

# Wildfire Prepared Home™ Standard

## Program Overview & Scope

Wildfire Prepared Home™ was developed as a voluntary program to help homeowners protect their properties from wildfire. Based on IBHS's *Suburban Wildfire Adaptation Roadmaps*, the requirements in this standard provide a comprehensive, two-tiered approach for parcel-level wildfire risk reduction. Eligible homes that meet these requirements, as verified through an inspection associated with the Wildfire Prepared Home program, will earn a Wildfire Prepared Home designation.

While designation is currently available only for single-family homes of three stories or less in California, the requirements described herein are recommended for all construction types to reduce wildfire risk. Eligibility for designation may be extended to other building types and locations in future versions of the standard.

## Available Designations

There are two designations available:

- Wildfire Prepared Home™
- Wildfire Prepared Home Plus™

To achieve a designation, a home must meet all the requirements listed for the designation level being sought, as verified by an authorized third-party and reviewed by IBHS.



Figure 1. List of Requirements

## Eligibility

- Home must be located in California.
- Home must be a single-family detached home of three stories or less.
  - Manufactured homes, townhomes, multifamily housing, and nonresidential buildings are not eligible for designation.

## Designation Maintenance & Renewal

Once achieved, the designation is valid for a 3-year period with required annual landscape reviews, which illustrate that the monthly maintenance required to keep the parcel in compliance with this standard is being accomplished.

At the end of the 3-year period, the designation is renewable with a full re-designation verifying continued compliance with the standard.

## Definitions

Within this standard, acceptable products and materials are those approved or listed by the California State Fire Marshal or in a current report issued by an approved agency. An approved agency is an entity that performs product evaluation and is accredited to ISO 17065.

**Noncombustible** – Made from material of which no part will ignite and burn when subjected to fire. Any material passing ASTM E136 shall be considered noncombustible.

**Ignition-resistant** – A type of building material that resists ignition or sustained flaming combustion sufficiently so as to reduce losses from wildland-urban interface conflagrations under worst-case weather and fuel conditions with wildfire exposure of burning embers and small flames. Ignition-resistant building materials must comply with one of the following:

- Extended ASTM E84 (UL 723) test or ASTM E2768
- Noncombustible material
- Fire-retardant treated wood

**Parcel** – Refers to a single plot of land (i.e., lawn, yard, property) and includes all buildings and structures within (house, shed, etc.).

## Wildfire Prepared Home™ Designation

The requirements for this designation address the roof, features of the building, and defensible space. All listed requirements must be met and maintained to achieve this designation.

### Roofs

The roof must be Class A fire-resistant rated and kept clear of debris. Several roofing materials have been tested as a roofing system to meet the ASTM E108 or UL 790 Class A requirements, including but not limited to the following:

- Asphalt shingles
- Concrete, brick, or masonry tiles with bird stops to reduce debris accumulation
- Metal shingles or sheets

### *Gutters & Downspouts*

- Gutters and downspouts must be made out of noncombustible material. Gutters and downspouts must be maintained clear of debris such as leaves and pine needles.

## Building Features

### *Vents*

Ventilation openings for enclosed attics, gable ends, ridge ends, enclosed eave soffit spaces, enclosed rafter spaces formed where ceilings are applied directly to the underside of roof rafters, underfloor ventilation, foundations, and crawl spaces; under eaves and cornices; or for any other opening intended to permit ventilation, either in a horizontal or vertical surface, must meet the following requirements:

- All vents must resist the intrusion of burning embers and flames by meeting one of the following requirements:
  - **Performance:** Corrosion-resistant vents conforming with the following ASTM E2886 test requirements:
    - No flaming ignition of the cotton material during the Ember Intrusion Test.
    - No flaming ignition during the Integrity Test portion of the Flame Intrusion Test.
    - Temperature of the unexposed side of the vent does not exceed 662°F.
  - **Prescriptive:** Vents must be made of a noncombustible material and covered with noncombustible, corrosion-resistant mesh with openings not to exceed 1/8 inch.
    - Exceptions:
      - Dryer vents should not have mesh and must have a louver or flap.
      - Plumbing vents are excluded from these requirements.

### *Ground Clearance for Exterior Walls Covering/Cladding*

Exterior walls are vulnerable because embers can accumulate and make direct contact. All exterior walls must have a minimum of 6 vertical inches of noncombustible material, measured from the ground (at grade).

## Defensible Space

### *Decks or Covered Porches*

Decks or covered porches, which are included in the building footprint as illustrated in Figure 2, must meet and maintain monthly the following requirements:

- Must be clear of debris.
- Must have no woody vegetation (trees, shrubs). No more than 10 potted plants that should not exceed 36 inches in height and width, including the noncombustible planter, are permitted.
- Must have only noncombustible or ignition-resistant items (such as cast aluminum furniture) on top of the deck or porch. A small number of combustible items that can be easily removed and stored when necessary (chair cushions, door mats, etc.) are permitted.
- Must have no vegetation of any kind (trees, bushes, shrubs, plants, grass, weeds, etc.) underneath. Noncombustible ground cover or bare earth are permitted.
- Must have nothing stored underneath.
- Must have 5 feet of defensible space (as part of the 5-foot Home Ignition Zone required for the home, described below).

**Additionally, for decks or porches 4 feet or less above the ground** (when measured nominally from the walking surface to the ground at the location where this distance is maximum), the underdeck area must be enclosed to reduce the accumulation of debris using one of the following methods:

- Install noncombustible, corrosion-resistant mesh material with openings not to exceed 1/8 inch around the outer edge of the deck from the walking surface to the ground to prevent ember intrusion. If a material (e.g., lattice) is installed over the mesh, it needs to be noncombustible.
- Fully enclose with a noncombustible wall covering/cladding.

**For decks with an additional structure (like a pergola or gazebo)**, that additional structure must be constructed of noncombustible materials and shall not have a solid cover (noncombustible slats that cover no more than 10% total of the surface area where a roof cover would be is acceptable) and be free from any vegetation and curtains/drapes/screens.

**Detached decks** must meet the same requirements as attached decks.



Figure 2. Home Ignition Zone

#### *Home Ignition Zone – The First 5 Feet Around the Home*

The Home Ignition Zone (HIZ) is one of the most critical aspects of wildfire mitigation at the parcel level and includes the space from the edge of the exterior walls to a distance of 5 feet from the building footprint, as shown in Figure 2. Note that when decks and/or covered porches are present, the HIZ must extend around them.

The HIZ must meet and maintain monthly all the following conditions:

- Ground cover must be noncombustible and maintained free of debris (noncombustible hardscape such as gravel or paving stones is recommended).

- No vegetation (trees, shrubs, bushes, plants, grass, weeds, etc.) should exist within or overhang the HIZ. Any overhanging limbs or branches from nearby trees and bushes must be trimmed back to be outside the HIZ.
- No combustible items (such as furniture, firewood, trash cans, etc.) should be stored in the HIZ.
- No boats, RVs, or other vehicles should be parked in the HIZ.

#### *Landscaping in the Remainder of the Parcel*

The remainder of the property beyond the 5-foot HIZ must maintain defensible space. Defensible space separates fuels to reduce flame intensity near a home. This includes:

- Routinely removing fallen pine needles, leaves, and other debris from trees accumulated in the yard.
- Regularly caring for trees, shrubs, bushes, plants, and grass.
  - Trees should be pruned to have a canopy-to-canopy distance of at least 10 feet. Tree limbs and branches should be pruned to a minimum height of 6 feet off the ground, if the trunk is at least 4 inches in diameter
  - Shrubs and bushes should be spaced at a distance of at least twice the height of the bush or shrub. Rows of shrubs or bushes are not allowed.
- Routinely removing any dead vegetation.

#### *Fences*

Fencing within 5 feet of the home must be constructed of a noncombustible material including where fences attach to the home.

#### *Accessory Structures & Outbuildings*

All unattached accessory structures and outbuildings that are within 30 feet of the home and that have a footprint greater than or equal to 15 square feet—such as sheds, gazebos, accessory dwelling units (ADUs), open covered structures with solid roofs, dog houses, playhouses, etc.—must meet the same wildfire resilience requirements as the home structure. Up to 3 total accessory structures and/or outbuildings are acceptable. Each structure must have its own 5 feet of defensible space (as prescribed under Home Ignition Zone) that does not overlap the 5-foot HIZ required for the home, decks, or other structures within 30 feet of the home.

ADUs attached to the primary home by building permit are considered part of the primary structure and subject to the same requirements.

As of publication of this standard, IBHS continues active research into the spacing required between structures to reduce the likelihood of one igniting the other, including the impact of features such as combustible or noncombustible siding. The provisions of this section of the standard may be updated as this research matures.

## Wildfire Prepared Home Plus™ Designation

To achieve a Wildfire Prepared Home Plus designation, homes must meet all the requirements listed for the Wildfire Prepared Home designation above (except where requirements for Wildfire Prepared Home Plus are more restrictive) **plus** all the following additional requirements below.

## Gutters & Downspouts

Gutters must be covered (with a noncombustible material) to prevent the collection of debris such as leaves and pine needles.

## Eaves & Soffits

In addition to the requirement for vent openings at eaves and soffits listed above, eaves and soffits must be enclosed or protected on the exposed underside by one of the following:

- Noncombustible materials
- Ignition-resistant materials
- Materials approved for not less than 1-hour fire-resistance-rated construction
- 2-inch nominal dimension lumber

## Vents

Dryer vents should be made of noncombustible (i.e., metal) material.

## Exterior Walls Covering/Cladding

Wall coverings/claddings must be a noncombustible or ignition-resistant material, such as:

- Metal siding
- Fiber-cement siding
- Masonry veneer
- Stucco
- Shutters must be made of noncombustible materials

## Exterior Glass (Windows, Skylights & Glass within Doors)

All exterior windows, skylights, and glazed openings within doors must comply with one of the following requirements:

- Multipaned glass with a tempered outer pane
- Glass with a minimum of 20-minutes fire-resistance rating when tested in accordance with NFPA 257
- Glass blocks (windows only)

## Exterior Doors

Exterior surface or cladding of the exterior doors shall be constructed with noncombustible materials. Doors made of combustible material are permissible provided a noncombustible exterior storm door is installed as the outermost door.

## Enclosed Space Underneath Bay Windows

Any open space under first-floor bay windows must be enclosed by constructing a noncombustible wall section.

## Decks

In addition to the requirements listed above, decks including posts, joists, railings, and walking surfaces must be constructed with noncombustible materials.

## Fences

In addition to the requirements listed above, back-to-back fencing (meaning separate fences that are closer than 3 feet apart) is not permitted. Meeting this requirement may necessitate coordination with neighboring parcels to eliminate duplicative fences that can trap debris between them.

## *Accessory Structures & Outbuildings*

All unattached accessory structures and outbuildings with a footprint greater than or equal to 15 square feet—such as sheds, gazebos, accessory dwelling units (ADUs), open covered structures with solid roofs, dog houses, playhouses, etc.—must be located a minimum of 30 feet away from the home.

ADUs attached to the primary home by building permit are considered part of the primary structure and subject to the same requirements.

As of publication of this standard, IBHS continues active research into the spacing required between structures to reduce the likelihood of one igniting the other, including the impact of features such as combustible or noncombustible siding. The provisions of this section of the standard may be updated as this research matures.

## List of Referenced Standards

### ASTM

E84 – Standard Test Methods for Surface Burning Characteristics of Building Materials

E108 – Standard Test Methods for Fire Tests of Roof Coverings

E136 – Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C

E2768 – Standard Test Method for Extended Duration Surface Burning Characteristics of Building Materials (30 min Tunnel Test)

E2886 – Standard Test Method for Evaluating the Ability of Exterior Vents to Resist the Entry of Embers and Direct Flame Impingement

### NFPA

252 – Standard Methods of Fire Tests of Door Assemblies

257 – Standard on Fire Test for Windows and Glass Block Assemblies

### UL

723 – Standard for Test for Surface Burning Characteristics of Building Materials

790 – Standard Test Methods for Fire Tests of Roof Coverings

### ISO

17065 – Requirements for Bodies Certifying Products, Processes and Services