

[W] CHAPTER 44

EXISTING BUILDINGS AND STRUCTURES

SECTION 4401 SCOPE

R4401.1 General. *Repairs, alterations, additions, and relocation of existing buildings and structures shall comply with the provisions of this code for new construction, except as modified by this chapter. Structural elements and systems shall comply with Section R107.4 and the provisions of this chapter.*

SECTION R4402 COMPLIANCE

R4402.1 General. *The work shall not cause the building or structure to become unsafe or adversely affect the performance of the building; shall not cause an existing mechanical or plumbing system to become unsafe, hazardous, insanitary or overloaded; and unless expressly permitted by these provisions, shall not make the building any less compliant with this code or to any previously approved alternative arrangements than it was before the work was undertaken.*

R4402.2 Structural. *Structural elements and systems that are altered, repaired, or replaced shall comply with the structural provisions of this chapter and of Chapter 3 through Chapter 10 of the *International Residential Code* unless noted otherwise.*

R4402.2.1 Unreinforced masonry parapet bracing. *Unreinforced masonry buildings located in Seismic Design Category D0, D1, D2, shall have parapet bracing and wall anchors installed at the roofline whenever a reroofing permit is issued. Such parapet bracing and wall anchors shall be of an approved design unless an evaluation demonstrates compliance of the existing bracing and anchorage.*

R4402.3 Smoke alarms. *Smoke alarms shall be provided in accordance with Section R314.2.2.*

R4402.4 Carbon monoxide alarms. *Carbon monoxide alarms shall be provided in accordance with Section R315.2.2.*

R4402.5 Replacement windows. *Where an existing window, including the sash and glazed portion, or safety glazing is replaced, the replacement window or safety glazing shall comply with the requirements of Sections R4402.5.1 through R4402.5.4 as applicable.*

R4402.5.1 Energy efficiency. *Replacement windows shall comply with the requirements of the Washington State Residential Energy Code.*

R4402.5.2 Safety glazing. *Replacement glazing in hazardous locations shall comply with the safety glazing requirements of Section R308.*

R4402.5.3 Window fall protection. *Window fall protection shall be installed in accordance with R312.2.*

Exception: *Where only the window glazing is being replaced.*

R4402.5.4 Replacement windows for emergency escape and rescue openings. *Replacement windows shall be exempt from Sections R310.2 and R310.4.4, provided that the replacement window meets the following conditions:*

- 1. The replacement window is the manufacturer's largest standard size window that will fit within the existing frame or existing rough opening. The replacement window is of the same operating style as the existing window or a style that provides for an equal or greater window opening area than the existing window.*
- 2. The replacement window is not part of a change of use.*

R4402.5.5 Window opening control device and fall protection device height. *Window opening control devices or fall protection devices shall be located at a height per R310.1.1 or at as low a height as can be installed within the existing clear opening.*

R4402.6 Flood hazard areas. *Work performed in existing buildings located in a flood hazard area as established by Table R301.2(1) shall be subject to the provisions of Section 105.7.3.*

SECTION R4403 REPAIRS

R4403.1 General. *Repairs shall comply with the applicable provisions of this code for new construction or as permitted by this section. Work on undamaged components that is necessary for the required repair of damaged components shall be considered part of the repair and shall not be subject to requirements for *alterations*.*

REFERENCED STANDARDS

R4403.2 Materials. Materials used during *repairs* shall comply with this section.

R4403.2.1 New and replacement materials. Except as otherwise required or permitted by this code, materials permitted by this code for new construction shall be used. Like materials shall be permitted for *repairs*, provided that *unsafe* conditions are not created. Hazardous materials shall not be used where this code does not permit their use in buildings of similar occupancy, purpose, and location.

R4403.2.2 Existing materials. Materials already in use in a building in compliance with requirements or approvals in effect at the time of their erection or installation shall be permitted to remain in use unless determined by the building official to be *unsafe*.

R4403.2.3 Plumbing materials and supplies. The following plumbing materials and supplies shall not be used:

1. All-purpose solvent cement, unless *listed* for the specific application.
2. Flexible traps and tailpieces, unless *listed* for the specific application.
3. Solder having more than 0.2-percent lead in the repair of potable water systems.

R4403.3 Water closets. Where any water closet is replaced with a newly manufactured water closet, the replacement water closet shall comply with the requirements of Uniform Plumbing Code Section 411.

R4403.4 Structural. Repaired structural elements and systems shall comply with Section 107.4 and the structural provisions of this chapter.

R4403.5 Demolition and replacement. Where a building or structure is effectively demolished by damage or where the intended method of repair is demolition and replacement, the replaced in the *International Residential Code*.

Exception: Existing foundations are permitted to remain and be reused where approved by the code official.

SECTION R4404 **ALTERATIONS**

R4404.1 General. *Alterations* to existing buildings shall comply with the provisions of this code for new construction, except as permitted by this section.

R4404.2 Newly constructed elements. Newly constructed elements, components and systems shall comply with the requirements of this code.

Exception: Added openable windows are not required to comply with the light and ventilation requirements of Section R303.

R4404.3 Nonconformities. The work shall not increase the extent of noncompliance or create nonconformity to those requirements that did not previously exist.

R4404.4 Structural. Altered structural elements and systems shall comply with Section 107.4 and the structural provisions of this Chapter. New elements shall meet all of the requirements of this code for new construction. Structural elements that are uncovered during the course of the alteration and that are found to be *unsafe* shall be repaired in accordance with Section R107.4.

R4404.4.1 Decreased structural capacity. Where an *alteration* causes a decrease in capacity in any structural component, that structural component shall be shown to comply or shall be altered to comply with the applicable provisions of Chapters 3, 4, 5, 6, and 8.

R4404.4.2 Increased design loads. Where an *alteration* causes an increase in loads as described in this section, the existing structural components that support the increased load, including the foundation, shall be shown to comply or shall be altered to comply with the applicable provisions of Chapters 3, 4, 5, 6, and 8. Existing structural components that do not provide support for the increased loads shall not be required to comply with this section.

R4404.4.2.1 Dead load increase. Dead load shall be considered to be increased for purposes of this section when the weight of materials used for the *alteration* exceeds the weight of the materials replaced, or when new materials or elements are added.

Exceptions:

1. Buildings in which the increase in dead load is due entirely to the addition of a second layer of roof covering weighing 3 pounds per square foot (0.1437 kN/m²) or less over an existing single layer of roof covering.
2. Installation of rooftop-mounted photovoltaic (PV) panel systems weighing 4 pounds per square foot or less over an existing single layer of roof covering.

R4404.4.2.2 Live load increase. An increase in live load shall be determined based on Table R301.5.

R4404.4.2.3 Snow load increase. Snow load shall be considered to be increased for purposes of this section when alteration of the roof configuration creates new areas that accumulate drifted snow.

R4404.4.2.4 Wind load increase. Wind load shall be considered to be increased for purposes of this section when the surface area of any exterior elevation subject to wind pressure is increased by more than 5%.

R4404.4.2.5 Seismic load increase. Seismic load shall be considered to be increased for purposes of this section in *existing buildings* assigned to Seismic Design Category C, D0, D1, or D2 where new materials replace lighter weight materials in one of the following conditions:

1. Concrete tile or tile roof covering of similar weight is installed on more than 50% of the total roof area.
2. Brick veneer or cladding of similar weight is installed on walls above the second story.

R4404.5 Ventilation. Reconfigured spaces intended for occupancy, and spaces converted to habitable or occupiable space in any work area shall be provided with *ventilation* in accordance with Section R303.

R4404.6 Ceiling height. Where a *habitable attic* or *habitable space* in a basement is created in an existing building, ceiling height shall not be less than 6 feet 8 inches (2032mm). Bathrooms, toilet rooms and laundry rooms shall have a ceiling height of not less than 6 feet 4 inches (1931 mm).

Exceptions:

1. For rooms with sloped ceilings, the required floor area of the room shall have a ceiling height of not less than 5 feet (1524 mm) and not less than 50 percent of the required floor area shall have a ceiling height of not less than 6 feet 8 inches (2134 mm).
2. At beams, girders, ducts or other obstructions, the ceiling height shall be not less than 6 feet 4 inches (1931 mm) from the finished floor.

R4404.7 Stairways, handrails and guards. Stairs, handrails and guards shall comply with this section.

R4404.7.1 Stairway Illumination. Stairways within the work area shall be provided with illumination in accordance with Section R303.6.

R4404.7.2 Stair width. Existing stairs not otherwise being altered or modified shall be permitted to maintain their current clear width at, above and below existing *handrails*.

R4404.7.3 Stair headroom. Headroom height on existing stairs being altered or modified shall not be reduced below the *existing stairway* finished headroom. Existing stairs not otherwise being altered shall be permitted to maintain the current finished headroom.

R4404.7.4 Stair landing. Landings serving existing stairs being altered or modified shall not be reduced below the *existing stairway* landing depth and width. Existing stairs not otherwise being altered shall be permitted to maintain the current landing depth and width.

R4404.7.5 Stair treads and risers. An existing *stairway* shall not be required to comply with Section R311.7.5 where the existing space and construction does not allow a reduction in pitch or slope. Where risers are added to an existing stair, the tread and riser dimensions of the added risers shall match the existing stair.

R4404.7.6 Handrails and guards. Where a stair or any portion of a stair is reconstructed, a handrail and guard, where required, shall be provided in accordance with Section R311 and R312.

SECTION R4405 **ADDITIONS**

R4405.1 Additions to an existing building. *Additions* shall comply with this section and other applicable provisions of this code for new construction.

R4405.2 Structure for horizontal additions. Where an *addition* involves new construction next to and attached to an existing building and includes *alterations* to the existing building, the *addition* shall meet all the requirements of this code for new construction. *Alterations* to the existing building shall comply with the requirements governing *alterations* within this code. In wood light-frame additions, connection of the structural components shall be permitted to be provided using wall top plates and addition studs that abut the existing building. Wall top plates shall be lapped and spliced in accordance with Section R602.3.2. Abutting studs shall be fastened in accordance with Table R602.3(1).

Exception: The structural components of the *addition* shall be permitted to be connected to the existing building in accordance with accepted engineering practice.

R4405.3 Structure for vertical additions. Where an *addition* involves new construction that adds a story to any part of the existing building or vertically increases the height of any part of the existing building, the new construction and the existing building together shall meet all of the structural requirements of this code for new construction.

REFERENCED STANDARDS

Exception: Where the new structure and the existing structure together are evaluated in accordance with accepted engineering practice and are shown to be sufficient to support the combined loads from the new structure and existing structure, no structural alterations are required.

SECTION R4406 RELOCATED BUILDINGS

R4406.2 Relocated buildings. Residential buildings or structures moved into or within the jurisdiction are not required to comply with the requirements of this code if the original use classification of the building or structure is not changed. Any repair, alteration or change of use undertaken within the relocated structure shall comply with the requirements of this code applicable to the work being performed.