

FEMA Mitigation Funding Opportunity

Ignition Resistant Construction – Residential

Overview

- During a wildfire, combustible exterior components such as roof coverings, siding, and decks can ignite, leading to severe damage to or total loss of the building. The use of noncombustible or fire-resistant materials for exterior components and the creation of a defensible space can increase a building's chance of surviving. The illustration shows the building's envelope or exterior components that can be mitigated. FEMA recommends that State and local codes include requirements for wildfire mitigation for both new construction and upgrades to existing buildings in wildfire zones.



Figure 1. Ignition Resistant Construction Components

Eligible Activities

- Roof – Installation of Class A roofing products such as: asphalt shingles, metal / stone-coated metal, concrete (standard weight and lightweight), clay tile, synthetic, slate or hybrid composite.
- Siding – Encasing building with ignition resistant siding such as rock wall, stucco or cement board.
- Exterior Doors – Installation of door made from non-combustible products such as metal or composites or solid core construction. Installing sliding glass doors or decorative front doors with glass panels made of tempered glass that are designed to withstand impact.
- Windows – Installation of dual pane windows. An aluminum sub-frame should be installed to help the window frame retain its shape when exposed to increased heat.
- Gutters – Installation of metal gutters. Gutter caps can be installed to prevent accumulation of foreign combustible debris.



FEMA

- Vents – Install metal vents and vent flashing. Metal mesh screens should be corrosive-resistant. Vent openings should have a maximum net free area of 144 square inches.
- Decks – Replacing flammable materials with heavy timber or noncombustible materials. A minimum 6-inch × 6-inch timber or concrete block or steel should be used for columns. For floor joists and beams, heavy timber, 3-inch to 4-inch nominal thickness fire-retardant treated wood, or concrete block or steel framing should be used. For railings, use minimum 3-inch nominal thickness fire-retardant-treated wood or metal, cables, or tempered glass. For decking and stair treads, use exterior fire-retardant-treated wood, minimum 3-inch nominal thickness, or brick or concrete pavers and a suitable drainage mat over wood decking or metal grates. Light, poured concrete may also be a suitable deck covering.
- Eaves – Cover with 1/8-inch maximum mesh to prevent embers from entering.
- Fuel tanks – Protection of propane tanks or other external fuel sources.
- External water hydration and thermal insulation systems – Purchase and installation of external, structure-specific water hydration and thermal insulation systems with a dedicated delivery system and dedicated self-contained foam or retardant in sufficient volume to protect the structure.
- Paint – Fire resistant primers and paint.

Overall Complexity

Application	Environmental	Legal
High	Medium	Medium

Application Requirements

- Must be a local government, Tribe, or Private Nonprofit (PNP*).
- Must have a FEMA approved Hazard Mitigation Plan (HMP).
- Must fulfill appropriate FEMA and Recipient application requirements including, scope of work, budget, schedule, etc.
- Long-term benefits must outweigh costs (Benefit Cost Ratio greater than 1).
- 25 percent non-federal match required (Under the BRIC program, small and impoverished communities are eligible for a 10 percent non-federal match).
- Projects involving reimbursement payments to homeowners must include details of the reimbursement process and include details if homeowners are performing any of the project work as part of the non-federal match.
- Application should include property level detail for activities including address of property, associated construction activities, and documentation of voluntary participation.

- Each residential structure must have documentation that the property owner has previously created defensible space and agrees to maintain defensible space or that defensible space will be required as part of the Ignition Resistant Construction.
- Funding limits are set by FEMA and the Recipient.
- No construction is allowed prior to FEMA award approval.

* PNPs are eligible only under HMGP and are not required to have an HMP.

Environmental Requirements

Depending on the specific elements of each structure to be retrofitted, and if combined with additional fire mitigation activities such as the creation of defensible space, the applicable environmental and historic preservation (EHP) laws can differ. Given this, engagement with FEMA EHP is required on a project specific basis, such as compliance with Section 106 of the National Historic Preservation Act (NHPA).

Basic EHP requirements for this project type (for each structure):

- Location (address, coordinates in decimal degrees)
- List of proposed retrofits
- Age of construction
- Specific scope of the proposed retrofit work for the structure
- At least five photos (each side and another of the structure with surroundings)
- Identifying if the structure is within a special flood hazard area (SFHA) and include a map.