

BEST PRACTICES REDWOOD DECK INSTALLATION IN WILDLAND-URBAN INTERFACE (WUI) LANDSCAPES



Redwood is an iconic wood species used for exterior residential decking throughout California and much of the western U.S. Redwood lumber is highly valued for its natural decay and termite resistance; however, like all exterior wood applications, specific installation techniques can help mitigate the risk of wildfire exposure for wood decks situated in Wildland-Urban Interface (WUI) areas. By following this guidance, consumers can help build wildfire resilience into their homes and outdoor structures.

REDWOOD

Redwood has long been known as a species that will perform well under fire conditions. This is due to its Class B Flamespread rating (ASTM E-84) and its acceptance under Chapter 7A of the California Building Code (*Materials and Construction Methods for Exterior Wildfire Exposure*). Furthermore, a listing for redwood (No. 8110-2041:0002, *Decking for Wildland Urban Interface*) can be found under the



California Office of the State Fire Marshal Building Material Listing Service.

Consumers should feel confident that their choice of redwood decking is appropriate under these conditions. Numerous other factors should be considered to improve the survivability of residences throughout the fire prone western U.S.



- Home and building loss during wildfires occur due to some part of the building igniting from one or more of the three basic wildfire exposures: **1) embers, 2) radiant heat, and 3) direct flame contact.**
- Wildland fires spread by a combination of a moving flame front and the wind distribution of burning embers, which are light enough to be blown through the air and can result in the rapid spread of wildfire.
- You can significantly improve your home's chances of surviving a future wildfire through material choices, design and installation options, and regular maintenance.



DEFENSIBLE SPACE

Defensible space is the buffer between your structure and the surrounding area and is particularly important in WUI areas. Key considerations and defensible space zones are as follows:

Zone 0 (0-5'): Area closest to a home or building. Remove combustibles (woody plants, mulch, and stored items) surrounding any structure and under and around attached decks. Cut grass or install hardscaping. Keep area clear to prevent embers from igniting materials that can spread fire to the structure.

Zone 1 (5-30'): Eliminate the connectivity between islands of vegetation by increasing the spacing between trees, removing lower branches of trees and shrubs, and creating areas of irrigated and mowed grass or hardscape between lush vegetation islands. Plants should be properly irrigated and maintained to remove dead/dry material. These actions reduce potential fuels for fire.

Zone 2 (30-100'+): Reduce the density of the trees, shrubs, plants, and grasses to slow fire spread and reduce flame heights. Keep shrubs and trees well-spaced and pruned to eliminate fuel ladders, where fire can climb from the ground to the tops of the vegetation. 100 feet of defensible space is required by law. Public Resources Code (PRC) 4291.



The California Office of the State Fire Marshal provides a wealth of additional information on defensible space.



Deck Construction and Maintenance The following deck construction details have been shown to reduce the potential for ignition from embers and improve the survivability of a deck exposed to wildfire conditions.

- Space joists 24 inches on center. This creates fewer joists for embers to accumulate on.
- Application of a metal-faced, bitumen backed flashing tape to the top edge of the joists. This type of flashing tape is available at homecenters and hardware stores and is available in 4 and 6" widths. It should be wide enough to fold over the faces of the joists by 1 to 2 inches. The intent of this flashing is to minimize the damage and flame spread from ignition of the deck joists by accumulated embers. If the appearance of the metal-faced flashing is objectionable between the deck boards it can be spray painted flat black prior to decking installation.
- Incorporation of a 1/4 inch deck board gap spacing. The recommended gap for redwood decking is 3/16 inch at installation, as the spacing will typically increase to 1/4 inch or greater during the hot dry seasons when wildfire threat is the greatest. This size gap will allow embers to easily pass through to the boards to noncombustible space below the deck where they will typically self-extinguish (assuming that combustibles have been eliminated below the deck).
- Install metal flashing or grates along the deck edge where it joins the vertical wall of the structure. Metal flashing at this junction can minimize the chance that accumulated embers can ignite combustible siding and underlying sheathing. Use of these grates will allow embers to fall below the deck and extinguish and as long underdeck conditions do not include combustible items (e.g., grass, stored materials, mulch, etc.). Alternatively, if the siding on the building where the deck joins the wall uses a noncombustible material, and the sheathing is not exposed, this may eliminate the need for flashing or grate installation.
- Regularly clear the gap between deck boards so that these gaps do not become clogged with dirt, leaves, pine needles, or other debris that may ignite if encountered by embers.

