

# SKYLIGHTS

Skylights can compromise a home's ability to survive a wildfire when precautions are not implemented to prevent them from being an entry point for embers and/or flames.

## Construction Materials/Placement

During a wildfire, a skylight can be vulnerable if subjected to an extended radiant heat exposure, or to flames when embers have ignited vegetative debris on top of the skylight. Most guidance recommends using a flat glass skylight rather than a plastic dome style because the plastic is combustible. However, there are situations, based on the slope of the roof, where a flat glass could be more vulnerable.

Vegetative debris can more easily land and stay on a low-slope roof, leading to increased risks. As seen in **Photos 1 and 2** of a low-slope roof, debris is more likely to accumulate on top of a flat glass skylight, and less likely to accumulate on a plastic dome skylight. Typical flame temperatures resulting from a wind-blown ember ignition of the debris would be high enough to break even tempered glass, the type of glass commonly used as the outer pane in a flat glass skylight.

## Steep-Slope Roofs

Flat skylights are less vulnerable on a steep-slope roof because vegetative debris is less likely to accumulate. A steep-slope roof will act more like an exterior wall in terms of its response to a radiant heat exposure. Because of this increased resistance of glass over

plastic to a radiant heat exposure, a glass skylight is a better choice on steep-slope roofs. The vulnerability of a domed skylight will depend on the potential for an extended radiant heat exposure, which in turn depends on the amount of vegetation and other combustibles near it (**Photo 3**).

## Dual-Pane Glass Benefits

Newer skylights feature dual-pane systems, like multi-pane windows in an exterior wall. The outer pane uses tempered glass and the inner pane uses laminated safety glass. This type of skylight is less likely to fail.

## Maintenance

Both domed and flat skylights have similar framing systems (bases). Each uses a metal flashing to protect the wood framing members from both moisture- and ember-related damage (**Photo 4**). This flashing helps the skylight survive when threatened, but should be maintained to avoid risks.

## Prior to an Evacuation

Similar to windows, skylights that can open should be closed when a wildfire threatens. They also should incorporate a screen to resist the intrusion of embers in case the skylight happens to be left open (**Photo 5**).



**Photo 1.** Accumulation of vegetative debris on top of a glass-type skylight on a low-slope roof.



**Photo 2.** Minimal accumulation of vegetative debris accumulated on these dome-type skylights on this low-slope roof.



**Photo 3.** The vulnerability of skylights on a steep-slope roof will depend on the potential for an extended radiant heat exposure to the roof and skylight unit.



**Photo 4.** Metal flashing protects the framing members of a skylight from moisture, a direct ember ignition, or flames from ember-ignited vegetation debris.



**Photo 5.** Operable skylights should be closed when a wildfire threatens. Similar to windows, they should incorporate a screen to resist the intrusion of embers (also good for insects!).



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