

(Effective October 29, 2023)

WAC 51-55-0500 Special building construction regulations.

Section 501 General.

501.1 General. Buildings and structures hereafter constructed, modified, or relocated into or within the *wildland-urban interface area* shall meet the construction requirements of Sections 501.4 through 501.8.

EXCEPTIONS:

1. Buildings and structures with fire hazard severity determined in Section 502 and with ignition-resistant construction classification determined in Section 503.
2. Accessory structures not exceeding 200 square feet (11 m²) in floor area and where located not less than 50 feet (15,240 mm) from buildings or structures containing habitable spaces.
3. Agricultural buildings located not less than 50 feet (15,240 mm) from buildings or structures containing habitable spaces.

501.2 Objective. This section is not adopted.

501.4 Roof covering. Roofs shall have a roof assembly that complies with a Class A rating when tested in accordance with ASTM E108 or UL 790. For roof assemblies where the profile allows a space between the roof covering and roof deck, the space at the eave ends shall be fire-stopped to preclude entry of flames or embers or have one layer of 72-pound (32.4 kg) mineral-surfaced, nonperforated cap sheet complying with ASTM D3909 installed over the combustible roof deck.

EXCEPTIONS:

1. Class A roof assemblies including those with coverings of brick, masonry, or an exposed concrete roof deck.
2. Class A roof assemblies also include ferrous or copper shingles or sheets, metal sheets and shingles, clay or concrete roof tile or slate installed on noncombustible decks or ferrous, copper or metal sheets installed without a roof deck on noncombustible framing.
3. Class A roof assemblies include minimum 16 oz/sq. ft. (0.0416 kg/m²) copper sheets installed over combustible roof decks.

501.4.1 Roof valleys. Where provided, valley flashings shall be not less than 0.019-inch (0.48 mm) (No. 26 galvanized sheet gage) corrosion-resistant metal installed over a minimum 36-inch-wide (914 mm) underlayment consisting of one layer of 72-pound (32.4 kg) mineral-surfaced, nonperforated cap sheet complying with ASTM D3909 running the full length of the valley.

501.5 Exterior walls and projections other than decks. Exterior walls and projections other than decks, of buildings, or structures, or *accessory structures* attached to buildings or structures with habitable spaces, shall be constructed with one of the following methods, with materials extending from the top of the foundation to the underside of the roof sheathing:

1. Materials approved for not less than one hour fire-resistance rated construction on the exterior side;
2. Approved noncombustible materials;
3. Heavy timber or log wall construction;
4. Fire-retardant-treated wood on the exterior side. The fire-retardant-treated wood shall be labeled for exterior use and meet the requirements of Section 2303.2 of the International Building Code; or
5. Ignition-resistant materials, complying with Section 503.2 on the exterior side.

EXCEPTION: Unenclosed accessory structures attached to buildings with habitable spaces and projections, such as decks, attached to the first floor of a building, if when the structure is built with building materials at least two inches nominal depth and the area below the unenclosed accessory structure is screened with material with openings no greater than 1/4-inch maximum to prevent accumulation of combustibles and to prevent embers from coming in underneath.

501.6 Decks and appendages. The material of decks, porches, balconies, and stairs shall be constructed with any of the following materials:

1. Ignition-resistant material that complies with the minimum performance requirement of Section 503.2.
2. Exterior fire-retardant-treated wood.

3. Noncombustible material.

4. Any material that complies with the minimum performance requirements of Section 503.2 when attached exterior wall covering is also either noncombustible or ignition-resistant material.

5. Heavy timber construction consisting of the following:

5.1. Posts shall be a minimum of 6 inches x 6 inches nominal dimension.

5.2. Beams shall be a minimum of 6 inches x 8 inches nominal dimension.

5.3. Joists shall be a minimum of 4 inches x 8 inches nominal dimension spaced at no greater than 24 inches on center.

501.6.1 Clearance. Decks with less than 48 inches of clearance from finished grade to deck joists shall be enclosed with screen material with openings no greater than 1/4-inch maximum to prevent accumulation of combustibles and to prevent embers from coming in underneath.

501.6.2 Walking surfaces. The walking surface material of decks, porches, balconies, and stairs shall be constructed with one of the following materials:

1. Ignition-resistant material that complies with the performance requirements of Section 503.2.

2. Exterior fire-retardant-treated wood.

3. Noncombustible material.

4. Where the deck, porch, balcony, or stairs are constructed of heavy timber in accordance with Section 501.6, natural wood decking products shall be:

4.1. 2-inch nominal dimension lumber; or

4.2. 5/4-inch nominal hardwood (i.e., teak, mahogany, or other approved hardwood).

5. Material that complies with the performance requirements of Section 501.6.2.1 when tested in accordance with ASTM E2632 and when attached exterior wall covering is also composed of only noncombustible or ignition-resistant materials.

EXCEPTION: Wall material shall be permitted to be of any material that otherwise complies with Section 501.5 when the decking surface material complies with the performance requirements of ASTM E84 with a Class B flame spread index.

501.6.2.1 Material in Section 501.6.2, Item 5. The walking surface material shall be tested in accordance with ASTM E2632 and shall comply with the following condition of acceptance. The ASTM E2632 test shall be conducted on a minimum of three test specimens and the peak heat release rate shall be less than or equal to 25 kW/ft² (269 kW/m²). If any one of the three tests does not meet the conditions of acceptance, three additional tests shall be run. All the additional tests shall meet the condition of acceptance.

501.7 Exterior glazing. Exterior windows, window walls and glazed doors, windows within exterior doors, and skylights shall be tempered glass, multilayered glazed panels, glass block, or have a fire protection rating of not less than 20 minutes.

501.8 Vents. Attic ventilation openings, foundation or underfloor vents, or other ventilation openings in vertical exterior walls and vents through roofs shall not exceed 144 square inches (0.0929 m²) each. Such vents shall be covered with noncombustible corrosion-resistant mesh with openings not to exceed 1/4 inch (6.4 mm), or shall be designed and approved to prevent flame or ember penetration into the structure.

1. Attic ventilation openings shall not be located in soffits, in eave overhands, between rafters at eaves, or in other overhang areas. Gable end and dormer vents shall be located not less than 10 feet (3048 mm) from lot lines. Underfloor ventilation openings shall be located as close to grade as possible.

502 Fire hazard severity.

502.1 General. The fire hazard severity of building sites for buildings hereafter constructed, modified, or relocated into *wildland-urban interface areas* shall be established in accordance with Table 502.1. See also Chapter 8.

502.2 Fire hazard severity reduction. The fire hazard severity identified in Table 502.1 is allowed to be reduced by implementing a vegetation management plan in accordance with Chapter 7.

TABLE 502.1
FIRE HAZARD SEVERITY
(No change to the table)

504 Class 1 ignition-resistant construction.

504.7 Appendages and projections. *Accessory structures* attached to buildings with habitable spaces and projections other than decks, porches, balconies, or stairs, shall be not less than 1-hour fire-resistance-rated construction, *heavy timber construction*, or constructed of one of the following:

1. *Approved noncombustible* materials.
2. Fire-retardant-treated wood identified for exterior use and meeting the requirements of Section 2303.2 of the *International Building Code*.
3. Ignition-resistant building materials in accordance with Section 503.2.

EXCEPTION: Not adopted.

504.8 Decks and appendages. The material of decks, porches, balconies, and stairs shall be constructed with any of the following materials:

1. Ignition-resistant material that complies with the minimum performance requirement of Section 503.2.
2. Exterior fire-retardant-treated wood.
3. Noncombustible material.
4. Any material that complies with the minimum performance requirements of Section 503.2 when attached exterior wall covering is also either noncombustible or ignition-resistant material.
5. Heavy timber construction consisting of the following:
 - 5.1. Posts shall be a minimum of 6 inches x 6 inches nominal dimension.
 - 5.2. Beams shall be a minimum of 6 inches x 8 inches nominal dimension.
 - 5.3. Joists shall be a minimum of 4 inches x 8 inches nominal dimension spaced at no greater than 24 inches on center.

504.8.1 Clearance. Decks with less than 48 inches of clearance from finished grade to deck joists shall be enclosed with screen material with openings no greater than 1/4-inch maximum to prevent accumulation of combustibles and to prevent embers from coming in underneath.

504.8.2 Walking surfaces. The walking surface material of decks, porches, balconies, and stairs shall be constructed with one of the following materials:

1. Ignition-resistant material that complies with the performance requirements of Section 503.2.
2. Exterior fire-retardant-treated wood.
3. Noncombustible material.
4. Where the deck, porch, balcony, or stairs are constructed of heavy timber in accordance with Section 501.6, natural wood decking products shall be:
 - 4.1. 2-inch nominal dimension lumber; or
 - 4.2. 5/4-inch nominal hardwood (i.e., teak, mahogany, or other approved hardwood).
5. Material that complies with the performance requirements of Section 504.8.2.1 when tested in accordance with ASTM E2632 and when attached exterior wall covering is also composed of only noncombustible or ignition-resistant materials.

EXCEPTION: Wall material shall be permitted to be of any material that otherwise complies with Section 501.5 when the decking surface material complies with the performance requirements of ASTM E84 with a Class B flame spread index.

504.8.2.1 Material in Section 504.8.1, Item 5. The walking surface material shall be tested in accordance with ASTM E2632 and shall comply with the following condition of acceptance. The ASTM E2632 test shall be conducted on a minimum of three test specimens and the peak heat release rate shall be less than or equal to 25 kW/ft² (269 kW/m²). If any one of the three tests does not meet the conditions of acceptance, three additional tests shall be run. All the additional tests shall meet the condition of acceptance.

504.9 Exterior glazing. Exterior windows, window walls and glazed doors, windows within exterior doors, and skylights shall be tempered glass, *multilayered glazed panels*, glass block or have a fire protection rating of not less than 20 minutes.

504.10 Exterior doors. Exterior doors shall be *approved* noncombustible construction, solid core wood not less than 1 3/4 inches thick (44 mm), or have a fire protection rating of not less than 20 minutes. Windows within doors and glazed doors shall be in accordance with Section 504.8.

EXCEPTION: Vehicle access doors.

504.11 Vents. Attic ventilation openings, foundation or underfloor vents, or other ventilation openings in vertical exterior walls and vents through roofs shall not exceed 144 square inches (0.0929 m²) each. Such vents shall be covered with *noncombustible* corrosion-resistant mesh with openings not to exceed 1/4 inch (6.4 mm), or shall be designed and *approved* to prevent flame or ember penetration into the structure.

504.11.1 Vent locations. Attic ventilation openings shall not be located in soffits, in eave overhangs, between rafters at eaves, or in other overhang areas. Gable end and dormer vents shall be located not less than 10 feet (3048 mm) from lot lines. Underfloor ventilation openings shall be located as close to grade as practical.

504.12 Detached accessory structures. Detached accessory structures located less than 50 feet (15,240 mm) from a building containing habitable space shall have exterior walls constructed with materials *approved* for not less than 1-hour *fire-resistance-rated construction*, heavy timber, *log wall construction*, or constructed with *approved noncombustible* materials or fire-retardant-treated wood on the exterior side. The fire-retardant-treated wood shall be labeled for exterior

use and meet the requirements of Section 2303.2 of the *International Building Code*.

504.12.1 Underfloor areas. Where the detached structure is located and constructed so that the structure or any portion thereof projects over a descending slope surface greater than 10 percent, the area below the structure shall have underfloor areas enclosed to within 6 inches (152 mm) of the ground, with exterior wall construction in accordance with Section 504.5 or underfloor protection in accordance with Section 504.6.

EXCEPTION: The enclosure shall not be required where the underside of exposed floors and exposed structural columns, beams and supporting walls are protected as required for exterior 1-hour *fire-resistance-rated construction* or *heavy timber construction* or fire-retardant-treated wood on the exterior side. The fire-retardant-treated wood shall be labeled for exterior use and meet the requirements of Section 2303.2 of the *International Building Code*.

505 Class 2 ignition-resistant construction.

505.7 Appendages and projections. *Accessory structures* attached to buildings with habitable spaces and projections, other than decks, porches, balconies, or stairs, shall be not less than 1-hour *fire-resistance-rated construction*, *heavy timber construction* or constructed of one of the following:

1. *Approved noncombustible materials.*
2. Fire-retardant-treated wood identified for exterior use and meeting the requirements of Section 2303.2 of the *International Building Code*.
3. Ignition-resistant building materials in accordance with Section 503.2.

EXCEPTION: Not adopted.

505.8 Decks and appendages. The material of decks, porches, balconies, and stairs shall be constructed with any of the following materials:

1. Ignition-resistant material that complies with the minimum performance requirement of Section 503.2.
2. Exterior fire-retardant-treated wood.
3. Noncombustible material.
4. Any material that complies with the minimum performance requirements of Section 503.2 when attached exterior wall covering is also either noncombustible or ignition-resistant material.
5. Heavy timber construction consisting of the following:
 - 5.1. Posts shall be a minimum of 6 inches x 6 inches nominal dimension.
 - 5.2. Beams shall be a minimum of 6 inches x 8 inches nominal dimension.
 - 5.3. Joists shall be a minimum of 4 inches x 8 inches nominal dimension spaced at no greater than 24 inches on center.

505.8.1 Clearance. Decks with less than 48 inches of clearance from finished grade to deck joists shall be enclosed with screen material with openings no greater than 1/4-inch maximum to prevent accumulation of combustibles and to prevent embers from coming in underneath.

505.8.2 Walking surfaces. The walking surface material of decks, porches, balconies, and stairs shall be constructed with one of the following materials:

1. Ignition-resistant material that complies with the performance requirements of Section 503.2.
2. Exterior fire-retardant-treated wood.
3. Noncombustible material.

4. Where the deck, porch, balcony, or stairs are constructed of heavy timber in accordance with Section 501.6, natural wood decking products shall be:

4.1. 2-inch nominal dimension lumber; or

4.2. 5/4-inch nominal hardwood (i.e., teak, mahogany, or other approved hardwood).

5. Material that complies with the performance requirements of Section 505.8.1.1 when tested in accordance with ASTM E2632 and when attached exterior wall covering is also composed of only noncombustible or ignition-resistant materials.

EXCEPTION: Wall material shall be permitted to be of any material that otherwise complies with Section 501.5 when the decking surface material complies with the performance requirements of ASTM E84 with a Class B flame spread index.

505.8.2.1 Material in Section 505.8.1, Item 5. The walking surface material shall be tested in accordance with ASTM E2632 and shall comply with the following condition of acceptance. The ASTM E2632 test shall be conducted on a minimum of three test specimens and the peak heat release rate shall be less than or equal to 25 kW/ft² (269 kW/m²). If any one of the three tests does not meet the conditions of acceptance, three additional tests shall be run. All the additional tests shall meet the condition of acceptance.

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505.10 Exterior doors. Exterior doors shall be *approved noncombustible* construction, solid core wood not less than 1 3/4 inches thick (45 mm), or have a fire protection rating of not less than 20 minutes. Windows within doors and glazed doors shall be in accordance with Section 505.8.

EXCEPTION: Vehicle access doors.

505.11 Vents. Attic ventilation openings, foundation or underfloor vents or other ventilation openings in vertical exterior walls and vents through roofs shall not exceed 144 square inches (0.0929 m²) each. Such vents shall be covered with *noncombustible* corrosion-resistant mesh with openings not to exceed 1/4 inch (6.4 mm) or shall be designed and *approved* to prevent flame or ember penetration into the structure.

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505.12 Detached accessory structures. Detached accessory structures located less than 50 feet (15,240 mm) from a building containing habitable space shall have exterior walls constructed with materials *approved* for not less than 1-hour *fire-resistance-rated construction*, heavy timber, *log wall construction*, or constructed with *approved noncombustible* materials or fire-retardant-treated wood on the exterior side. The fire-retardant-treated wood shall be labeled for exterior use and meet the requirements of Section 2303.2 of the *International Building Code*.

505.12.1 Underfloor areas. Where the detached *accessory structure* is located and constructed so that the structure or any portion thereof projects over a descending slope surface greater than 10 percent, the area below the structure shall have underfloor areas enclosed to within 6 inches (152 mm) of the ground, with exterior wall construction in accordance with Section 505.5 or underfloor protection in accordance with Section 505.6.

EXCEPTION: The enclosure shall not be required where the underside of exposed floors and exposed structural columns, beams and supporting walls are protected as required for exterior 1-hour *fire-resistance-rated construction* or heavy-timber construction or fire-retardant-treated wood on the exterior side. The fire-retardant-treated wood shall be labeled for exterior use and meet the requirements of Section 2303.2 of the *International Building Code*.

507 Replacement or repair of roof coverings.

507.1 General. The *roof covering* on buildings or structures in existence prior to the adoption of this code that are replaced or have 50 percent or more replaced in a 12-month period shall be replaced with a *roof covering* required by Section 501.4 or based on the type of ignition-resistant construction as determined by Section 501.1 Exception 1.

[Statutory Authority: RCW 19.27.031, 19.27.074, and 19.27.560. WSR 23-02-056 and 23-12-109, § 51-55-0500, filed 1/3/23 and 6/7/23, effective 10/29/23.]