

**ADDENDUM TO THE 2018 JEFFERSON COUNTY
BUILDING CODE AND SUPPLEMENT**

**APPENDIX Z
SPECIAL BUILDING CONSTRUCTION REGULATIONS IN WILDFIRE ZONE 1**
Proposed to become effective January 1, 2020

**SECTION Z101
GENERAL**

Z101.1 Scope. This Appendix applies to all buildings and structures located in Wildfire Zone 1, unless otherwise provided herein. In addition to meeting all applicable standards in the 2018 Jefferson County Building Code and Supplement, all buildings and structures located in Wildfire Zone 1 shall be constructed in accordance with the standards set forth in this Appendix.

Z101.1.1 Conflict or inconsistency with Building Code. In the event of any conflict or inconsistency between the standards in this Appendix and the standards in the 2018 Jefferson County Building Code and Supplement, the standards in this Appendix shall control with respect to all buildings and structures located in Wildfire Zone 1.

Z101.1.2 Date effective. The Appendix shall become effective on January 1, 2020 and shall apply to all permits applied for after January 1, 2020.

Z101.2 Objective The objective of this Appendix is to establish minimum standards to locate, design and construct buildings and structures or portions thereof in Wildfire Zone 1 for the protection of life and property, to resist damage from wildfires, and to mitigate building and structure fires from spreading to wildland fuels.

Z101.3 Fire-resistance-rated construction. Where this Appendix requires 1-hour fire-resistance-rated construction, the fire resistance rating of building elements, components or assemblies shall be determined in accordance with the test procedures set forth in ASTM E119 or UL 263.

Exceptions:

1. The fire-resistance rating of building elements, components or assemblies based on the prescriptive designs prescribed in Section 721 of the 2018 Jefferson County Building Code and Supplement.
2. The fire-resistance rating of building elements, components or assemblies based on the calculation procedures in accordance with Section 722 of the 2018 Jefferson County Building Code and Supplement.

Z102 Wildfire Zones defined. For the purpose of this Appendix, the unincorporated portion of Jefferson County is divided into Wildfire Zones which shall be known and designated as Wildfire Zones 1 and 2.

The Wildfire Zones shall include such territory or portions of the unincorporated County as shown in Figure Z102, the Wildfire Zone Map.

For sites close to the dividing line, a larger scale map is available in the Jefferson County Planning and Zoning Division for determining within which Wildfire Zone a property is located.

Z102.1 Buildings located in more than one Wildfire Zone. A building or structure which is located partly in one Wildfire Zone and partly in another shall be considered to be in the Wildfire Zone in which more than one-third of its total floor area is located.

Z102.2 Moved buildings. Any building or structure moved within or into any Wildfire Zone shall be made to comply with all the requirements for new buildings in that Wildfire Zone.

Wildfire Zone Map

The Wildfire Zone line generally follows what is called the "mountain front," which is a line connecting the average Eastern-most points on the 6400 foot contour line of the U.S.G.S. topographic maps.

The State Forest Service concurs that this line indicates the predominant change from plain to mountain topography. The canyons are within the Wildfire Zone 1 because of the chimney-effect of the terrain.

The location of the Wildfire Zone line recognizes vegetation, slope, fire department accessibility, water supply, response time and infrastructure.

This line has been imposed on the Jefferson County Base Map to divide the County into two Wildfire Zones as described in Z102.

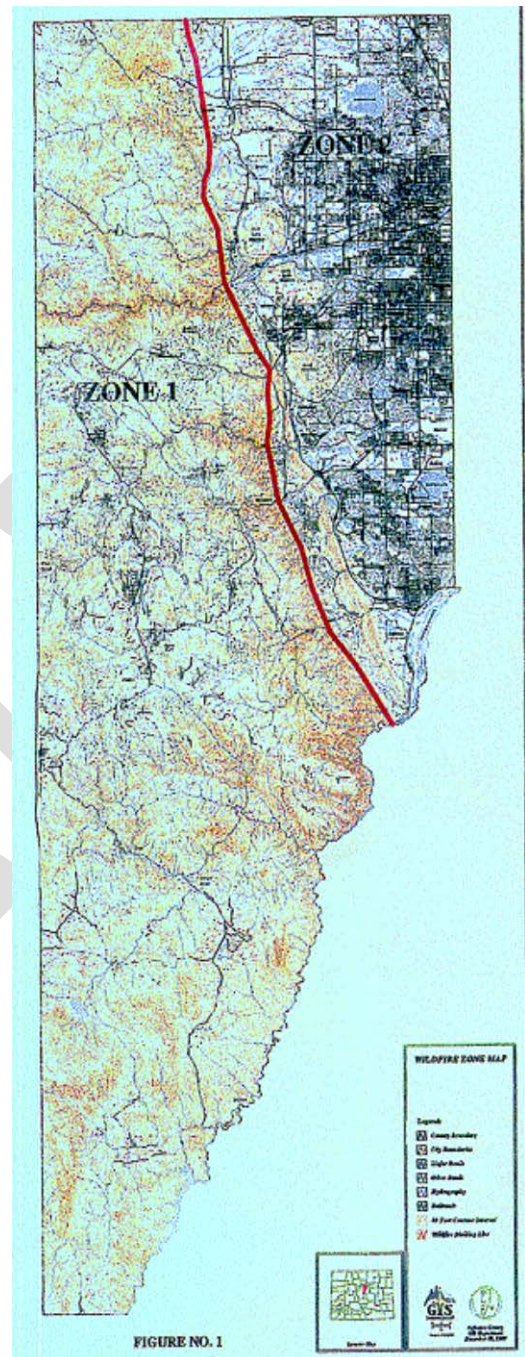


Figure Z102

**SECTION Z103
WILDFIRE ZONE 1
CONSTRUCTION AND MATERIAL**

Z103.1 General. Buildings and structures hereafter constructed, modified or relocated into or within Wildfire Zone 1 shall meet the construction requirements set forth in this Appendix. *Noncombustible* materials shall comply with the requirements of Section Z103.2.1. Materials required to be ignition-resistant shall comply with the requirements of Section Z103.3. Ignition-resistant construction shall comply with the requirements of Section Z104.

Z103.2 Definitions.

Z103.2.1 Noncombustible. For the purpose of this Appendix, *noncombustible* as applied to building construction material means a material that, in the form in which it is used, is either one of the following:

1. Material of which no part will ignite and burn when subjected to fire. Any material conforming to ASTM E136 shall be considered *noncombustible* within the meaning of this section.
2. Material having a structural base of *noncombustible* material as defined in Item 1 above, with a surfacing material not over 1/8 inch (3.2 mm) thick, which has a flame spread index of 50 or less. Flame spread index as used herein refers to a flame spread index obtained according to tests conducted as specified in ASTM E84 or UL 723.

“Noncombustible” does not apply to surface finish materials. Material required to be noncombustible for reduced clearances to flues, heating appliances or other sources of high temperature shall refer to material conforming to Item 1. No material shall be classified as noncombustible that is subject to increase in combustibility or flame spread index, beyond the limits herein established, through the effects of age, moisture or other atmospheric condition.

Z103.2.2 Other Italicized Terms. All other terms that appear in italics in this Appendix shall have the meaning assigned to them in the 2018 Jefferson County Building Code and Supplement.

Z103.3 Ignition-resistant building material. Ignition-resistant building materials shall comply with any one of the following:

1. Material shall be tested on all sides with the extended ASTM E84 (UL 723) test or ASTM E2768, except panel products shall be permitted to test only the front and back faces. Panel products shall be tested with a ripped or cut longitudinal gap of 1/8 inch (3.2 mm). Materials that, when tested in accordance with the test procedures set forth in ASTM E84 or UL 723 for a test period of 30 minutes, or with ASTM E2768, comply with the following:
 - 1.1 Flame spread. Material shall exhibit a flame spread index not exceeding 25 and shall not show evidence of progressive combustion following the extended 30-minute test.
 - 1.2 Flame front. Material shall exhibit a flame front that does not progress more than 10 ½ feet (3200 mm) beyond the centerline of the burner at any time during the extended 30-minute test.
 - 1.3 Weathering. Ignition-resistant building materials shall maintain their performance in accordance with this section under conditions of use. Materials shall meet the performance requirements for weathering (including exposure to temperature, moisture and ultraviolet radiation) contained in the following standards, as applicable to the materials and the conditions or use:
 - 1.3.1 Method A “Test method for Accelerated Weathering of Fire-Retardant-Treated Wood for Fire Testing” in ASTM D2898, for fire-retardant treated wood, wood-plastic composite and plastic lumber materials.
 - 1.3.2 ASTM D7032 for wood-plastic composite materials.
 - 1.3.2 ASTM D6662 for plastic lumber materials.
 - 1.4. Identification. Materials shall bear identification showing the fire test results.

Exception: Materials composed of a combustible core and a *noncombustible* exterior covering made from either aluminum at a minimum 0.019 inch (0.48 mm) thickness or corrosion-resistant steel at a minimum 0.0149 inch (0.38 mm) thickness shall not be required to be tested with a ripped or cut longitudinal gap.
2. Noncombustible material. Material that complies with the requirements for *noncombustible* materials in Section Z103.2.1.

3. Fire-retardant-treated wood. Fire-retardant-treated wood identified for exterior use and meeting the requirements of Section 2303.2 of the 2018 Jefferson County Building Code and Supplement.
4. Fire-retardant-treated wood roof coverings. Roof assemblies containing fire-retardant-treated wood shingles and shakes that comply with the requirements of Section 1505.6 of the 2018 Jefferson County Building Code and Supplement and classified as Class A roof assemblies as required in Section 1505.2 of the 2018 Jefferson County Building Code and Supplement.
5. Materials currently *approved* for use in the Wildland Urban Interface (WUI) by the California Office of the State Fire Marshal, [Building Materials Listing Program \(BML\)](#).

CSFM Building Materials Listing Program Examples:

- Category 8110 - Decking for Wildland Urban Interface (W.U.I)
- Category 8140 - Exterior wall siding and sheathing for Wildland Urban Interface (W.U.I)
- Category 8160 - Under eave for Wildland Urban Interface (W.U.I)

SECTION Z104 WILDIRE ZONE 1 CONSTRUCTION

Z104.1 General. Building and structure construction within Wildfire Zone 1 shall meet the requirements of Sections Z104.2 through Z104.11.

Z104.2 Roof Coverings. 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 coverings* where the profile allows a space between the roof covering and roof decking, the space at the eave ends shall be firestopped 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 decking. **[NOTE: For re-roofs see Z105]**

Exceptions:

1. Class A roof assemblies include 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 decks.

Z104.2.1 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 D 3909 running the full length of the valley.

Z104.3 Protection of eaves. Eaves and soffits shall be protected on the exposed underside by ignition-resistant materials or by materials *approved* for not less than 1-hour fire-resistance-rated construction, 2-inch (51 mm) nominal dimension lumber, or 1-inch (25 mm) nominal fire-retardant-treated or $\frac{3}{4}$ inch (19.1 mm) nominal fire-retardant-treated plywood, identified for exterior use and meeting the requirements of Section 2303.2 of the 2018 Jefferson County Building Code and Supplement. Facias are required and shall be protected on the backside by ignition-resistant materials or by materials *approved* for not less than 1-hour fire-resistance-rated construction or 2-inch (51 mm) nominal dimension lumber.

Z104.4 Gutters and downspouts. Where provided, gutters and downspouts shall be constructed of *noncombustible* material. Gutters shall be provided with a means to prevent the accumulation of leaves and debris in the gutter.

Z104.5 Exterior walls. Exterior walls of buildings or structures shall be constructed with one of the following methods:

1. Materials *approved* for not less than 1-hour fire-resistant-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 2018 Jefferson County Building Code and Supplement.
5. Ignition-resistant materials complying with Section Z103.3 on the exterior side.

Such material shall extend from the top of the foundation to the underside of the roof sheathing.

Z104.6 Underfloor enclosure. Buildings or structures shall have underfloor areas enclosed to the ground with exterior walls in accordance with Section Z104.5.

Exception: Complete enclosure shall not be required where the underside of exposed floors and exposed structure 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. The fire-retardant-treated wood shall be labeled for exterior use and meet the requirements of Section 2303.2 of the 2018 Jefferson County Building Code and Supplement.

Z104.7 Appendages and projections. Unenclosed accessory structures without a complete exterior wall system enclosing the area under roof or floor above attached to buildings with habitable spaces and projections, such as decks, 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 2018 Jefferson County Building Code and Supplement.
3. Ignition-resistant building materials in accordance with Section Z103.3.

Z104.7.1 Underfloor areas. Where the attached 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 Z104.5.

Z104.8 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.

Z104.9 Exterior doors. Exterior doors shall be *approved noncombustible* construction, solid core wood not less than 1 ¾ 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 Z104.8.

Exception: Vehicle access doors.

Z104.10 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 ¼ inch (6.4 mm) or shall be designed and *approved* to prevent flame or ember penetration into the structure.

Z104.10.1 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.

Z104.11 Detached accessory structures. Detached accessory structures shall have exterior walls constructed in accordance with Z104.5

Z104.11.1 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 ground, with exterior wall construction in accordance with Section Z104.5 or underfloor protection in accordance with Section Z104.6.

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-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 2018 Jefferson County Building Code and Supplement.

SECTION Z105 REPLACEMENT OR REPAIR OF ROOF COVERINGS

Z105.1 General. The roof covering on buildings or structures in existence prior to the adoption of this Appendix that are replaced or have 25 percent or more replaced in a 12-month period shall comply with roof covering requirements for new construction.