and exposure per Table R301.2(3), see section R802.11.
- Allowable spans for lumber used as roof sheathing shall conform to Table R803.1. Spaced lumber sheathing for wood shingle and shake roofing shall conform to the requirements of Sections R905.7 and R905.8. Spaced lumber sheathing is not allowed in Seismic Design Category D2.
- Where used as subflooring or combination subfloor underlayment, wood structural panels shall be of one of the grades specified in Table R503.2.1.1(1). When sanded plywood is used as

combination subfloor underlayment, the grade shall be as specified in Table R503.2.1.1(2). Refer to R803.2.3

Hold-downs and Hardware

- Confirm that all floor to floor, wall to floor and lateral straps and transfer connections are installed per the approved plans.
- Hold-downs not over-spalled beyond manufacturer's minimum requirements. Spalling 1"- 4" will cause a reduction in load capacities. See manufacturer's installation instructions and/or engineering.
- Hold-downs and straps are attached properly per approved plans and/or manufacturer's specifications.
- Full height studs required at strapping and hold-downs.
- Multiple studs are installed at strapping and hold-downs as required per approved plan.
- Check anchor bolting at garage walls as they typically aren't complete at the underfloor inspection. (R403.1.6)
- Anchor bolt size and spacing is per schedule. (R403.1.6) and or approved plans.
- R602.11.1 Wall anchorage for all buildings in Seismic Design Categories D0, D1 and D2 and townhouses in Seismic Design Category C.
- Plate washers, a minimum of 0.229 inch by 3 inches by 3 inches (5.8 mm by 76 mm by 76 mm) in size, shall be provided between the foundation sill plate and the nut except where approved anchor straps are used. The hole in the plate washer is permitted to be diagonally slotted with a width of up to 3/16 inch (5 mm) larger than the bolt diameter and a slot length not to exceed 13/4 inches (44 mm), provided a standard cut washer is placed between the plate washer and the nut.

Framing

- Check framing member requirements for Double 2x's or 3x's as shown on approved plan and shear wall schedule. (R602) R602.3.1 For stud size, height, and spacing refer to Table R602.3(5)&R602.3.1
- R602.6.1 Drilling and notching of top plate. When piping or ductwork is placed in or partly in an exterior wall or interior load-bearing wall, necessitating cutting, drilling or notching of the top plate by more than 50 percent of its width, a galvanized metal tie not less than 0.054 inch thick (1.37 mm) (16 ga) and 11/2 inches (38 mm) wide shall be fastened across and to the plate at each side of the opening with not less than eight 10d (0.148 inch diameter) having a minimum length of 11/2 inches (38 mm) at each side or equivalent. The metal tie must extend a minimum of 6 inches past the opening. See Figure R602.6.1.
Exception: When the entire side of the wall with the notch or cut is covered by wood structural panel sheathing.
- Continuity per R302.2.1 is maintained when exterior wall (1-hour-rated) is within 5-foot fire separation. Distance should also be verified at time of foundation and framing inspections
- Drilling and notching of studs shall be in accordance with the following: R602.6
 1. Notching. Any stud in an exterior wall or bearing partition may be cut or notched to a depth not exceeding 25 percent of its width. Studs in nonbearing partitions may be notched to a depth not to exceed 40 percent of a single stud width.
 2. Drilling. Any stud may be bored or drilled, provided that the diameter of the resulting hole is no more than 60 percent of the stud width, the edge of the hole is no more than 5/8 inch (16 mm) to the edge of the stud and the hole is not located in the same section as a cut or notch. Studs located in exterior walls or bearing partitions drilled over 40 percent and up to 60 percent shall also be doubled with no more than two successive doubled studs bored. See Figures R602.6(1) and R602.6(2).
Exception: Use of approved stud shoes is permitted when they are installed in accordance with the manufacturer's recommendations.