



panel products from patriot timber

RevolutionPly[®]

U.S. Patents 8,414,996 and 9,242,391

RevolutionPly[®] Installation Guide

Before you start your flooring installation, it is important to note the following points contained in this Installation Guide:

- All panels should be acclimated to the heated home environment at least 24-48 hours prior to use.
- All panels should be installed with the **RevolutionPly**[®] label facing down towards the sub-floor.
- When using a pneumatic fastener tool that incorporates an adjustable depth-drive control, test the depth with a few fasteners to make sure that it is not set too high causing the fasteners to “blow-through” the top plies of the **RevolutionPly**[®] panels. All fasteners should be slightly counter-sunk. THIS IS AN IMPORTANT STEP, AS FASTENER “BLOW-THROUGH” MAY CAUSE A FLOORING FAILURE.
- If the adjustable depth-drive control feature is not available, adjust the air pressure on the compressor to an appropriate level in order to avoid fastener “blow-through.” Test the depth with a few fasteners to make sure they do not “blow-through” the top plies of the **RevolutionPly**[®] panels. All fasteners should be slightly counter-sunk. THIS IS AN IMPORTANT STEP, AS FASTENER “BLOW-THROUGH” MAY CAUSE A FLOORING FAILURE.
- DO NOT staple the four corners of the panel and then randomly fasten within the body of the panel. Please follow the fastening instructions and diagrams contained in this installation guide.
- If you have any installation related questions, please contact Patriot Timber Products, Inc. at 336-299-7755.

RevolutionPly® & Materials Preparation

- Allow all materials used in your flooring installation to acclimate to the heated home environment, approximately 70°F, for 24 to 48 hours prior to use.
- Store all panels on their 8' edge (separately if possible) to allow equal air flow over the face and back of the material.
- Examine each piece of RevolutionPly® plywood underlayment using the **Flex & Look Test**.

Follow these steps:

1. Stand the panel vertically with its 4' edge on the floor and the panel face towards you (the RevolutionPly® plywood stickers are on the back of the panel).
2. Grip the top panel edge with one hand and firmly place the palm of your other hand against the face of the panel.
3. Pull the panel down approximately 4"-8" with your top hand while simultaneously pressing forward with the palm of your other hand approximately 4"-8" until a noticeable curve is in the panel. Hold this position during inspection.
4. With the panel in this flexed position, thoroughly inspect the entire panel surface for imperfections, which will look like "bubbles" or "creases". In the rare instance you find such an imperfection, do not use the panel. Set it aside and contact Patriot Timber Products immediately for a resolution.



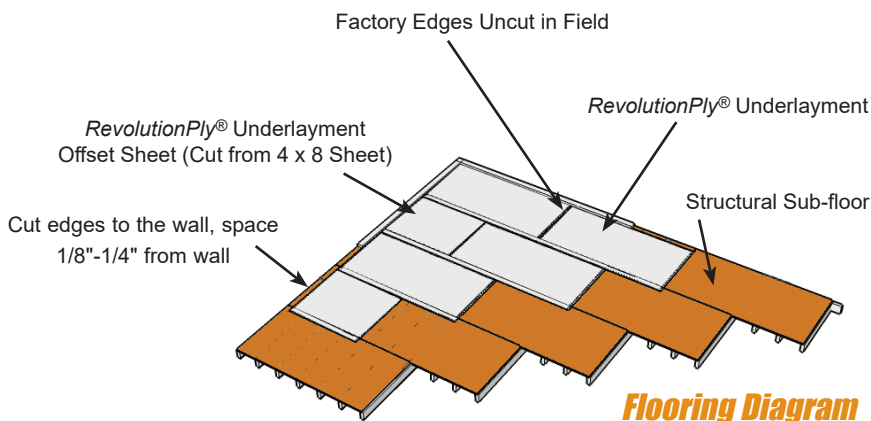
Flex and Look Test

Structural Sub-Floor Preparation

- Install RevolutionPly® plywood underlayment over a clean, dry, level, original sound structural sub-floor, or existing floor.
- Thoroughly scrape, sweep, and vacuum the entire surface and strip any wax from the existing vinyl.
- Do not use any adhesive beneath RevolutionPly® plywood underlayment.

Positioning RevolutionPly® Panels

1. Run RevolutionPly® plywood underlayment panels perpendicular to the floor joists.
2. Begin by laying out the floor in a corner of the room where you can get the greatest amount of coverage without having to cut the RevolutionPly® plywood underlayment panels.
3. Position RevolutionPly® plywood underlayment panels 1/8" to 1/4" from the walls to allow for expansion.
4. The panels should be cut so that the factory edges go together at the seams in the field of the floor. Hand cut exterior edges for installation next to the walls.
5. Stagger RevolutionPly® plywood underlayment panels to create a 2" minimum offset between the RevolutionPly® plywood underlayment panel and sub-floor seams.
6. There are two methods for installing the RevolutionPly® plywood underlayment. The first method, and our preference for all RevolutionPly® plywood underlayment installations, is to install the panels without an expansion joint and without a seam filler. We recommend you use this method for installation under vinyl, vinyl composite tile, luxury vinyl tile, carpet, engineered flooring, and wood floors. For a RevolutionPly® plywood underlayment installation without an expansion joint,



Flooring Diagram

lightly butt the panels together without applying any pressure so they barely touch at the joints.

The second method is to install the RevolutionPly® plywood underlayment with an expansion joint and using a seam filler. If you choose to install the RevolutionPly® plywood underlayment with a seam filler, leave a 5/64" gap, approximately the thickness of a nickel between each panel. Then fill the seams according to the seam filler manufacturers' instructions.

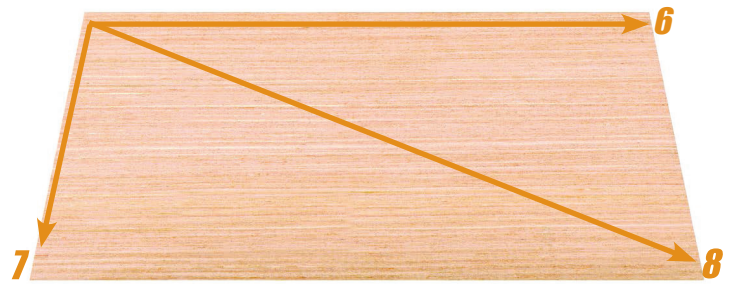
7. Cut and place *RevolutionPly*[®] plywood underlayment on the sub-floor without any fasteners or “dry fit” all panels first before beginning any fastening.
8. Plywood underlayment panels should be laid in an offset pattern as shown in the Flooring Diagram so that four corners never directly intersect.

Fastening *RevolutionPly*[®] Panels

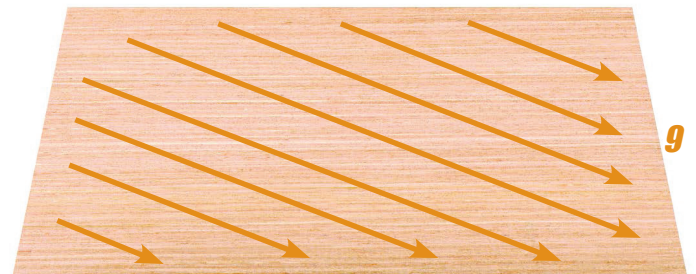
1. Do not use any adhesive on the sub-floor beneath *RevolutionPly*[®] plywood underlayment.
2. We recommend a pneumatic fastener tool that incorporates an adjustable depth-drive control to prevent fastener “blow-through” or “over-driving.” If this feature is not available, adjust the air pressure on the compressor to an appropriate level to avoid fastener “over-driving” or “blow-through.”
3. You can fasten the *RevolutionPly*[®] plywood underlayment by selecting one of the following:
 - galvanized coated chisel point staples with a 1/4” maximum crown
 - flathead wood screws treated with a moisture resistant coating (such as galvanized or zinc)

Do not use drywall screws. Do not select a fastener that is uncoated, cement or rosin coated, as they may rust and discolor your finished floor. The length of the selected fastener should be a minimum of 5/8”, but not so long that it protrudes through the bottom side of the sub-floor.

4. Stand on each panel during fastening to ensure full contact with the sub-floor. Any “crackling” or “popping” noises indicate debris is underneath the panel. Should this occur, stop the installation, remove and discard the panel, then scrape, sweep, and vacuum the sub-floor again until all debris is removed.
5. All fasteners should be slightly countersunk below the surface of the new underlayment.
6. Fasten the 8' edge first at 2" on center - 1/2" from edge – starting from the corner of the room. Leave an expansion joint of 1/8" to 1/4" between the panel and the edge of the walls. Stand on the panel to ensure flush contact with the structural sub-floor and do not overdrive the fasteners.
7. Return to the starting corner and fasten the 4' edge at 2" on center – 1/2" from the edge of the panel.
8. Return to the starting corner and fasten the diagonal at 4" on center to the opposing corner.
9. Return to starting corner and fasten the “field” of the panel every 4" on center working in a diagonal direction across the face of the *RevolutionPly*[®] panel.
10. Fasten the remaining 4' edge 2" on center – 1/2" from the edge of the panel.
11. Finish the sheet by fastening the remaining 8' edge 2" on center – 1/2" from the edge of the panel. Note that the same procedure is used as well for the offset sheet which would start the next row of underlayment.



Fastening Diagram 6, 7, 8



Fastening Diagram 9



Fastening Diagram 10, 11

Using Seam Filler with RevolutionPly® Plywood

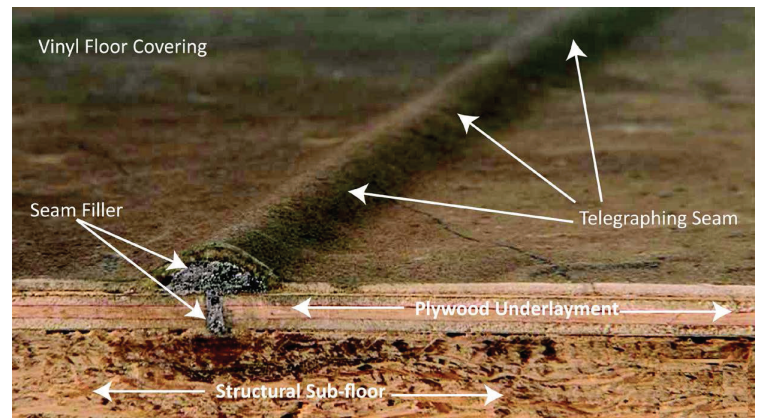
1. If you choose to install the *RevolutionPly*® plywood underlayment with an expansion joint you must use a seam filler.* Check with your flooring supplier/manufacturer to be certain your seam filler is acceptable.
2. Do not “floor-mix” seam fillers on top of the *RevolutionPly*® plywood underlayment panel face. Mix the seam filler separately in a bucket.
3. Once the panels are fastened, apply the seam filler and allow it to dry completely in accordance with the manufacturer’s instructions. Allow sufficient curing time to completely dry the seam filler.
4. Sand all joints with a belt or floor sander until level and smooth. Hand sanding is not sufficient.
5. Do not oversand or “cup” the joints. Some additional application, drying time, and sanding may be necessary to smooth high or low spots.
6. After sanding, the seam filler should fill the seams and be flush with the edges of the *RevolutionPly*® plywood underlayment panels. We do not accept “feathering” as a substitute for sanding the seam filler.
7. Thoroughly vacuum the entire area to remove all debris before installing the floor covering.

* Note: You may leave an expansion joint without seam filler when *RevolutionPly*® plywood underlayment is used under carpet, engineered floors, or wood floors.

Causes of Telegraphing Seams and Panel Blow-Through

In our 50 plus years of experience, the majority of underlayment flooring failures are due to telegraphing seams and fastener blow-through. Telegraphing seams and fastener blow-through are always the result of incorrect installation. They are not caused by panel failure. There are many factors that can cause telegraphing seams. The most common are:

- The use of too much seam filler
- Not allowing the seam filler to dry sufficiently
- Not sanding the seam filler smooth and even with the plywood underlayment
- Panels being butted too tightly together
- Panels not properly acclimated
- Too high moisture content in flooring environment
- Uneven sub-floors
- Placing the fasteners more than 1/2” from the edges of the panels
- Inconsistent fastener depth and blow-through along the edges of the panels



Fastener blow-through is caused by not properly adjusting the drive depth or air pressure in your staple or nail gun which can result in shooting the fastener completely through the underlayment. Nothing short of physical plywood failure such as a delamination will be warranted with regard to telegraphing seams.

Caution Regarding Point Overloading

Before moving or positioning any heavy object across the floor (such as a large appliance), place a minimum of 1/4" plywood on top of the completed floor to prevent point overloading.



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Installers and purchasers are solely responsible for evaluating job conditions, building and safety codes, necessary installation tools, hardware and finishing products, any manufacturer recommendations, and the end-use application to determine the suitability of *RevolutionPly*® panels.

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