

## **FIRE HARDENING YOUR HOME**

By Gabrielle Avina, Napa County Fire Marshal

It's an understatement to say that the past month or so has been extreme when it comes to wildland fires. I can't recall a time when more fires threatened our state and our community. As a result, the County Fire Department is receiving more and more calls from anxious homeowners interested in fire safe tips on building materials and construction techniques for new construction and remodeling. This article is a short summary on the basics of "fire hardening," or preparing your home to survive a wildland fire. Fire hardening and defensible space go hand in hand.

Recent research in Wildland Urban Interface (WUI) home loss has provided us with some relatively new information on why homes burn and what we can do to best protect them before the fires occur. Essentially these studies determined that there are three factors that control the fate of structures in the WUI: combustible vegetation, defensible space and building construction features.

Researchers have spent a great deal of time determining why certain homes seemed to survive a fire when all of the other houses in the area were destroyed. The study of the survivors revealed that certain construction methods and materials aided in the defense of many homes. So here are some tips on things you can do to ensure that you have done what you can to protect your home.

**Noncombustible Roofing:** Firefighters can't really say in public all of the bad things they would like to say about untreated wood shakes. So to put it mildly, if you live in a house with a wood shake roof, please put as a top priority, replacing that roof with one that is noncombustible. In the last decade we have found that wood roofs in urban areas have contributed to major fire loss in neighborhoods. In these urban fires, fire spread from house to house, leaving the vegetation virtually unscathed as embers from the burning structures ignited adjacent homes.

**Noncombustible Siding:** Wood shake siding also provides an ideal location for burning embers to land and ignite combustible materials. Embers in front of a fast moving or wind-driven wildland fire can travel up to a mile in advance of the fire. These embers have been found to be one of the major causes of structure loss in WUI fires. The embers find an attic vent, a wood shake or shingle, or a pile of dry leaves in a gutter to ignite and burn adjacent combustible materials. Many fire-resistant options exist. These include noncombustible siding such as stucco and commonly available materials such as fiber cement siding backed with plywood and gypsum board.

**Attic Ventilation:** Did you know that you should have corrosion-resistant noncombustible screens with ¼" openings on your attic vents? If you don't want embers igniting your structure through the attic vents, then the vents need to be protected with mesh that will not allow burning embers through but still allow the attic to breathe.

**Windows:** The California Building Code virtually requires dual-glazed windows to meet the energy requirements for new construction, and these dual-glazed windows provide built-in fire resistance. Single glazed windows break easily in a wildland fire, and that extra layer of glass in dual-glazed windows provides much needed protection from heat and embers. Another concern is vinyl replacement windows. Some vinyl replacement windows do not have framing elements that remain intact – even after a low intensity fire, the vinyl melts, the window fails, and the interior of the structure is subject to the fire conditions outside the structure.

**Rain Gutters:** Vinyl or PVC gutters can also be a source of fire ignition, especially if they are clogged with leaf and pine needle debris. If ignited, plastic gutters can add significantly to the burning fuel. Metal gutters are the best choice for most situations.

**Decks, balconies, patios and patio covers:** While many of us add attached decks and covered patios to beautify our homes and enjoy the benefits of outdoor California living, these spaces can make our homes more vulnerable to wildland fires. However, decks and patios built of large dimensional lumber, fire retardant-treated wood, rock, concrete, brick, and composite material that resists ignition are the perfect answer when it comes to fire safety.

Improving your home's survivability is not going to happen overnight. It may take time and money to perfect your defensible space and replace that wood roof or wood shake siding. However, the improvements you make today can go a long way to increasing the survivability of your home and family when the next wildland fire strikes.

For a copy of, *Living with Fire in Napa County*, a 16-page brochure that discussed fire behavior, defensible space planning, firewise plant choices, construction and remodeling choices, and evacuation planning, call CAL FIRE headquarters in St. Helena at 707.967.1400.

For general information on wildfire awareness and preparedness, visit the Napa Communities Firewise Foundation at [www.napafirewise.org](http://www.napafirewise.org).

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