



## Scope

The following instructions are for contractors for the purpose of retrofitting existing sidewalls with GreenFiber insulation. These instructions are designed for use with GreenFiber's INS770LD, INS760LD or INS735 products for installation in sidewall cavities. Follow the sidewall coverage charts on the bags to assure that the proper amount of insulation is installed.

## Before Installation

Retrofitting any part of a home's envelope will cause changes in air, heat and moisture flow. Contractors must understand how this installation will impact the house, i.e., ventilation and combustion air requirements. Examine both the inside and outside of a home to determine areas that are inappropriate for installation. For example:

- Do not insulate any home that has active knob and tube wiring.
- Where moisture related problems are evident, the source of the problems must be determined and corrected before proceeding.
- Do not install insulation in stud runs where heat-producing devices such as an unprotected chimney, a fireplace, etc. might cause severe overheating.
- Building assembly details such as balloon framing, fire blocking, pocket door connections, dry wall gaps or other leak points must be taken into consideration when blowing GreenFiber Insulation into a house.

## Application

There are two basic techniques (Two-Hole or Double-Blow Method and One-Hole Tube Fill Method) used to fill existing, enclosed sidewall cavities. These techniques can be performed from either the exterior or interior of a home.

## Required Equipment:

- Insulation blowing machine capable of at least 2.9 psi at the end of the hose
- Not all insulation blowing machines meet this requirement; Please check with GreenFiber Customer Service – 800-228-0024 – for verification.
- ¼-inch fiberglass rod
- Hose clamps

(continued at top)

(continued:)

- Utility knife
- Filter (such as sponge)
- Wood, plastic, cork or Styrofoam plugs
- Drill and a 2 to 3-inch hole saw / Forstner bit
- 50-100 ft. of 3-6 inch inside diameter ribbed hose
- 1 to 1½ -inch reducer nozzle
- 12 ft., 1 1/8 to 1 ¼-inch inside diameter tube
  - o Best practice: 1 1/8 to 1 ¼ - inch tube will match sturdiness of a thin wall irrigation hose
- Note: When connecting hoses, a gradual reduction from the 3-6 inch hose, to the 1 1/8 - 1 ¼ inch hose will yield the best results.

## Two-Hole or Double-Blow Method

The two-hole or double-blow method is the most frequently used procedure for installing loose-fill insulation in sidewalls of existing homes. This method allows air pressure to escape from the upper hole while filling the cavity from the lower hole.

## Instructions for Two-Hole or Double-Blow

1. Remove exterior siding to drill holes wherever possible to avoid potential damage/appearance defects to the exterior of the house.
2. Drill a hole between two studs approximately 2.5 to 3 feet up from the bottom plate. Drill a second hole approximately one foot below the top plate in the same stud run. On a multi-story home, repeat this process on each floor.
3. Drill holes approximately 2-inches in diameter through sheathing if siding is removed. A 2-inch diameter hole enables directional application.
4. Using a hose clamp, attach a 1-inch reducer nozzle to the insulation blowing machine hose.
5. Adjust air pressure to accommodate wall installation and nozzle size. This will ensure proper compacting of insulation and prevent settling in the cavity.
  - a. Air pressure adjustment will vary depending on machine type and condition. More air pressure is required for sidewall installation than attic installation. Contact the machine manufacturer for the correct settings.

(continued on next page)

6. Insert the nozzle into the bottom hole first and turn on the blowing machine. An increase in back pressure causes the blower to strain and alerts the installer that the cavity is filled and ready for compaction.
7. When material is no longer flowing through the hose, visually ensure the cavity is completely filled. Move the nozzle to the next hole in the stud cavity. Continue this process until each stud run in the wall is filled.
8. Fill the holes using wood, plastic, cork or Styrofoam plugs. Replace the siding if removed. If siding was not removed, use exterior-grade spackle to cover the plugs.

### One-Hole Tube Fill Method

The one-hole tube fill method is recommended in some state Weatherization Assistance Programs for the retrofit of sidewalls. When performing Weatherization Assistance Program work, follow the instructions below.

#### Instructions for One-Hole Tube Fill Method

1. Remove a section of exterior siding and drill a single 2 ½-inch diameter hole through the sheathing approximately one foot from the bottom plate of the wall.
2. Using a hose clamp, attach the 1 to 1½ - inch reducer nozzle to the insulation blowing machine hose.
3. Using a hose clamp, attach the 12 ft., 1 1/8 or 1 ¼ - inch inside diameter tube to the end of the reducer nozzle.
4. Using the utility knife, cut the end of tube on a diagonal to facilitate snaking behind wiring and plumbing.
5. Suggested beginning settings for Insulation blowing machine:
  - a. Material gate set to 25% of total opening.
  - b. Air setting at 60% of capacity.

NOTE: These settings are given as a starting point. Adjustment will be needed based on machine type and condition.

6. Insert cut end of the tube through the filter into the 2 ½-inch drilled hole and feed to within 6-inches of the top of the stud cavity. Note any fire stops or other obstructions. Drill additional holes as needed if obstructions are present.
7. Turn on insulation blowing machine (Hold tube in place 6-inches from top). As material begins to flow the cavity will fill bottom to top.
8. When you feel resistance from the tube, the cavity is full - DO NOT STOP BLOWING. You will now begin the Dense Pack Procedure. Dense Packing is required to achieve the minimum requirement of 3.5 pcf in wall cavities.
9. Dense Packing means you will begin compressing the material in the cavity and excess air will be forced out the entry hole. Move tube up and down 4 inches until material threatens to plug tube. Then retract the tube 8-10 inches.
10. Repeat Dense Packing Procedures until within 6 inches of the entry hole.
11. When within 6 inches of entry hole quickly redirect tube downward to dense pack bottom of cavity.
12. Repeat Dense Packing Procedures in bottom of cavity.
13. Retract tube to entry hole, jab forward 3 to 4 times to finish dense packing entry area.
14. Turn insulation blowing machine off. Keep tube in hole for 3 to 4 seconds before fully removing from cavity.

Contact your GreenFiber technical representative if you have questions regarding coverage, equipment or application at 800.228.0024.

US GreenFiber (USGF) does not provide architectural, inspection, engineering or building science services and disclaims any responsibility with respect thereto. USGF does not guarantee, warrant or attempt to determine whether a building structure, design or the use of material therein complies with any applicable codes, standards, guidelines or standards of workmanship. Adding insulation to any part of a home's envelope will cause changes in air, heat and moisture flow. The user must understand how the use of insulation will change the performance of a dwelling prior to installation. The user maintains the full and complete responsibility to comply with all codes, laws and regulations applicable to the safe and proper use, handling and installation of the product and should consult with an architect, engineer, building scientist, and/or a rater/energy specialist for all construction, design and performance related questions. The information contained herein is believed to be accurate as of the time of preparation. However, USGF makes no warranty concerning the accuracy of this information. USGF will not be liable for claims relating to the use of information contained herein, regardless of whether it is claimed that the information or recommendations are inaccurate, incomplete or incorrect.