

# NONVENTED HOT ROOF SYSTEM

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## AIRTIGHT INSULATION ON HOT ROOF SYSTEMS

...being in the insulation business since 1987 the hardest thing I had to adjust to when I started spraying polyurethane foam was the idea of spraying directly to the roof sheathing. This went against everything that I had been taught about installing insulation on sloped or vaulted ceilings. It is common practice with open cell products, like fiberglass or cellulose, to install a poly vent baffle against the roof decking to allow air to flow behind the insulation. Because these products do not make a complete bond with the decking itself heat is able to buildup behind the insulation. Using a baffle allowed the heat buildup to escape through the ridge vents.

Enter Polyurethane Foam. Spray Polyurethane Foam creates a seamless, monolithic seal with the roof deck. There is no way that heat can build up between the insulation and the roof decking. Our product applied at 2" can stop temperatures up to 200 degrees Fahrenheit

from transferring into the interior of the attic. Eliminating heat from entering the attic area also eliminates the need for ventilation, which would be in place to allow heat to escape.



I am frequently asked if this system will have a negative impact on the life of the shingles. My answer to this question is **ABSOLUTELY NOT!** What causes shingles to curl is when the heat beneath the roof decking becomes greater than the heat on the surface of the shingle. This does not happen with the hot roof system. On the hottest afternoon the temperature of the attic should range between 80 to 90 degrees Fahrenheit. To prove that they agree with this philosophy, shingle manufacturers have issued letters approving the use of the hot roof system with their products.

Furthermore, this system eliminates the stack effect that results from a ventilated roof system. The stack effect is when the temperature differential between indoor and outdoor air, creates a pressure inward on the structure and draws air through the eave vents and exhausts the air through the ridge vents. This ventilation can actually work against you by drawing the conditioned air out of your house and exhausting it

## TECHNICAL BULLETIN

**AIRTIGHT SPRAY FOAM** This will confirm Elk premium roofing products are approved for use with AirTight Spray Foam and carry the full limited warranty according to the following:

1. All structural roof work including decking/sheathing is in place and in compliance with local codes.
2. The AirTight Spray Foam is applied in accordance with the manufacturer's specifications and guidelines to the underside of the roof decking/sheathing and complies with local codes.
3. Apply Elk starter strip, Elk hip and ridge shingles, and Elk field shingles in accordance with the recommendations printed on each bundle wrapper. Elk hip and ridge shingles will carry the limited warranty period applicable to the Elk field shingles.
4. Elk will not be responsible for any deficiencies or movement of the roof deck, manufacturing defects in the fasteners resulting in their failure to perform, and/or improper application of the substrate or Elk fiberglass shingles.
5. It is the responsibility of the design professional to examine the need for structural ventilation and to ensure interior air quality. For any building, construction must be in compliance with local codes.

For our product specifications, limited warranties, or other information regarding Elk premium roofing products, please contact the Elk location nearest you or visit our web site at [www.elkcorp.com](http://www.elkcorp.com). For information regarding AirTight Spray Foam, please call 800-995-9466 or visit their web site at [www.airtightinsulation.com](http://www.airtightinsulation.com).

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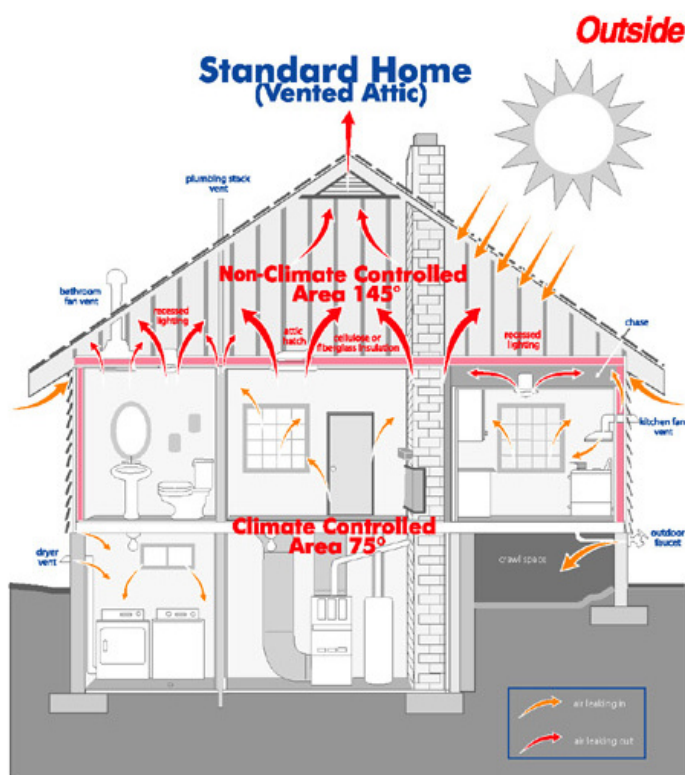



through your roof.

AirTight Insulation has thousands of satisfied customers who have chosen this system. This is by far the most energy efficient method to insulate any structure. Stopping the heat at the point of entry just makes a lot more sense than having an attic that reaches temperatures well above 130 degrees. This also benefits those homes that have HVAC units and ductwork in the attic space. It allows the unit to work more efficiently and can prolong the life of the unit.

To find out more about the advantages of AirTight SprayFoam® visit our website at [www.airtightinsulation.com](http://www.airtightinsulation.com) or contact me direct at 800-995-9466.

Sincerely,  
Ted J. Medford  
President, AirTight Insulation, Inc.



**TECHNICAL**  **BULLETIN**

**FIBER GLASS SHINGLES APPLIED OVER UNVENTILATED/INSULATED ROOF DECKS**

No. R-201B      Date Issued: 10/8/2004      Supersedes: R-201A, 2/15/2001

CertainTeed's Limited Asphalt Shingle Warranty, including SureStart™ coverage, will remain in force when its fiber glass asphalt shingles manufactured to meet ASTM D3462 are applied to roof deck assemblies (slopes  $\geq 2:12$ ) where foam insulation is prefabricated into the roof deck system (often called "nailboard insulation"), where insulation is installed beneath an acceptable roof deck system, or where radiant barriers are installed, with or without ventilation directly below the deck. *See important restrictions below:*

- Acceptable roof deck surfaces must consist of either minimum 3/8" thick plywood or minimum 7/16" thick OSB. If an alternate deck surface material is being considered, then please contact CertainTeed at the number below.
- The design professional is responsible for ensuring 1) proper quality and application of the insulation and/or radiant barrier, 2) provision of adequate structural ventilation and/or vapor retarders as determined to be necessary, and 3) that all local codes are met (particularly taking into account local climate conditions). Special attention must be taken if cellular foam, fiber-glass, or cellulose insulations, or other highly-permeable insulation will be used in an unventilated system, or if the insulation/rafter or insulation/joint planes may create an air leak that could lead to moisture transmission and condensation problems. *All these important factors and decisions, while not the responsibility of CertainTeed Corporation, are critical to assure proper deck system performance.*
- CertainTeed shall not have any liability or responsibility under its warranty for:
  - a) Damage to or defects in its shingles caused by settlement, movement, distortion, deterioration, cracking, or other failure of the roof deck or of the materials used as a roofing base over which its shingles are applied,
  - b) Damage caused by the growth of mold or mildew, or
  - c) Defects, damage, or failure caused by application of its shingles not in strict adherence with CertainTeed's written instructions.

Roofing Systems Technical Service

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