

# RESOLVE 8.0 & 12.0

## Installation Instructions Vinyl Rigid Core WPC

Products Included	Approved Grade Levels	Approved Installation Methods
Vinyl WPC flooring with click, fold and squeeze locking system.	Above Grade. On Grade. Below Grade.	Floating. Indoor Use Only.

### CAUTION: ASBESTOS IN EXISTING FLOOR

**Titan Supply Group product does not contain asbestos.** Existing installed resilient flooring and asphaltic adhesive may contain **asbestos fillers or crystalline silica**. **Do not sand, dry sweep, dry scrape, drill, saw, bead-blast, or mechanically chip or pulverize existing resilient flooring, backing, lining felt, asphaltic “cutback” adhesive or other adhesive.** See “Recommended Work Practices for Removal of Resilient Floor Coverings” ([rfci.com](http://rfci.com)) for detailed information and instructions on removing all resilient covering structures.

### Owner/Installer Responsibility

The owner is advised to be at home during the installation for consultation/direction. The owner and installer should discuss installation and layout to maximize satisfaction. If this is not possible, consultation should be done prior to installation.

The owner/installer assumes all responsibility for product quality of completed installation.

**PERFORM PRE-INSTALL INSPECTION. FOR CLAIMS PURPOSES, YOU ARE ALLOWED TO OPEN UP TO 4 BOXES FOR PRODUCT INSPECTION. DO NOT OPEN ALL THE BOXES. OPENING ALL THE BOXES CONSTITUTES YOUR ACCEPTANCE OF THE PRODUCT. INSPECT ALL THE PLANKS IN THESE 4 BOXES CAREFULLY. EXAMINE FLOORING FOR COLOR, FINISH AND QUALITY. IF YOU DISCOVER THAT PRODUCTS ARE DEFECTIVE, OR IF MATERIAL IS QUESTIONABLE, YOU SHOULD CONTACT THE RETAILER. IF YOU ARE SATISFIED, PROCEED WITH INSTALLATION.**

Flooring to be installed in one large area should be purchased at the same time. Product purchased at a later time than the first purchase may vary beyond your expectations.

This product is manufactured according to strict quality standards. In the event that defects are discovered in the field, the industry standards permit a defect tolerance not to exceed 5%. Order an additional 5% (10% extra for diagonal installations) for cutting wastage and plank replacement when the floor is in service.

During installation, inspect the planks continuously. Defects that can be seen from a standing position should be cut off or held out.

Installing defective planks implies acceptance.

### If You Need More Information

To assure the warranty is not inadvertently voided, before proceeding with any activity that is not covered in this manual, please contact our Technical Support Department.

### Acclimation and In-service Conditions

Acclimation of the WPC planks is required 48 hours before installation. Acclimation temperature range is 60°F-85°F and relative humidity (RH) of 40%-60%. Storage condition range is 50° - 95°F. However, the flooring must be installed in the same conditions as the in-service conditions, 60°F-85°F. Boxes should remain unopened until the planks are ready to be installed. Store unopened boxes flat and stacked on top of one another and not be allowed to bend. In-service conditions should be maintained during and after the installation. Three season rooms and cottages which are not continuously maintained to have temperature conditions within the range from 55°F (12.8°C) to 95°F (35°C). It is recommended that you record the installation condition below.

Date: \_\_\_\_\_  
 Relative Humidity (%): \_\_\_\_\_  
 Temperature (°F): \_\_\_\_\_  
 Subfloor Type: \_\_\_\_\_  
 Subfloor Avg. Moisture Content (%): \_\_\_\_\_  
 Temperature adjustment period: \_\_\_\_\_

### Job Site Condition

Prior to installation, the installer must ensure that at the time of installation, the job site conditions including subfloor/substrate, ambient temperature and relative humidity, and all impacting variables will not negatively affect the floor. Titan Supply Group will decline responsibility for damages associated with improper installation or poor site conditions.

## **Storage and Conditions**

Do not store flooring in uncontrolled environmental conditions. For example, garages and exterior patios are not acceptable areas to store flooring. Handle and unload flooring with care and store within the environmentally controlled site in which it is expected to perform. Flooring stored on concrete slab should be elevated at least four inches to allow air circulation under cartons.

## **Existing Home**

Existing home should have a consistent room temperature of 60°F-85°F and relative humidity (RH) of 40%-60%. Continual extreme deviation from this condition will affect the dimensions of flooring.

## **New Construction or Remodel**

All work involving water, such as pouring basement concrete floors, drywall and plasterwork, plumbing, etc. must be completed well in advance of the floor delivery. Ensure that the building is enclosed. Where building codes allow, permanent heating and/or air conditioning systems should be operating at least five days preceding installation to promote proper acclimation and should be maintained during and after installation. If it is not possible for the permanent heating and/or air conditioning system to be operating before, during and after installation, a temporary heating and/or dehumidification system that simulate normal living (occupied) conditions can enable the installation to proceed until the permanent heating and/or air conditioning system is fully operational.

Your job site should have a consistent in-service temperature range is 60°F-85°F and relative humidity (RH) of 40%-60% which should be maintained continuously thereafter.

## **Basements and Crawl Spaces - A 6 mil polyethylene moisture barrier or vapor retarder is required on ALL concrete substrates.**

Concrete slab or ground must be dry. The ground in the crawl spaces must be completely covered using 8 mil black polyethylene. Crawl space clearance between the earth and underside of joists should be no less than 18 inches and the perimeter vent area should be equal to 1.5% of the total square footage of the crawl space or as mandated by code.

## **Concrete Subfloor Requirements - A 6 mil polyethylene moisture barrier or vapor retarder is required on ALL concrete substrates.**

It must have minimum rated strength of 3000 psi.

pH value between 7 to 9.

It must be level to within 1/8" in a 6 ft. radius or 3/16" in a 10 ft. radius; no bumps or low spots. High spots can be removed by grinding; Gaps greater than 5/32" wide or depression deeper than 1/16" should be filled with patching compound formulated for use in floor installation.

It must be clean; no construction debris, soil, mud and any other objects on or adhering to the floor; if necessary, scrape and sweep away before the installation; no protrusions of nails, debris, metals should remain.

New concrete slab must cure for at least 60 days. It must have a minimum 10 mil polyethylene sheet between the ground and the concrete.

It must meet concrete moisture requirement below.

It must be free from moisture related conditions which can damage the installed flooring.

## **Concrete Moisture - A 6 mil polyethylene moisture barrier or vapor retarder is required on ALL concrete substrates.**

All concrete subfloors should be tested for moisture content and the results documented. Visual checks are not reliable. Perform tests at locations around exterior doorways, near walls containing plumbing, near foundation walls and in the center of the room. Minimum sample size is 3 samples per 1000 square feet of area and one test for every additional 1000 square feet thereafter.

Its moisture content should meet one of the following criteria below:

- 5% when tested using Tramex Concrete Moisture Encounter
- Less than 5 pounds per 1000 square feet per 24 hours when using Calcium Chloride test (ASTM F 1869)
- 85% when using Relative Humidity Testing (ASTM F-2170).

Please note: Concrete moisture content may be acceptable the time of the test. These tests do not guarantee a perpetual "dry" concrete slab. The concrete slab moisture content can vary at other times of the year. We are not responsible for moisture related damage to installed flooring.

## **Wood Subfloor Requirements**

It must be clean; no presence of construction debris, soil, mud and any other objects on or adhering to the floor; no protrusions of nails, debris, metals should remain. If necessary, scrape and sweep the subfloor before the installation.

It must be structurally sound and stable; no movements or squeaks; no loose panels or loose nails; no signs of ply de-lamination or other damages. Repair all shortcomings before installation.

It must be flat; no visible bumps or low spots; the subfloor should be flat to within 1/8" in 6 feet radius or 3/16" in 10 feet.

It must be dry.

## **Plywood or Oriented Strand Board (OSB) Specifications**

On truss/joist spacing of 16" (406mm) O/C or less, the industry standard for single-panel subflooring is minimum 5/8" (19/32", 15.1 mm) CD Exposure 1 plywood subfloor panels (CD Exposure 1) or 23/32" OSB Exposure 1 subfloor panels, 4' x 8' sheets. Expansion gap between panels should be 1/8" (3 mm). When subfloor panels spacing is inadequate, cut in the required spacing with a circular saw if the panels are not tongued and grooved. Do not cut in expansion space on joined tongue and groove of panels.

## **Particle Board or Fiber Board**

Only for floating installation.

## Existing Floors

Ensure the existing floor is stable, sound and flat. Cracks and openings must be filled with fillers suitable for the existing flooring. Acceptable floor coverings include: solid hardwood, linoleum, terrazzo, ceramic tile. **Large grout joints should be leveled so they are flush with the flooring surface.**

Unacceptable floor coverings include: carpet, needle punch felt, edge glued linoleum and “moisture absorbing flooring.”

## Radiant Heated Subfloor

This product can be installed over radiant heated subfloor with embedded heating elements. Heating system elements must be separated from the flooring by at least ½ inch distance. Heating system should be set at 70° F and run for 48 hours prior to and during the entire installation. The heating system should be run 48 hours after installation, it then can be gradually increased over the course of 24 hours, until normal operating temperature is reached. Floor temperature should not exceed 85° F. Do not make abrupt changes in radiant heating temperatures.

## Moisture Barrier and Moisture Retarder

*Concrete Subfloor:* For floating installation only, **a 6 mil polyethylene film or other means with equivalent permeability is REQUIRED.**

*Wood Subfloor:* Not required.

## Underlayment

**DO NOT install this product over an additional foam underlayment or cushion as this may cause excessive deflection and movement in the floor and damage the locking system. This will void the product's warranty.**

## Expansion Gap

Maintain an expansion gap of 5/16” – 3/8” around the perimeter of the floor and around vertical objects. **Undercut all door jambs.**

Do not place permanently mounted structures such as kitchen counter/cabinet/kitchen islands on the installed floor.

**Transition Molding/Expansion Joint - Install wall trim lightly over the floor surface. Drive fasteners into the wall and NOT into the floor.**

**When installing transitions or moldings, do not interfere with the free movement of the flooring.**

Maximum continuous installation without transition molding is 65 lineal feet. The limit can be extended to 85 lineal feet providing the expansion gap around the perimeter and other vertical obstruction is increased to ½” wide.

Note: Floor areas interrupted by wall openings greater than 5 ft. wide or interrupted by wall sections extending out of the wall, or floor areas which are not rectangular may experience buckling or gapping if there is excessive floor expansion, shrinkage or movements. It is recommended that transition molding to be installed in such areas.

## Wet Areas

This product can be installed in kitchens, mud rooms, powder rooms, bathrooms and laundry rooms. To prevent mold or mildew growth, seal the expansion gaps using waterproof silicone sealant. **DO NOT** use sealant that will harden after curing.

Do not install in saunas, swimming pool areas and other similar extremely hot, cold or wet areas.

## Tools and Materials

### Basics:

Power saw with no-melt plastic cutting blades, utility knife, chalk line, chalk, pencil, T-square, tape measure, spacers, broom, hand saw, or jamb saw, eye protection, work gloves.

It is possible to cut the plank by scoring it with a sharp knife, then snap it in two. Practice this technique before you use it.

### Safety and Health Precautions

Power tools can be dangerous. Operate in strict accordance to manufacturer's operating instructions and safety precautions. Unsafe and improper use can cause serious injuries.

Avoid inhalation and exposures to cutting dust by use of mechanical means and by wearing personal protective equipment.

Wear appropriate personal protective equipment (PPE) which include NIOSH or OSHA approve dust masks, safety goggle and work gloves.

## Helpful Pointers

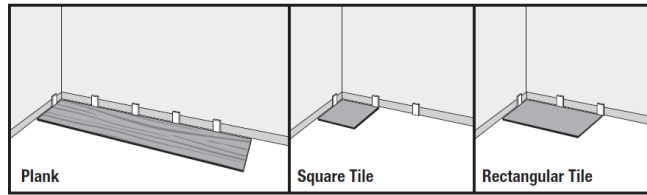
### General Tips

- Make sure your work area is well lit. Good visibility ensures that color is consistent and that visually defective planks are detected and removed.
- Preferred minimum length of the first and last plank is 12”. The remainder of the last plank can be used as a starter board on the following rows.
- Using a shorter piece at undercut door jambs will help when fitting flooring in place. Remove upper part of the tongue and use glue when joining ends.

### Cutting the Last Row to Width

- Most often the entire length of the last row will need to be cut so that it is narrow enough to fit the remaining space.
- Measure the distance between the floor face edge (exclude the tongue) to the wall. Subtract the width of expansion gap (5/16” – 3/8”) from this measurement for expansion gap. Draw a line. Cut through the line. Discard the excess piece. Proceed with installation. Another option is to follow procedure in Step 1 below.

Procedures and illustrations apply to plank, square tile and rectangular tile.

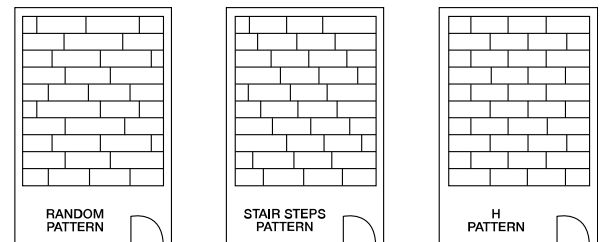


### Pre-install Activities

- Subfloors should be in clean condition.
- Remove existing base, shoe molding or threshold carefully. They can be used to cover the expansion gap left around the edges of the room. **DO NOT** reinstall tight to the surface of the flooring.
- Understand the parts of the locking mechanism of the flooring plank. The tongue is the thinner extension coming out of the side of the planks. The groove is the wider extension coming out of the other side of the floor plank. The ends do not have tongue and groove. There is an upper drop-lock end on one side and a lower-drop lock end on the other side. Short ends are locked by pressing down on the overlapping ends or tapping down with non-metallic hammer head.
- Ensure that the width of first and last row is not less than 2 inches wide. Measure the distance of room in the direction of the width of the plank. Divide by the width of the plank and express it in decimals. Multiply the decimal portion by the width of the plank, the result is the width of the last plank. This is the width of the last plank. If it is less than 2 inches, modify the width of the first plank. Determine the width of the first and last row by adding the calculated width of the last plank to the width of the whole plank. Divide this number by 2. Subtract expansion gap from the result. The result is the width of the first and last row.
- Rack up planks from several boxes.
- Ensure that end joints are staggered at least **8"-10"** between the rows.
- Inspect product for defects. If material is questionable, contact the retailer immediately. Do not proceed with installation.
- If the first row of floor panels had already been trimmed in width to meet minimum requirement, there is no need to trim it again.

### Racking Pattern

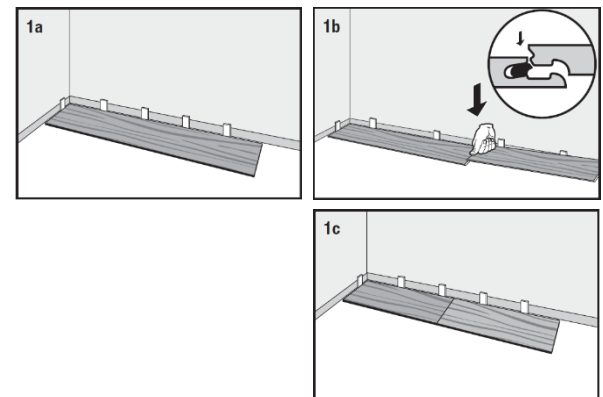
- There are several options, but the most common one is the random pattern.
- It is important to ensure there is a minimum of **8"-10"** inch joint stagger between the rows.
- Lack of sufficient stagger joint length may compromise the stability of the whole flooring installation.



### Procedure

#### Step 1

- Install the product from left to right, across the room.
- Place the first floor plank with the locking groove facing the room.
- Ensure there is expansion gaps between floor and the wall; and all vertical fixtures during installation.
- Place the left short side tongue of the next floor plank over the right short side of the previous plank.
- Make sure the edges are perfectly lined up and square. Notice that the short sides have an easy to install tongue and groove. It does not require angle insertion of tongue into groove. See 1b.
- You lock the joints by pushing down on the joint beginning from one end and gradually move across to the other end. The planks surfaces should be flat to each other.
- Continue with the next floor panels in the same way.

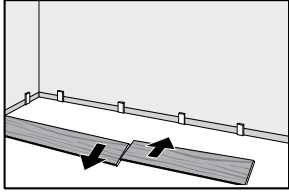


**Attention.**  
 Disassembling the planks at the short sides.

Place the joint planks on flat surface, then slide the planks in opposite direction from each other. See Figure 1.

Figure 1.

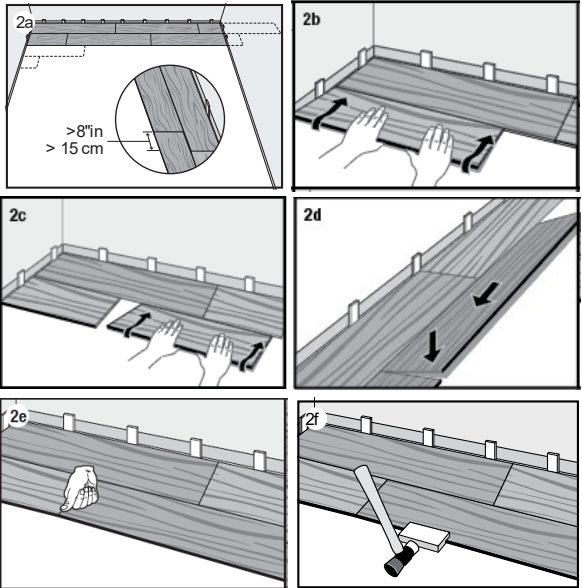
Do not lift unhinged the planks in the direction of the length of the plank. This will damage the locking mechanism.



*Figure 1*

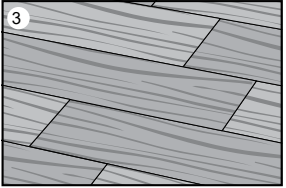
**Step 2**

- If you have a cut piece from the previous row and it is longer than 12 inches long, you can use this piece to start the next row. Plan it so that you will have at least 8"-10" inches short joints stagger between the rows. See 2a.
- Begin installing the first plank in the second row. Use an angling technique, insert the tongue into the groove of the previous row, push gently, then lay the plank flat to lock the long edges together. Use tapping block if you see gap. See 2b and 2f.
- Insert the tongue of the next plank into the groove about a few inches away from the previous plank. Slide the plank toward the first plank until the tongue and groove line up with each other. See 2c.
- Fold down the plank. Lay the plank flat ensuring there is no gap on the long edge joints. See 2d
- Lock the planks together by hand. Press down on one end of the short joint and work toward the other end. You should sense or hear the locking insert snap into the space in between the planks short edges. See 2e.
- If the long side joints are not locked properly, the plank will not lay completely flat on the subfloor and a gap may appear. To solve this problem, use a tapping block to ensure the long side locked together securely. Make sure you follow tapping block manufacturer instruction to avoid damaging the planks edges. See 2f.
- Continue in the same way with the rest of the subsequent rows.



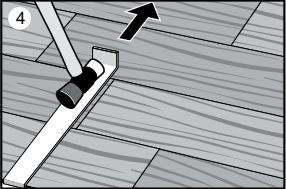
**Step 3**

- Continue in the same way until all the rows are installed, except the last row.
- Ensure staggering the short end joints between rows at a minimum 8"-10" inches.
- Making sure there is expansion gaps between the walls and flooring parameters. Use spacers to maintain consistent expansion gaps as directed in Step 2.



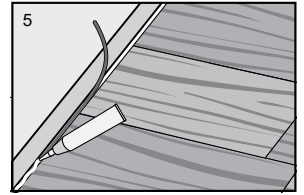
**Step 4**

- When you come to the last row, or tight spaces, you will need to use the pull bar to to ensure the joints are securely locked in place.



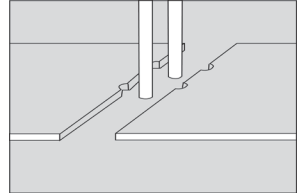
**Step 5**

- In wet areas, seal the perimeter of the flooring.
- Fill the expansion gap with compressable PE foam backer rod, then use 100% silicone caulk to seal the gap. **DO NOT** use sealant that will harden after cured.



#### Expansion gaps around pipes.

- Measure the diameter of the pipes and mark the position on the floorboard. There should be a 5/16 to 3/8 inch expansion gaps between the floor panel and the pipe or other vertical structures.
- Cut out the holes.
- Saw the board widthwise through the holes.



#### Door frames have to be undercut and should **NOT** be installed on top of the finished floor.

- Use a floor panel as a guide as to how much to saw.
  - Put the floor panel faced down as a guide.
  - Saw off the bottom of the door frame to allow the floor panel to slide under it
- 
- Avoid exposure to direct sunlight for prolonged periods, doing so may result in discoloration. During peak sunlight hours, the use of drapes or blinds is recommended. Excess temperature due to direct sunlight can result in thermal expansion and UV fading.



**Warranty**

This flooring product comes with a Titan Supply Group Limited Wear Warranty. The warranty applies to original purchaser of the flooring. It warrants the original purchaser that the finish surface will not wear through for duration of the stated warranty from the date of purchase.

**WARRANTY REGISTRATION**

UPON RECEIPT OF THIS REGISTRATION FORM AND COPY OF RECEIPT, WE WILL SEND YOU A WRITTEN WARRANTY DOCUMENT. SEND or EMAIL ONE COMPLETED FORM ALONG WITH A COPY OF PROOF OF PURCHASE TO:

TITAN SUPPLY GROUP, INC  
WARRANTY REGISTRATION  
10340 SW NIMBUS AVE SUITE N-B  
PORTLAND, OR 97223

Customer Name	
Customer Address	
City, State, ZIP Code	
Phone/E-mail	
Product Model Number	
Product Description	
Date Purchase	
Retailer Name	
Retailer Address	
City, State, ZIP Code	
Installer	