

ROOFING MATERIALS

Defensible Space Factor Study: Findings from the 1990 Painted Cave Fire Santa Barbara, California

Characteristics of Structure and Site	Probability that Structure Survived
Wood roof, <30' of defensible space, no defensive action taken	4%
Wood roof, <30' defensible space	15%
Wood roof	19%
Non-wood roof	70%
Non-wood roof, >30' defensible space	90%
Non-wood roof, >30' defensible space, defensive action taken	99%

FIREBRANDS

Firebrands are burning embers produced by wildfire which are lifted high into the air and carried beyond the fire front. **Firebrands are one of the major causes of homes burned due to wildfire.**

Typical firebrand materials include pine cones, bark, and if houses are involved, wood shakes and shingles. Depending on wind speed and size of materials, firebrands can be carried more than 1/2 mile ahead of the fire front.

A shower of thousands of firebrands can be produced during a major wildfire event. If these firebrands land in areas with easily ignited fuels, numerous spot fires can start. Homes located blocks away from the main fire front can be threatened.



When wildfire flame lengths exceed 11 feet, direct firefighting efforts are ineffective. Under these conditions firefighters use roads, streams and other barriers to control the wildfire.

THE WOOD SHAKE AND SHINGLE ROOF HAZARD

A house can be threatened by a wildfire in three ways: direct exposure from flames, radiated heat, and airborne firebrands. Of these, firebrands account for the majority of homes burned by wildfire. The most vulnerable part of a house to firebrands is the roof.

Because of the angle, a roof can catch and trap firebrands. If a roof is constructed of combustible materials such as untreated wood shakes or shingles, the house is in jeopardy of igniting and burning. Not only are combustible roofing materials a hazard to a structure on which they are installed, but also to other houses in the vicinity.

Burning wood shakes, for example, can become firebrands, lifted from the burning roof, carried blocks away, and land in receptive fuel beds such as other combustible roofs. **Unfortunately for homeowners with existing combustible roofs, there are no long-term reliable measures available to reduce roof vulnerability to wildfire except to re-roof with fire resistant materials.**

For complete information about fire safe roofing, visit the Committee for Firesafe Dwellings at www.firesafedwellings.org or call 1 (800) 962-4540.