



## Unvented Roof Deck Application

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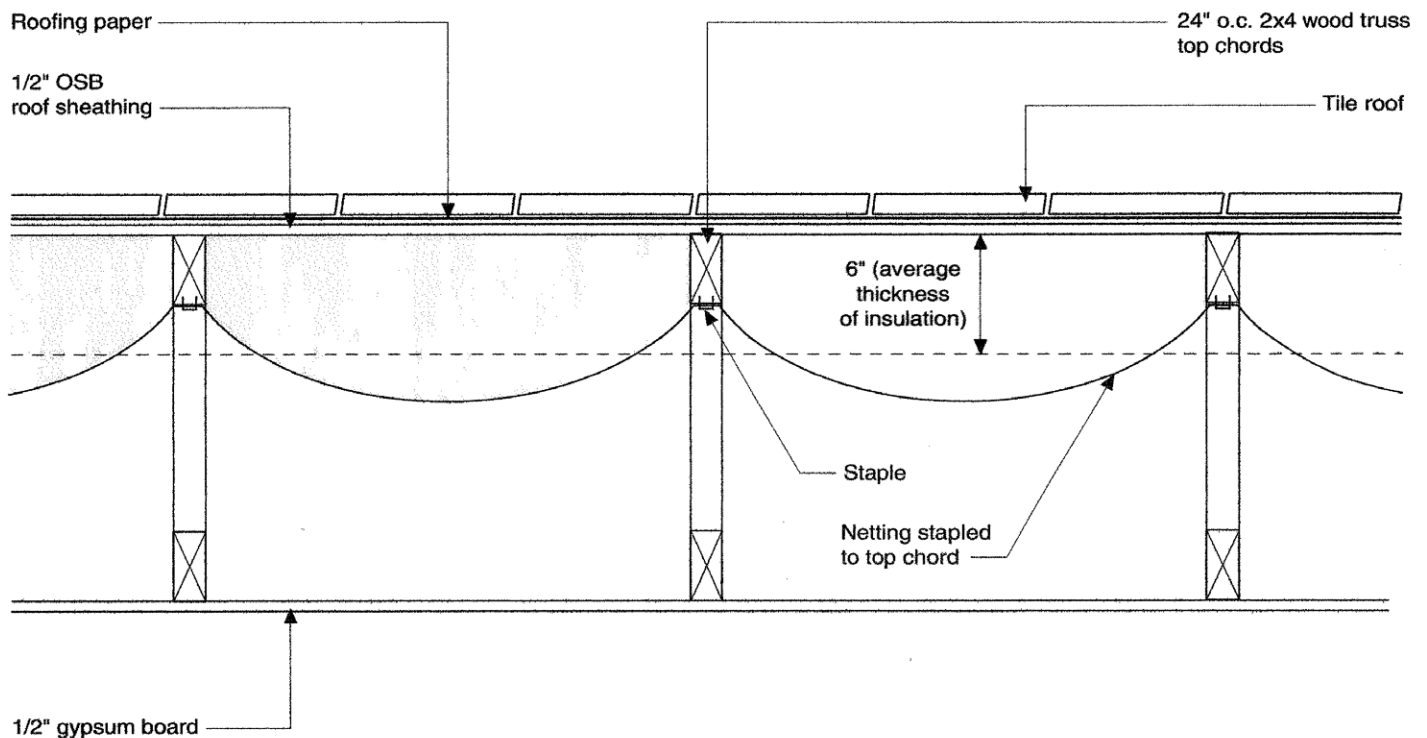
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# Cathedralized Unvented Attic Application

Cathedralized attics are unvented attic assemblies in which the roof line insulation is left exposed (no drywall) to the attic space. SANCTUARY® by Greenfiber® is Dry Dense-Packed behind netting affixed to the framing at a density of 3.5 lbs/ft<sup>3</sup>. Climate Zones 2B and 3B do not require an air impermeable insulation layer to the roof deck per IRC 2009 Section R806.4. The parallel flow path per the ASHRAE Fundamentals Handbook 2005 (Chapter 23 Equation 11) is used to determine the U Value of the assembly. The use of Greenfiber® products in cathedralized attics outside of Zones 2B and 3B needs to be reviewed by a registered design professional to determine the need for air barriers on the exposed side of the insulation.

The construction detail is very specific and must be followed to achieve thermal and other performance characteristics. In addition, the installer of SANCTUARY® by Greenfiber® must carefully follow the recommendations below to prevent the creation of gaps between the insulation and roof deck. Changing construction details such as roofing and decking materials, joist width, insulation density and other factors can affect the thermal and moisture management of the assembly.

This assembly has a proven track record in Climate Zone 3. It is presented as a suggestion of how to cost-effectively meet thermal requirements. It is not given as a specific design that is ready to be adapted into building plans, and Greenfiber® is not the Architect or Engineer of Record. If there are questions about any aspect of this assembly and its capability of meeting local codes, please consult your architect, engineer or local building official. Contact a Greenfiber® technical representative for assistance in the installation of SANCTUARY® by Greenfiber® in this application. The following instructions are for the above construction detail only, with a cellulose insulation value of R-22.2. The netting dimensions given below are specific to this detail, and must be carefully followed to create the correct installation.



\*If more recent codes have been adopted, you will need to go to 2x6 top chord to achieve R-30.

## Equipment and Material Requirements for Applying Pre-Cut Netting to 2x4 Trusses, 24 Inch on Center

1. Hanes Insulweb™ brand netting, pre-cut 27 inch x 250 yards
2. Air compressor with two or four air lines
3. Pneumatic staple guns with ¼ inch staples
4. Ladder or scaffolding
5. Utility knives
6. Tape measure
7. Two or four-person teams
8. 25 feet of 2.5 inch blowing hose and reducer (if Dry Dense-Packing gable ends)
9. SANCTUARY® by Greenfiber® cellulose insulation

### Installation Precautions

The installer must be familiar with cellulose insulation blowing equipment and techniques. Care should be taken to avoid installing netting or insulation in contact with non-UL rated electrical systems or non-insulated wiring. After completion of the installation, care must be taken by the builder to avoid locating attic lights or other heat sources in proximity to the netted assembly.

For breathing protection, use a NIOSH approved N95 or higher disposable or reusable particulate respirator per 29 CFR 1910.134. Follow all OSHA guidelines for safety requirements including 29 CFR-1926.501 Duty to Have Fall Protection. Various other local, state and federal rules and guidelines may apply.

### Procedure for Installing Netting in Attic Rafters

1. Remove all debris from the floor within ten feet of the area to be insulated. Measure all standard cuts from the front eave to the attic peak and back down to the rear eave. Make cuts two feet longer than the measurement to allow for one extra foot on each side of the peak. Excess netting can be cut off at the eave after the netting has been secured from the peak to the eave.
2. After the two-person crews have made all of the standard cuts, staple the netting to the peak allowing netting to hang on both sides. Staple 20 to 24 staples per linear foot.
3. Two-person crews work together with one person stapling the netting from the peak down toward the eave until reaching his partner on the ladder, who continues stapling down to the eave. Staple netting across the top plate at the eave to retain the insulation.
4. Staple the edge of the netting to the face of the top chord to allow the netting to bulge out when the cavity is filled with insulation. Staple 20 to 24 staples per linear foot.
5. Dry Dense-Pack the gable ends. A small area such as this requires a reduced diameter blowing hose to achieve enough density to prevent settling. Attach a 2.5 inch blowing hose to the end of the larger blowing hose extending from the machine.



### Installation Instructions

1. Set the feed gate on the blowing machine opening at approximately 60% to 70%. Set the air adjustment at 70% to 100%. The settings will vary on depending on machine type.
2. One foot from the roof peak, cut a slit large enough to insert the blowing hose in the netting. Insert the three inch blowing hose behind the netting and slide the hose down the netted cavity to the eave and begin Dry Dense-Packing the insulation.
3. Begin filling cavity; do not allow the material flow to back the hose up the cavity on its own. Create some resistance in order to ensure full cavity density. Slowly retract the hose in order to avoid clogging the hose.
4. The time to fill a cavity will depend on the machine being used, the material flow and air settings. The material should not clog the hose during this process. If the hose clogs, clean out the hose and close down the feed gate by 10% or increase the air flow until clogging does not occur.
5. Once reaching the entry hole, turn the machine off and slide the hose in the opposite direction, over the peak and down to the eave. Turn on the machine and repeat the blowing process, Dry Dense-Packing the cavity all the way back to the entry hole.
6. Make sure the netting is stretched tight in the entire cavity. Patch the hole with duct tape.
7. Move on to the next cavity and repeat this process throughout the entire attic area.

### Coverage Estimates for R-22.2 Cathedralized Attic Application

Greenfiber® gives estimated coverage numbers for cathedralized attic applications using pre-cut 27 inch netting. If pre-cut netting is not used, coverage can vary dramatically. Greenfiber® is not responsible for estimated coverage if pre-cut netting is not used.

Using the pre-cut netting, one 25 pound bag of SANCTUARY® Insulation will cover approximately 10-12 square feet., depending on actual installed density.

The average R-value for the insulation in this application is 22.2 based on an average of six inches of insulation. Installed density should be a minimum of 3.5 pounds per cubic foot to prevent settling.

## Helpful Tips for Application

1. For quick measurements without using a tape measure, count the number of sheets of plywood from the eave to the peak. Multiply this number by four feet, the width of a sheet of plywood. This is the distance in feet from the eave to the peak.
2. Make all of the standard cuts on the floor before stapling any netting. When working with a two-person crew, both crew members staple all of the netting to the attic peak, allowing the netting to hang down to the eaves. Once all the netting is attached to the peak, one person runs the netting down to the other person on a ladder who continues stapling to the eave.
3. Pull the blowing hose into the attic area as the attic is being blown. Secure the hose to a ceiling joist to relieve the hose weight.
4. The netting can be pre-cut before arrival to the job. As the cuts are made, roll up the netting and secure with a rubber band. Use a marker to record the length on each roll.

The following list of equipment and supplies can be ordered from Spray Insulation Components at 800-210-1311.

1. **Hanes Insulweb™ brand netting,  
pre-cut 27 inch x 250 yards**
2. **Josef Kihlberg pneumatic staple guns:**
  - a. Model JK670 for ¼ inch staples
  - b. Model JK680 for 5/16 inch staples
3. **Staples-10,000 per box, 10 boxes per case,  
¼ inch or 5/16 inch**

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