

# Wildland Fire Standards

## Redwood Decking Meets Wildland Fire Standards

The superior performance of redwood lumber under fire exposure has been known for decades. Testing by numerous laboratories in response to strict standards for decks in California's wildland-urban interface has reaffirmed redwood's reputation as a fire-safe decking product.

## Background

On September 21, 2005 the California Building Standards Commission unanimously approved the State Fire Marshal's "Wildland-Urban Interface Fire Areas Building Standards." The development of these standards was the culmination of two years of effort by representatives of building material manufacturers, home builders, fire-fighting agencies, and numerous other industry and state organizations in response to conflagrations such as the 2003 Cedar Fire in San Diego County. **The newly adopted standard allows Construction Common or better grades of redwood decking to be used without restriction throughout California's fire-prone wildlands.**

The decking surface section of the code states that if a decking material has a net peak heat release rate of 25 kW/sq-ft or less when tested in accordance with SFM Test Standard 12-7A-4 (Part A) and conforms to ASTM E-84, *Standard Test Method for Surface Burning Characteristics of Building Materials*, Class B flame spread, then it can be used in all fire hazard severity zones without restriction. **Construction Common or better grades of redwood meet both of these criteria without the need for costly fire retardant treatment.** Decking materials not meeting both of these criteria will not be allowed unless the exterior wall covering to which the deck is attached

is constructed of non-combustible or ignition resistant material. Non-combustible decking (masonry and steel) or ignition resistant decking (fire retardant treated wood) are other options.

## Testing

Tests on redwood decking conducted by the University of California Forest Products Laboratory in addition to industry sponsored tests conducted by Underwriters Laboratories, Inc. and the Western Fire Center, Inc. indicate that the net peak heat release rate for redwood is in the 12-15 kW/sq-ft range. Both heartwood- and sapwood-containing grades of redwood successfully passed the modified Part B of SFM Test Standard 12-7A-4 using a class "B" burning brand as requested by the County of San Diego. Previous tests on one-inch nominal thickness redwood heartwood resulted in the current Class B flame-spread rating. New tests conducted by the Southwest Research Institute Department of Fire Technology, verified the Class B flame-spread rating for two-inch nominal Construction Common and Construction Heart grades of redwood decking.

Redwood's remarkable properties combined with coordinated, material performance testing has resulted in suppliers, builders, homeowners, and fire and building officials being assured that redwood decking can be used safely and without restriction throughout all areas of California as defined in California Building Code Chapter 7A, *Materials and Construction Methods for Exterior Wildfire Exposure*.



Redwood decking during and after under-deck flame exposure.

