

11. FIREWISE CONSTRUCTION

11.1 Roofs

While inspecting the roof, consider the following:

- Free of leaves, needles, and other dead vegetation?
- Type, construction, condition, overhead wires?
- Height and condition of surrounding buildings (exposures)?
- Chimney screens and clearance?
- Sprinkler system-tanks, valves, and pressure?
- Drainage gutters clean?
- Dead wood removed from overhanging trees?

11.1a Clean Roof Surfaces and Gutters

Clean regularly to avoid accumulation of flammable materials ([PRC 4291](#)).



Photograph 11.1.
A Clean, Well-Maintained Class A Roof

11.1b Remove Limbs

Remove the portion of any tree that extends within 10 feet of the outlet of any chimney or stovepipe (PRC 4291).

11.1c Spark Arresters

Provide and maintain a screen over the outlet of every chimney or stovepipe. The screen should be constructed of nonflammable material and have openings of not more than 1/2" (PRC 4291).



Photograph 11.2.
Chimney/Stovepipes with Spark Arresters

11.1d Noncombustible Construction Material

The roof and the exterior structure of all dwellings should be constructed of noncombustible or fire resistant materials such as asphalt roofing shingles, tile or slate, brick or stone, aluminum, or sheet iron.



Photograph 11.3.
Noncombustible Roof

11.1e Fire Retardant Chemicals

Fire retardant chemicals should be used to treat highly combustible materials such as wood siding, cedar shakes, and exterior wood paneling. These treatments should be reapplied per the manufacturer's instructions to maintain their effectiveness over time.

11.1f Fire Ratings for Roofs

Pursuant to [HSC 13132.7](#), fire retardant roofing is now required in the entire state of California for all new structures and all existing structures for any repair or replacement. Additionally, if 50% or more of a roof covering is replaced within any one-year period, the entire roof covering shall be replaced with fire retardant roofing as required by state and/or local regulations.

Test methods have been developed to evaluate the fire hazards of roof coverings. NFPA 256, *Methods of Fire Tests of Roof Coverings*, describes the appropriate procedures. The test evaluates the flammability of the roof covering, the protection it provides to a combustible roof deck, and the potential for producing flaming brands. Roof materials are classified as Class A, Class B, and Class C. To receive one of the classifications, the roof covering is given a series of fire tests of varying degree of severity. After all roof-covering tests have been conducted, roof coverings are classified based upon test results:

- Class A covering is one that is effective against a severe fire exposure, affords a high degree of fire protection to the roof deck, does not slip from position, and does not present a flying brand hazard.

This type of roof covering is required in all SRA and LRA areas classified as Very High fire hazard severity areas.

- A Class B roof covering is one that is effective against a moderate fire exposure, affords a moderate degree of fire protection to the roof deck, does not slip from position, and does not present a flying brand hazard. This type of roof covering is required in all SRA areas rated as Moderate fire hazard severity areas.
- A Class C covering is effective against light test exposure, provides a light degree of fire protection to the roof deck, does not slip from position, and does not present a flying brand hazard. This type of roof covering contains the lowest degree of fire resistance allowed in the state of California.

The specific definition of each roofing classification is dependent upon the roofing material, roofing support construction and sheathing. With a given surface material, the classification may change, depending on whether the sheathing is solid (plywood) or lath, and whether the underlay material is foil, tar paper or felt (different weights available). The Class A rating provides the most fire resistive characteristics.

11.2 Walls

Educate homeowners on the various types of siding available—nonflammable material for exterior walls is preferred. Some siding such as vinyl will soften and melt even under mild, radiant heat conditions. Materials such as stucco and masonry stand up better to heat and fire exposure. Wood walls are the most dangerous so it is important homeowners pay close attention to managing their vegetation around the structure.

11.3 Windows

Regular plate glass windows can thermally fracture due to heat from nearby fire even though the heat may not be enough to ignite the home's exterior wood. Advise homeowners that tempered glass or double pane windows tend to fare better during wildfires. Advise on the potential for plastic skylights to melt under intense heat.

11.4 Vents and Eaves

By enclosing your eaves you can prevent another method of flame entry and spread. Cover all vents with ¼ inch wire mesh screen to prevent sparks from being drawn into your home by air currents.