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Vulcan Vent®

The Vulcan Vent is an exterior vent that will prohibit both dangerous embers and fire from entering a structure during a wildfire. Vulcan Soffit and Eave Vents are the first to be accepted in the CBC Ch7A Compliance Policy by the Office of the California State Fire Marshal (<u>www.osfm.fire.ca.gov</u>). Vulcan Vent ® systems resist the intrusion of flame and dangerous flying embers as called for in Chapter 7A of the California Building Code.

Most structures must have exterior ventilation and studies have shown that embers from a fire that is miles away can fly through the air causing an *ember attack* which may hit a home or other structure and enter through the exterior ventilation system igniting a new fire from the inside. The Vulcan Vent, through a patented, fully tested design, has a dual mechanism which will 1) block dangerous flying embers from entering the inside of a structure which may be many miles from the actual flames and 2) self-close when it senses approaching heat from a wildfire thereby prohibiting flame penetration. The Vulcan Vent meets the prescriptive code of the Wildland Urban Interface requirements for vents within California's building codes. Newly written California fire code legislation includes a section stating, in part, **"vents shall resist the intrusion of flame and embers"**.

An extraordinary feature of the Vulcan Vent system is its simplicity of design and ease of application for new, remodel and retrofit construction. All vents within the Vulcan Vent system can be designed in any shape or size, including matching the specifications of all existing 1/4 inch (or smaller) open screen eave, foundation, gable, dormer and soffit vents.

The Vulcan Vent, in many cases, has more air flow (NFVA, Net Free Ventilation Area) than other exterior vents claiming to stop ember and flames. In any property, there is a need for a specific amount of ventilation to prohibit mold, mildew and/or rotting timbers. The air flow capacity of Vulcan Vents is excellent. Even with their fire and ember blocking technology, Vulcan Vents, in many cases, have air flow equal to that of standard vents of the same size. Thus, property owners with new construction, remodel or retrofit projects would need to purchase and install twice as many of any other "fire vent" as would be needed of the Vulcan Vent. The use of a Vulcan Vent over another "fire vent" will cut down construction costs (material and labor) as well as make structures more aesthetically pleasing.



Fire generated by a 150 kw burner on a standard 1/4" vent. Flame and ember penetration within 15 seconds from the start of the fire.



Same standard 1/4" vent only seconds later with enough fire through the vent to engulf the attic and to destroy the home.



Fire generated by a 150 kw burner using the Vucan Vent. No ember or flame penetration.



Same Vulcan Vent completely sealed (closed) with no fire penetration into the attic.

What are the Benefits of the Vulcan Vent?

The simple, flexible design of the Vulcan Vent allows for the use of the vent in any type of new construction. In remodel or retrofit construction, the design also makes it very simple to remove an existing vent and install a Vulcan Vent at any location on any home or other type of structure

The Vulcan Vent is the only dual design, fully tested (by a State of California accredited fire testing laboratory) "fire vent" on the market today. It has been engineered to block dangerous flying embers, thus potentially saving structures which are many miles away from the flames of a wildfire, and to prohibit flame intrusion.

How Does the Vulcan Vent Work?

Vulcan Technologies has developed, and has been granted a patent (US11/726,173,) for, the vent's technology which allows for natural air flow through the vent during normal times and which, through a dual mechanism, has the ability to 1) block dangerous flying embers from entering the inside of a structure which may be many miles from the actual flames and 2) self-close when it senses approaching heat from a wildfire thereby prohibiting flame penetration.

The heat from an approaching wildfire will trigger the intumescence (expansion) of the applied fire resistant coating at approximately 350° Fahrenheit. As a result, the coating will "bubble-up" and expand thereby closing the vent and blocking dangerous hot embers, or fire, from reaching the inside of the structure. The actual blocking of the fire requires a high performance fire resistant coating. Vulcan Vent uses a Firefree[™] coating, the leading fire retardant/resistant coatings.

View a demonstration of how Vulcan Vent works

Why Choose the Vulcan Vent over other Exterior "Fire Vents"?

- Tested successfully at a California State Fire Marshal accredited fire testing laboratory for ember and flame penetration
- Dual design protects structures miles away from the flames of a wildfire (ember penetration) and also as the flames approach (flame penetration)
- Superior air flow
- New construction, remodel or retrofit:
 - Use fewer vents and reduce construction costs
 - Use fewer vents and create a more pleasing design
- Existing construction:
 - No new vent openings need to be cut in order to maintain air flow levels making the "switch over" to a self-closing vent system cost effective and easy

How to Obtain More Information About the Vulcan Vent

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How to Buy the Vulcan Vent

How to Buy

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Vulcan Vent[®] 14 Wide Series Gable Interior Retrofit (Use VM1424) Installation Instructions.

This kit includes the following:

- 1) One 14" x 24" Piece of treated honeycomb
- 2) One 14" x 24" Mesh

You will need the following tools & supplies:

Large tin snips Razor knife & straight edge (optional) Screw gun w/ tip for your screw type Flashlight or battery type lantern 10) 1" to 1.5" Sheet metal screws with washers *Or wood screws if gable vent is made of wood.

CAUTION: Remember to use extreme caution during the installation of this project. If access is from the roof: steep pitch roofs, high eaves, slippery conditions, and poor weather can contribute to a high risk of injury. Maintain safe working practices at all times. This work will be performed from inside the attic. Access to the gable vents may require passing an obstacle course of trusses, false walls, heating units, wiring and plumbing. Never step directly onto the insulation or sheetrock and be wary of high temperatures.

1) Clean the work area: Remove debris and clean dust, cobwebs, and leaves from backside of gable vent.

2) Measure the height and width: The width is generally 14" plus or minus and the height varies.

3) Cut the honeycomb and mesh: The easiest way to cut the honeycomb matrix is to lay it onto a flat surface, measure it and use a straight edge and a razor knife to score it. Then break away the excess honeycomb by bending it away at a 90 deg angle. Alternately, you can use a large pair of snips to cut the honeycomb. In the attic, there is generally no flat surface to work

with, so this alternate method is easier, just make sure you cut a straight line so the end result is a good fit over the gable vent. The mesh may be cut with a pair of snips, to the same dimensions.

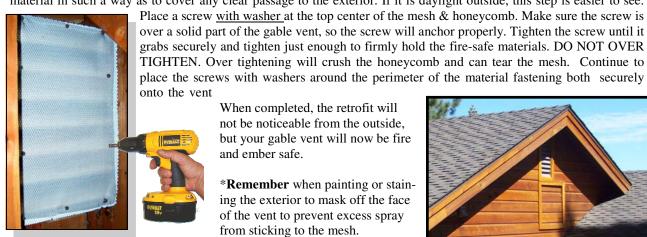








4) Attach the fire-safe material: Most gable vents have an existing 1/4" screen over the inside. Leave this screen in place. Starting with the honeycomb, then the mesh, place the sized pieces over the inside of the gable vent. Center the material in such a way as to cover any clear passage to the exterior. If it is daylight outside, this step is easier to see.



When completed, the retrofit will not be noticeable from the outside, but your gable vent will now be fire and ember safe.

*Remember when painting or staining the exterior to mask off the face of the vent to prevent excess spray from sticking to the mesh.



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