

California's Wildfires Are a Wakeup Call for Building More Fire-Resistant Homes

Whether or not you live in the foothills or adjacent to drought-parched open space, you were likely stunned, as I was, by the scene of an entire city being consumed by fire so quickly that people burned to death in their homes or in their cars trying to escape. Perhaps you worry that what we witnessed in California could happen here. Given our dry climate, our topography, and our strong winds, the question isn't whether such an event could happen here but rather what we can do to mitigate the risks to life and property should we find our home in the path of a fast-moving wildfire.

If you've been in Colorado for awhile, you may remember the Waldo Canyon fire of June 2012. That wildfire destroyed 346 homes in the Mountain Shadows subdivision of Colorado Springs and killed two people. That fire did not burn every home, however. The homes that burned were ignited by wind-blown embers.

That subdivision, like the city of Paradise, California, is in what's known as the Wildland Urban Interface, but the kind of winds we experienced as recently as last weekend can cause embers from a single house fire to spread quickly to other homes in urban areas, too. If embers start flying, you'll want to make sure that your home is not ignited by them.

Traditionally, fire control has focused on fires that begin *inside* your home. For example, building codes have long required the use of self-closing solid doors and $\frac{3}{8}$ -inch fireboard between your garage and the living quarters and attic of your home, and new multi-family buildings are typically required to have fire-suppression (sprinkler) systems. In some jurisdictions, single-family homes also must have such systems, which can quickly flood the interior of your home with fire-dousing water, but I have yet to find a house with exterior and roof-mounted sprinkler heads.

The next time you have to replace your roof, consider what one of my clients in Golden did — install a stone-coated metal roof instead of yet another composition shingle roof. It will help to protect your home from fire, not just hail.

In South Carolina, the Insurance Institute for Busi-

We Offer Help to Fire Victims

Do you know a family that lost their home and its contents in a wildfire? Have them call us, because Golden Real Estate will donate 100% of our earned commission to them if they hire us to find them a home in Colorado. We took this action in recognition of the fact that there is insufficient affordable housing stock in California to accommodate all the people who lost their homes, and that inevitably some will choose to relocate to other states.

This offer applies to anyone who lost their entire home to a disaster, including here in Colorado. We do this so the family has money to buy whatever they need to kickstart their new life here.

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By JIM SMITH,
Realtor®

ness & Home Safety built a massive wind tunnel, originally to test different construction materials and designs under hurricane conditions. More recently it has been adapted to measure the effect of wind-blown embers (see image at right) on various building materials. See website at www.DisasterSafety.org/wildfire.

From that website and other research I've done, here are some thoughts about making homes more resilient in the face of wildfire.

Although fire-resistant roofing and siding materials should be used whenever possible, it's not enough to consider just the material itself. For example, a tile roof won't burn but is not impervious to embers, which can be blown into the gaps between the tiles.

Intense heat can cause windows to shatter, so consider using tempered glass all around, not just where required by code. Better yet, consider installing electric rolling metal shutters, which descend to completely cover exterior windows and doorways. One vendor's website is www.SomfySystems.com. Although marketed for other reasons, such as security and privacy, they could also protect windows from being blown out by an approaching wildfire. They can also be monitored and operated using a smartphone app. I have seen such shutters installed on a few Colorado homes.

Special attention should be paid to the underside of roof overhangs, balconies and decks, where flames can be trapped. Roof soffits in most homes have vents which combine with vents on the roof to circulate outside air through the attic. Unfortunately, this design can also allow the introduction of wind-blown embers into the attic. One way to eliminate these vents is to do what Meritage Homes did in building Arvada's Richards Farm subdivision. The insulation of those homes is closed-cell foam applied to the underside of the roofs, rather than the more typical blown-in cellulose or fiberglass batts resting on the floor of the attic, as is found in most homes — perhaps your own. Meritage probably didn't consider that making the homes more energy efficient in this way had the added benefit of making them more resistant to wildfire.

If your home has those attic vents, screens should be installed on them to minimize the intrusion of wind-

blown embers, in the same way that chimneys have screens to prevent the escape of such embers. Other openings such as plumbing vents, dryer exhaust



vents, etc., can be similarly made more fire-resistant.

Owners of foothills properties are well aware of the "defensible space" requirements of local jurisdictions which involve the removal of trees and clearing other combustibles from around a home. For example, firewood should never be stored against the side of a home. Insurance companies often make such mitigation a condition for insuring a home.

It is not uncommon for homes to have "safe rooms" to which homeowners can flee in case of a home invasion. I have seen really good examples of safe rooms in a couple of homes. The existence of such a room can be concealed through, for example, a door built into a floor-to-ceiling book shelf. If such a room were constructed in a basement with cinderblock walls, a metal door, and a concrete-and-metal ceiling, it might double as a survival room in the event a wildfire like the one in Paradise, which made evacuation a risky alternative. Meanwhile, such a room would make a great wine cellar!

Although I haven't researched it, I would guess that taking some of these precautions — especially metal roofing and the rolling metal shutters — might help to reduce your insurance premiums, as well as to possibly save your life and property in case of wildfire.

Because many of the measures described above require electricity, and electrical service can be interrupted during a fire, you might consider installing a power back-up system such as the Tesla Powerwall or a conventional gas generator. While you're at it, installing solar panels would help not only to shield an otherwise combustible roof, but could also power your home if electrical service remains out after the fire has passed.

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