



Detailed Installation Guide

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Preparation



The concrete floor and foundation should be relatively dry and free of large cracks, excessive moisture penetration or flooding problems prior to installing Barricade™ Subfloor panels. Barricade™ is not meant to be a replacement for good foundation maintenance. Any moisture issues including leaks, excessive moisture, mold/musty spots, foundation cracks, window leaks, exterior drainage or hydrostatic pressure issues, should be resolved prior to Barricade's installation to avoid potential contamination to the finished project and surrounding building materials.

Any dips or low spots in the concrete surface greater than 1/4" should be troweled level with a Portland cement compound or leveled with a self-leveling compound to ensure an accurate installation. Determine the number of Barricade™ panels and leveling kits needed to complete the room(s). To do this, calculate the total number of square feet of your floor (**length x width**). Divide the number by 3.3. This formula allows for a percentage of additional panels normally used as partial waste, while cutting around pipes and other obstacles. Please note: The actual panel dimensions are:

- **BARRICADE™ Subfloor Air Plus** - 3/4" x 23.25" x 23.25"
- **BARRICADE™ Insulated Subfloor** - 1" x 23.25" x 23.25"

Once you have determined the number of panels required, we recommend purchasing 1 package of leveling shims (24 shims/package) for every 60 panels.

Subfloor Panel Preparations



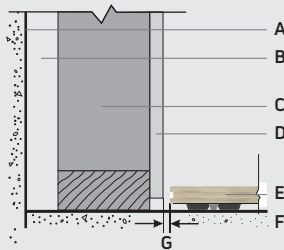
- Make as much space as you can spare in the area where you will be laying the BARRICADE™ panels. Remember, you'll need space to stack the panels, which should be away from where you begin laying the floor.
- Sweep or vacuum the entire surface to remove any debris that may interfere with the proper seating of the BARRICADE™ panels. Visually inspect the floor area for bumps or ridges that will need to be removed before you begin.
- Relative Humidity should be maintained between 40-60% where panels will be installed. Panels should be brought into the renovation area to acclimate for 24 hours prior to installation.

Installation Tools Needed



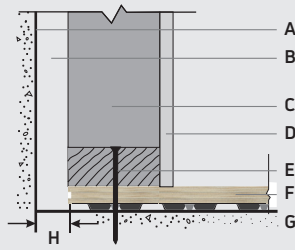
- A circular saw and/or jigsaw
- A hammer or rubber mallet
- A carpenter's square
- A tapping block and pull bar
- BARRICADE™ leveling kits (based on the formula 1 kit / 60 panels)
- A sufficient quantity of 1/4" flooring spacers against existing walls (**Figure 1**), or 1" spacers against foundations walls if framing on top of the subfloor (**Figure 2**) to create the proper expansion space between the panel edges and the walls, or other fixed surfaces.

FIGURE 1 - Finished Wall



- A** Concrete foundation wall
- B** 1" air space
- C** Existing perimeter insulated stud wall
- D** Drywall
- E** BARRICADE™ Panel
- F** Concrete Floor
- G** 1/4" Spacer

FIGURE 2 - Foundation Wall



- A** Concrete foundation wall
- B** 1" air space
- C** Existing perimeter insulated stud wall
- D** Drywall
- E** 1/4" x 3" concrete fastener through baseplate and subfloor (1 for every 4ft)
- F** BARRICADE™ Panel
- G** Concrete Floor
- H** 1" Spacer

- A dust mask or respirator for cutting panels outside
- A pair of safety glasses for eye protection
- BARRICADE™ is a floating subfloor. However, in some instances, we suggest that you fasten the panels to the concrete floor.
- We recommend that the panels have a 1/4" space away from all room obstacles, such as support posts or stairs, to allow for airflow and some expansion.
- For homes where the basement may have an existing subfloor or covering over the concrete surface that may trap, block or absorb moisture, we recommend that it be removed prior to installing the BARRICADE™ panels.
- Access to floor drains or clean-outs should be maintained and not restricted. Be sure to check with your local authority for building code recommendations before covering any basement floor drain or clean-out access. It is not a requirement to install a basement drain prior to installing a BARRICADE™ subfloor. If you install BARRICADE™ panels over a drain access, cut an access opening in the panel that rests over the drain. You can then cap off the drain hole with a ventilating decorative cover. There are many conditions which can contribute to excessive moisture in a basement - house location, soil conditions, poor exterior drainage, construction, lack of or failure of waterproofing methods, hydrostatic pressure etc. Maintenance, repair and understanding how to control these factors will help to limit and prevent leakages or flooding from occurring.

Setting Up The Layout



- First, choose the longest straight wall as your starting wall. Select one of the corners on this wall as the place to lay the first panel. Choose the corner of the room that will result in the least amount of cutting required for the entire room.
- Measure the distance between your beginning point and end of the wall where the first panel run will terminate. Trim the starting panel back to allow for at least a 3" panel section at the end of the first row.
- Check your starting corner for square-ness. If your starting corner is not at a 90° angle into the room, then the wall edge of your first row of panels will require cutting to ensure square-ness of the panel to the inside of the room.
- Begin in your selected 'start' corner of the room and lay the ¼" - 1" spacers depending on your perimeter wall application. Eventually you will have these spacers placed around the entire perimeter of the BARRICADE™ area.

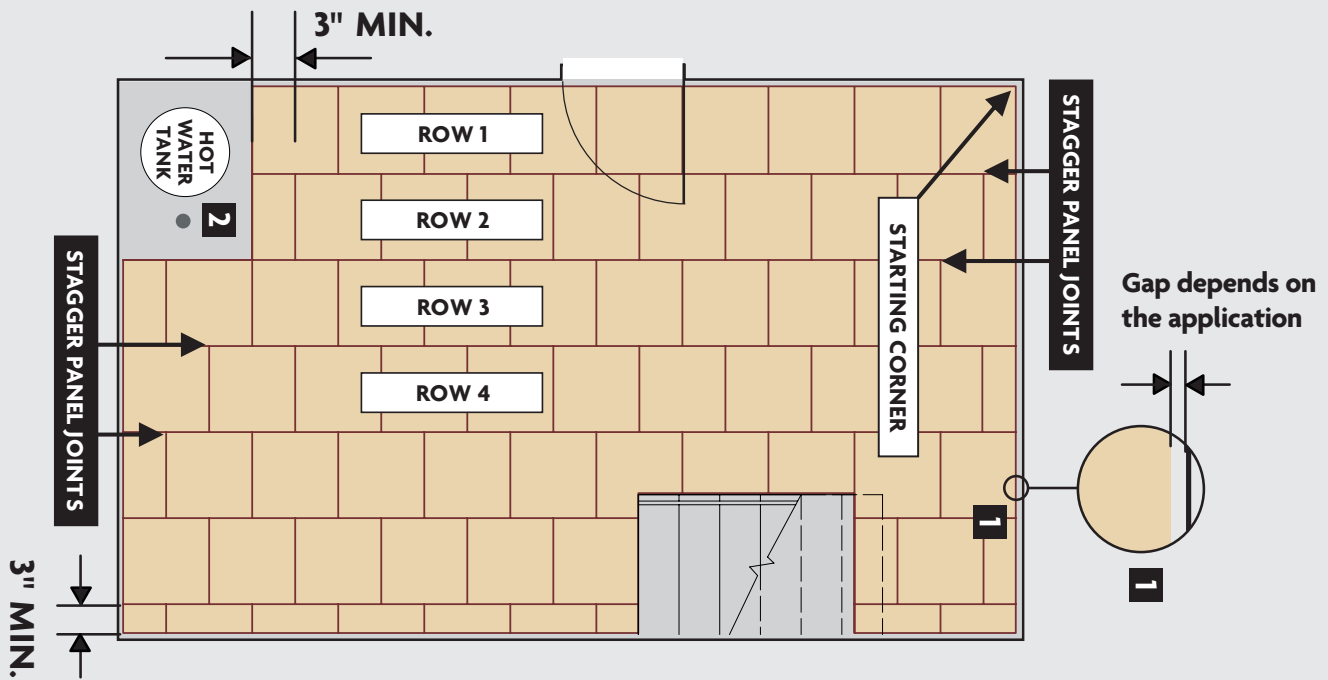
Installation



Please Note: We do not recommend the installation of a vapour barrier beneath our Subfloor panels as doing so could lead to trapped moisture.

- In your selected starting corner, lay the first panel with the tongue side flat against the spacers. (You may cut the tongues off against the wall) Slide the next panel into place by connecting the tongue side into the groove of the first panel. Use a tapping block with a hammer to make sure this second panel is snug to the first panel, and to the wall spacer. Repeat this panel placement the length of the wall.
- Once you reach the last panel in the row, chances are good that you'll have to cut the panel to fit. Measure to fit tight against the appropriate spacer. Cut the panel to size and press into place with the pull bar. Ensure the last panel is a minimum of 3" wide.
- Row #3 looks just like Row #1. Starting Row #3 with a full size panel will create the natural seam offset. Row #4 would be staggered again as in Row #2. **(See Figure 1)**

FIGURE 1



- The first three rows are the most critical to the success of a well formed subfloor. Take your time, and place down one row at a time installing tightly to prevent any seam separation.
- Continue to install the floor, checking for leveling and adjusting with BARRICADE™ leveling shims as necessary. Work from one side of the room to the other, one row at a time.
- When you reach the last row to complete your installation, chances are good that you'll have to cut the panel to fit. Measure for fit, keeping in mind the additional expansion space from the wall that is required. Cut the panel to size and press into place with the pull bar.
- When all of your panels are in place, if 1" spacers were used, remove all spacers. If ¼" spacers were used, you may want to remove the spacers from around the perimeter of the room after the finished flooring application.

The Leveling Kit



Our panels can handle a slope of up to 2" over 10'. Variances of up to 1/16" is within tolerance for our panels. No shimming would be required as our panels will settle and contour to this after about 10 days. For anything between 1/16" – 1/4", you would use our leveling shims. If there is a dip or bump greater than 1/4", either a self-leveling compound or grinder is recommended to rectify the issue. **Please note:** Our shims were not designed to level a floor, rather for individual panels that require stabilizing. Shim(s) should slide in freely, without the need to lift the panel, or friction from above. If there is friction, remove a layer (**Shims can be stacked to a maximum of 4 shims**) or if only one shim is being used, remove it altogether.

Making Interior Walls



- An interior stud wall can be set right on top of your new BARRICADE™ subfloor and is in fact, the preferred method of installation. Install your 2X4 frame directly on top of the subfloor, measuring for a "snug" fit between the subfloor and ceiling.
- Once the frame is in position, simply screw the bottom plates of the 2X4 frame to the BARRICADE™ panels, using 2" wood screws. To finish the anchoring process, we suggest fastening the bottom plate to the concrete floor using either 3" concrete nails or concrete fasteners.
- Only minimal fastening to the concrete is required. For example, for every 8' length of base plate, install only two concrete anchors. Note: If you are planning to use metal studs in place of wood, the base track for the studs should be affixed to the BARRICADE™ panels with 1/2" wood screws as a maximum. Metal stud base plates should be anchored in concrete every 2' when installing over BARRICADE™ panels.

Finish With Flooring



Carpet

To prevent panel uplift when stretching carpet, fasten BARRICADE™ panels to the concrete floor with flat head 1/4" x 1 3/4" (**1/4" x 2" when using our BARRICADE™ Insulated Panels**) concrete fasteners every other panel at perimeter edges and one in the panel in the center of the room. Use a 3/16" x 4 1/2" drill bit to bore the holes. Install tack strips on top of the BARRICADE™ panels around the perimeter of the room, to hold the carpet down. Install pad and carpet. Do not glue the underpad or carpet directly to the BARRICADE™ panels.

Laminate / Free Floating Engineered Hardwood / Luxury Vinyl Flooring

Install the floor manufacturer's approved underlayment for use over a wood subfloor and then proceed with the finished flooring on top of the BARRICADE™ panels. The installation of a continuous vapour barrier on top of BARRICADE™ is permitted as long as it is not sealed to the perimeter wall. Only remove the 1/4" wall spacers after the finished floor has been installed.

NOTE: Any subfloor must lay perfectly stable for the click mechanism of your flooring to function. A sound recommendation would be to have one person walk the floor. Step heavy or bounce, with another looking for vertical movement of panels. If there is noticeable movement, mark the areas in question with an X and insert another concrete fastener. Use flat head 1/4" x 1 3/4" concrete fasteners **(1/4" x 2" when using our BARRICADE™ Insulated Subfloor panels)** and a 3/16" x 4 1/2" drill bit to bore the holes.

Engineered Hardwood

Follow the wood manufacturer's guidelines as to what can be installed at or above grade and below grade. The National Wood Flooring Association defines below grade as any part of a concrete floor that is 4" or more below the soil level. Before installing glue-down or nail-down floors a 3/8" plywood underlayment should be fastened to BARRICADE™ using 3/4" 18 gauge narrow crown staples. When installing nail-down floors test a piece of the finished floor to make sure the fastener does not puncture the plastic membrane. Remove the 1/4" wall spacers after the wood flooring has been installed. **NOTE:** Do not glue engineered hardwood floors directly to BARRICADE™ panels.

Ceramic Tile

Fasten each BARRICADE™ panel with five, flat head and countersunk, concrete fasteners to the concrete floor to prevent movement or shifting of the finished ceramic tile floor. We recommend one in each of the four corners and one in the center of the panel. Use flat head 1/4" x 1 3/4" **(1/4" x 2" when using our BARRICADE™ Insulated Subfloor panels)** concrete fasteners and a 3/16" x 4 1/2" drill bit to bore the holes. Next install an approved tile underlayment over BARRICADE™ making sure you follow their installation guidelines for installing over a wood subfloor. **NOTE:** BARRICADE™ must lay perfectly stable. A sound recommendation would be to have one person walk the floor. Step heavy or bounce, with another looking for vertical movement of panels. If there is noticeable movement, mark the areas in question with an X and insert another concrete fastener. **Please note that we also do not recommend gluing underlayments or other wood flooring materials to BARRICADE™.**

Sheet Vinyl and Vinyl Tiles

A 1/4" plywood underlayment approved for use with sheet vinyl or adhesive-backed vinyl tiles should be fastened to the BARRICADE™ panels. We do not recommend lauan plywood as an underlayment. Use 5/8" flooring fasteners that do not penetrate the moisture barrier on the underside of the BARRICADE™ panels. Do not glue the plywood underlayment to BARRICADE™ panels. Do not glue adhesive-backed vinyl tiles directly to BARRICADE™ panels. Glue the vinyl floor to the plywood underlayment according to the vinyl manufacturer's installation instructions. Only remove the 1/4" wall spacers after the vinyl floor has been installed.

Height Transitions

Wood transition or reducing strips that are available in the floor and molding departments should be used to bridge floor height variances.

Exterior Door Transitions

Here are a few ideas for installing BARRICADE™ up to an existing exterior door area that, when combined with the finished flooring material, is higher than the door threshold:

- Install ceramic tile, in a small section large enough to allow for the door opening, as a transition up to BARRICADE™ panels and the finished floor.
- For wood exterior doors, trim the door and raise the door threshold to accommodate for the new floor height.

Ventilation

Minimize airborne wood dust by always cutting panels in a well-ventilated space. Promptly clean up any accumulations of wood dust and do not use blow-down or other practices which may generate high dust concentrations when cutting panels.

The success of any finished floor depends on the characteristics and the quality of the materials used and the nature of the installation. BARRICADE™ (**AGT Products Inc.**) does not extend any express or implied warranties to finished floors installed over its BARRICADE™ product.

Special Health Protection Information - Personal Protective Equipment: Wear goggles or safety glasses, work gloves and approved dust mask when cutting panels. Use an approved respirator in dusty or enclosed environments.

We're here to help. Call us toll-free at 1-855-872-3996 or Email Us help@barricadesubfloor.com