



SANCTUARY™
DEFENSE

by GREENFIBER®

Dry Dense-Packing Wall and Floor Assemblies

Greenfiber®
5500 77 Center Drive, Suite 100
Charlotte, NC 28217

Email: info@greenfiber.com
Toll Free: 800-228-0024

www.greenfiber.com

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Requirements for Applying Netting for Insulating 16" oc 2x4 and 2x6 Walls

- Hanes Insulweb™ brand netting or equivalent non-woven, non-vapor retarding netting in 8 or 9 foot widths x 250 yards Style # 3121 natural Basis weight (1.24 oz. per sq. yd.)
- Air compressor with a minimum of two or four air lines
- Pneumatic staple gun with ¼ inch staples
- A minimum of 25 feet of 2 ½ inch blowing hose attached to the larger diameter blowing hose; total length of the two sections not to exceed 150 feet
- 8" core sample tester, scale and instructions, available through Spray Insulation Components at 800.210.1311
- SANCTUARY® Defense by Greenfiber® cellulose insulation
- The contractor crew must read and understand this manual before installing Greenfiber Insulation.
- The insulation contractor must have a quality assurance process that ensures in-field compliance with the installation instructions set forth by the manufacturer.

Preparation

- Any cavity taller than eight feet in height should have cross-bracing or fire stops at mid-height to help support the weight of the material and prevent settling.
- Care should be taken to avoid installing any insulation product in contact with non-UL rated electrical systems or non-insulated wiring.
- Inset stapling is recommended for any cavities wider than 16" oc.
- Greenfiber's Material Data Safety Sheet (MSDS) requires the use of safety eyewear when installing this product. The insulation contractor is responsible for managing housekeeping and engineering controls below nuisance dust levels. 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.
- Remove all debris from the floor within ten feet of the walls to be insulated.

Procedure for Installing Netting in Exterior and Interior Walls Assemblies

1. Measure the length of the wall and add two feet to the measurement.

SANCTUARY® Defense by Greenfiber® is required for installation in vertical wall assemblies using the netted/Dry Dense-Pack application. SANCTUARY® Defense by Greenfiber® with a Dry Dense-Pack coverage chart can be used in this application. Do not use water or previously wetted material in this application.

2. Cut one piece of netting for each wall.
3. Staple one edge of the netting across the length of the top plate of the first wall.
4. For exterior walls, staple netting down each stud face with a double row of staples. The two staple rows should land on the two edges of the stud to prevent insulation material from obstructing the face of the stud and interfering with the drywall installation. Repeat procedure for each stud until the wall is completed.
5. For exterior walls greater than 2x4 and interior walls, inset staple ¼ inch on both sides of the wall to prevent bulging that could interfere with the drywall installation.

Repeat procedure for each stud until the wall is completed.



6. Complete the wall by stapling the bottom edge of the netting across the length of the bottom plate.

Repeat process in additional rooms until the house is complete.

7. After two rooms are completely netted, one person can begin blowing material in the first netted room.
8. Net garage partition walls and knee walls on both sides of the wall to retain blown insulation. Garage partition walls and knee walls need to have a support on both sides. Netting can be used on the back of garage partition walls; however, follow Code for the backing of knee walls.

Procedure for Installing Netting in Floor Assemblies

1. The procedure for Dry Dense-Packing floor assemblies is the same as for walls, except on the horizontal.
2. It is important to inset staple the netting to the floor joists, as the larger volume of material installed at 3.5 pcf may bulge the floor cavity sufficiently to create difficulty in fastening drywall.

Procedure for Installing SANCTUARY® Defense by Greenfiber® Cellulose Insulation in Netted Wall and Floor Assemblies

1. Using a utility knife, make a three inch incision in the center of each wall cavity, approximately one foot from the top plate.
2. Insert the 2 ½ inch hose in the cut and slide the hose to the bottom of the cavity if possible. If there are any plumbing, electrical or other obstructions, the hose must be reinserted at different points in the cavity. Multiple holes may be needed to ensure uniform density throughout the entire cavity.
3. Machine setting will vary depending on the production rate of the installation equipment. Some trials with the machine will be necessary as blowing machines and conditions can vary depending on machine type, level of maintenance, and the degree of wear.



4. A small machine capable of blowing 1800 pounds of SANCTUARY® Defense by Greenfiber® per hour should have the gate open approximately 50% and the air pressure set at two-thirds open. As machine capacity increases, the gate should be reduced and the air pressure turned down.
5. Begin blowing the first cavity; retract the hose slowly toward the top of the cavity as the material fills. The netting will tighten and bulge slightly as the hose is withdrawn. Once the hose end reaches the opening in the netting, point the hose at the top of the cavity until the cavity is completely filled.
6. Tape the cuts in the netting with duct tape after the material is installed.

7. Cross-bracing creates two separate cavities; blow each cavity with separate entry holes.

Density Check

Greenfiber® requires the use of either a core sampling method or a bag count and volume method to assess the installed density of its products when using the Dry Dense-Pack method. Greenfiber® specifications call for a minimum density of 3.5 pcf (pounds per cubic foot) in 2x4 and 2x6 cavities. These two methods are described below.

Density Checking by Core Sampling

1. Take core samples from the top, middle and bottom of the first cavity to ensure proper technique and consistent density.
2. Remove the sample from the corer and weigh the material. Divide the weight by the calculated volume of the sample. This will provide the density for that sample. Average the three sample test results to determine the installed density for that cavity.
3. Once the desired density is achieved, continue blowing the netted cavities until the house is completed. Machine may need to be reset if the required density has not been met in the test. Documenting these settings will save time the next time this application is required.
4. Do not use water or previously wetted material in this application.
5. If using the core sampling tool, please refer to enclosed instructions.



Density Checking by Bag Count and Volume

In many situations, core sampling is difficult or impossible to perform for a variety of reasons. The instructions below are for calculating the installed density of Greenfiber's insulation products in the event core sampling is too problematic or dangerous.

1. Two pieces of information are required to use this method: the total weight of the material installed as determined by bag count, and the exact volume into which the bags were installed. Determine the volume by subtracting the framing from the square footage. Dividing the total weight installed by the cavity volume will provide the pcf or density installed in the assembly.
2. When using this method it is important that it is done on an assembly basis, that is that each wall, floor, or other assembly is treated as an individual unit. Each unit must have its own calculated installed density performed to ensure consistent application of the product.

3. The level of product in the hopper at the start and finish should be accounted for in calculating the amount of material used. The number of bags used for each assembly plus/minus the material differential in the machine hopper must be documented for each assembly.
4. Volume calculations of each assembly can be fairly complex. The installer must make sure that these calculations are documented for each assembly as well. Many times the volume calculations can be standardized because of the use of repeating room configurations in multi-family, as one example.
5. Records must be maintained of the installed density of each assembly to ensure that Greenfiber's installation instructions have been followed.

Note: Install Dry Dense-Packed SANCTUARY® Defense by Greenfiber® insulation in all exterior wall sections in bathrooms, kitchens and other rooms where added vapor transport impediments, such as cabinets, mirrors, tubs, and shower enclosures are located. If unsure where transport impediments are located, Dry Dense-Pack the entire exterior wall section(s).

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