

2. Absence of sustained flaming or glowing combustion of any kind at the conclusion of the 40-minute observation period.
3. Absence of falling particles that are still burning when reaching the burner or floor.

**504.7.3.3.2 Conditions of acceptance for ASTM E2726.** The ASTM E2726 test shall be conducted, using a "Class A" size roof test brand, on a minimum of three test specimens and meet the conditions of acceptance in Items 1 and 2. If any one of the three tests does not meet the conditions of acceptance, three additional tests shall be performed. All three additional tests must meet the conditions of acceptance.

1. Absence of sustained flaming or glowing combustion of any kind at the conclusion of the 40-minute observation period.
2. Absence of falling particles that are still burning when reaching the burner or floor.

**504.7.3.4 Performance requirements for Section 504.7.3.2, Item 7.** 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/ft<sup>2</sup> (269 kW/m<sup>2</sup>). 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. If any one of the three tests does not meet the condition of acceptance, three additional tests shall be performed. All three additional tests must show a peak heat release rate shall be 25 kW/ft<sup>2</sup> (269 kW/m<sup>2</sup>) or less.

**504.8 Exterior glazing.** Exterior windows, window walls and glazed doors, windows within exterior doors, and skylights shall be constructed of any of the following:

1. Multilayered glazed panels with at least one pane of tempered glass complying with Section 2406 of the California Building Code.
2. Glass block.
3. Glazing with a fire-protection rating of not less than 20 minutes when tested according to NFPA 257 or UL 9, and shall be exempt from the hose stream test.
4. Glazing meeting the performance requirements of SFM Standard 12-7A-2.

**504.8.1 Structural glass veneer.** The wall assembly behind structural glass veneer shall comply with Section 504.5.

**504.8.2 Operable skylights.** Operable skylights shall be protected by a noncombustible mesh screen and the dimensions of the openings in the screen shall not exceed 1/8 inch (3.2 mm).

**504.9 Exterior doors.** Exterior doors shall be constructed in accordance with any of the following:

1. Noncombustible construction.
2. Solid-core wood not less than 1<sup>3</sup>/<sub>4</sub> inches thick (44 mm).
3. The exterior door shall be constructed of solid core wood that complies with the following requirements:
  - 3.1. Stiles and rails shall not be less than 1 3/8 inches (35 mm) thick.
  - 3.2. Raised panels shall not be less than 1 1/4 inches (32 mm) thick, except for the exterior perimeter of the raised panel that shall be permitted to taper to a tongue not less than 3/8 inch (10 mm) thick.
4. Have a fire protection rating of not less than 20 minutes when tested according to NFPA 252, UL 10B or UL 10C.
5. The exterior surface or cladding meeting the performance requirements of Section 504.9.3 when tested in accordance with ASTM E2707.
6. The exterior surface or cladding shall be tested to meet the performance requirements of SFM Standard 12-7A-1.

Windows within doors and glazed doors shall be in accordance with Section 504.8.

**504.9.1 Garage doors.** Automatic garage door openers for vehicle doors serving a residential building shall be equipped with a battery backup function.

**504.9.2 Garage door perimeter gap.** Exterior garage doors shall resist the intrusion of embers by preventing gaps between doors and door openings, at the bottom, sides and tops of doors, from exceeding 1/8 inch (3.2 mm). Gaps between doors and door openings shall be controlled by one or more of the following methods:

1. Weather-stripping products constructed of materials that which comply with both of the following:
  - 1.1. The tensile strength of the material shall be tested in accordance with ASTM D638 before and after exposure to ASTM G155 for a period of 2,000 hours, and the maximum allowable difference in tensile strength values between exposed and nonexposed samples shall not exceed 10 percent.
  - 1.2. When tested to UL 94, the materials shall have a flammability rating of V-2 or better.
2. Door overlaps onto jambs and headers.
3. Garage door jambs and headers covered with metal flashing.

**504.9.3 Conditions of acceptance for ASTM E2707.** The ASTM E2707 test shall be conducted on a minimum of three test specimens and meet the conditions of acceptance in Items 1 and 2. If any one of the three tests do not meet the conditions of acceptance, three additional tests shall be performed. All three additional tests must meet the conditions of acceptance.

1. Absence of flame penetration through the wall assembly at any time.
2. Absence of evidence of glowing combustion on the interior surface of the assembly at the end of the 70-minute test.

**504.10 Vents.** Where provided, ventilation openings for enclosed attics, gable ends, ridge ends, under eaves and cornices, enclosed eave soffit spaces, enclosed rafter spaces formed where ceilings are applied directly to the underside of roof rafters, underfloor venti-

lation, foundations and crawl spaces, or any other opening intended to permit ventilation, either in a horizontal or vertical surface, shall be in accordance with Section 504.10.1 or Section 504.10.2 to resist building ignition from the intrusion of burning embers and flame through the ventilation openings.

**504.10.1 Performance requirements.** Ventilation openings shall be fully covered with *Wildfire Flame and Ember Resistant vents approved and listed by the California State Fire Marshal, or WUI vents, tested in accordance with ASTM E2886, to demonstrate compliance with all the following requirements:*

1. There shall be no flaming ignition of the cotton material during the Ember Intrusion Test.
2. There shall be no flaming ignition during the Integrity Test portion of the Flame Intrusion Test.
3. The maximum temperature of the unexposed side of the vent shall not exceed 662°F (350°C).

**504.10.2 Off ridge and ridge vents.** *Vents that are installed on a sloped roof, such as dormer vents, shall comply with all of the following:*

1. *Vents shall be covered with a mesh where the dimensions of the mesh therein shall be a minimum of  $\frac{1}{16}$  inch (1.6 mm) and shall not exceed  $\frac{1}{8}$  inch (3.2 mm) in diameter.*
2. *The vent and mesh material shall be noncombustible.*
3. *The vent and mesh material shall be corrosion resistant.*

**504.10.3 Vent locations.** 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.

**504.11 Accessory buildings and miscellaneous structures.** *Accessory buildings and miscellaneous structures that have the potential to pose a significant exterior fire exposure hazard during wildfires shall be constructed to conform to the ignition-resistance requirements of this section.*

**504.11.1 Applicability.** *Sections 504.11.2 through 504.11.6 apply to buildings accessory to an applicable building on the same lot, and attached or detached miscellaneous structures that require a building permit, including but not limited to trellises, arbors, patio covers, gazebos and similar structures.*

**Exceptions:**

1. *Decks shall comply with the requirements of Section 504.7.3.*
2. *Awnings and canopies shall comply with the requirements of Section 3105 of the California Building Code.*

**504.11.2 Miscellaneous structures and accessory buildings within 3 feet.** *Miscellaneous structures that require a permit, and accessory buildings of any size, when separated from an applicable building on the same lot by a distance of less than 3 feet (914 mm), shall be constructed of noncombustible materials or ignition-resistant building materials as described in Section 503.2.4.*

**504.11.3 Accessory buildings greater than 120 square feet, located 3 feet or more but less than 50 feet.** *Accessory buildings that are greater than 120 square feet (11.15 m<sup>2</sup>) in size and separated from an applicable building on the same lot by a distance of 3 feet (914 mm) or more but less than 50 feet (15 240 mm) shall be constructed of noncombustible materials or of ignition-resistant building materials as described in Section 503.2.4.*

**504.11.4 Accessory buildings 120 square feet or less, located 3 feet or more but less than 50 feet.** *Where required by the code official, accessory buildings 120 square feet (11.15 m<sup>2</sup>) or less and separated from an applicable building on the same lot by a distance of 3 feet (914 mm) or more but less than 50 feet (15 240 mm) shall be constructed of noncombustible materials or of ignition-resistant building materials as described in Section 503.2.4.*

**504.11.5 Miscellaneous structures located 3 feet or more but less than 50 feet.** *Where required by the code official, miscellaneous structures that require a permit and are separated from an applicable building on the same lot by a distance of 3 feet (914 mm) or more but less than 50 feet (15 240 mm) shall be constructed of noncombustible materials or of ignition-resistant building materials as described in Section 503.2.4.*

**504.11.6 Roof construction.** *Roof assemblies and roof coverings of accessory buildings required to be constructed entirely of noncombustible materials or of ignition-resistant building materials shall comply with Sections 504.2 and 504.2.1. Roofs shall have a roofing assembly installed in accordance with its listing and the manufacturer's installation instructions. Roof assemblies in Fire Hazard Severity Zones shall comply with a Class A fire classification when tested in accordance with ASTM E108 or UL 790.*

**SECTION 505—RESERVED**

**SECTION 506—RESERVED**

**SECTION 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 for new construction in accordance with Sections 504.2 and 504.2.1. All portions of a roof covering applied during an addition, alteration or repair to an existing structure shall meet at least a Class A fire classification.