



INSTALLATION

INSTRUCTIONS

PETROUS



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Cobalt Surfaces Petrous Rigid Core vinyl plank (Petrus) is a premium rigid core product manufactured with **i4F DROP-LOCK technology** - one of the industry's most advanced locking systems - and includes an attached pad for added acoustic performance.

Planks are 7" x 48" x 4.5mm with 12mil wearlayer OR 7" x 48" x 5.0mm with 20 mil wearlayer.

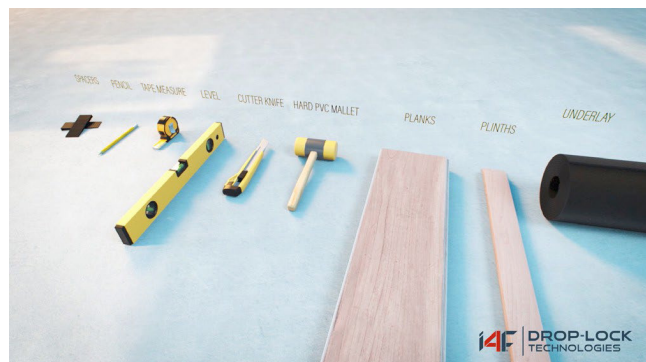
Petrus is manufactured to meet the performance requirements of the industry standard, *ASTM F3261 Standard Specification for Resilient Flooring in Modular Format with Rigid Polymeric Core*, and these instructions are also based on industry standards. Please read all the instructions before you begin the installation.

GENERAL REQUIREMENTS:

- Petrous is intended to be installed as a floating floor in interior, climate-controlled locations, over dry, clean, structurally sound substrates. Do not glue down!
- Petrous is not recommended for spaces with excessive rolling traffic.
- Expansion gaps must be allowed between Petrous and ALL walls, adjacent floor coverings, and any stationary objects.
- In large areas, expansion joints must be allowed within the floor.
- Do not install cabinets, millwork, fixtures or any heavy objects directly over Petrous; install the flooring after such fixtures are in place.
- Do not fasten anything to or through the planks.
- Please see page 4 for complete details on allowing for expansion.
- Although Petrous does not require acclimation to job site conditions, the area where Petrous will be installed must be permanently climate controlled 48 hours before, during and continuously after installation with an ambient temperature of 55°F - 85°F. The permanent HVAC system must be operational; portable heaters are not recommended as they may not heat the room and subfloor sufficiently and Kerosene heaters must never be used.

INSTALLATION CHECKLIST:

Tools needed: spacers, pencil, tape measure, level, knife, hard PVC mallet.



IMPORTANT NOTICE: When installing Petrous colors Vapor, Wicker and Wren, please refer to page 5 for installation instructions.

Petrus is sold in full cartons, 28.675 square feet each. Calculate the square footage of the project and plan an extra 10% of flooring for cutting waste and attic stock.

- Prior to installation, inspect material in daylight for proper color, thickness and size, and check for visible



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defects or damage. No claims for visible defects, damage or wrong size/color will be accepted after installation. If there are concerns regarding defects, shade, sheen or texture variation, do not install material and consult a sales representative or manufacturer's technical staff.

- If the subfloor, substrate and site conditions do not comply with the specifications described in this document, do not begin the installation.
- Flooring products can be damaged by rough handling before installation. Store, transport and handle the flooring in a manner to prevent damage. Store cartons flat, one on top of the other, never on edge

SUBSTRATE REQUIREMENTS:

- The substrate to receive new floor covering must be dry, clean, smooth structurally sound, and flat to within the equivalent of 3/16" in 10 feet and within the equivalent of 1/32" in 12 in.
- Substrates must be free of excessive moisture or alkaline salts. Remove dirt, adhesive residue, paint, varnish, wax, oils, solvents, or any foreign matter and contaminants.
- Check for any high or low spots in the substrate and if they exist, grind down high spots or fill low spots with patching compound.
- Do not use products containing petroleum, solvents or citrus oils to prepare substrates as they can cause staining and expansion of the new flooring.
- Although Petrous is waterproof, it is not intended to be used as a moisture barrier. Do not install over concrete substrates that are not dry, as trapped moisture beneath the floor covering could cause mold or bacterial growth. As per ASTM F710*, *"All concrete slabs shall be tested for moisture, regardless of age or grade level"* This product is not to be installed in areas that have a risk of flooding.

RADIANT HEAT:

- Petrous can be installed over 1/2" embedded radiant heat systems providing that the maximum temperature of the surface does not exceed 85°F under any condition of use. Use of an in-floor temperature sensor is recommended to avoid overheating. The heating system must have a minimum of 1/2" separation from the floor covering.
- Warning: Electric heating mats that are not embedded into the subfloor must not be used beneath Petrous. Using electric heating applied directly beneath Petrous could void the warranty.
- Before installing over newly constructed radiant heat systems, operate the system at maximum capacity to force any residual moisture from the cementitious topping of the radiant heat system. The maximum moisture content of the screed is 1.5% (CM method). Maximum moisture levels per ASTM F 1869*(Calcium Chloride test) is 5 lb/1000 square feet/24 hours.
- Turn radiant heat system off for 24 hours before, during and 24 hours after installation.

WOOD SUBFLOORS:

- As per ASTM F 1482, Wood subfloors over crawl spaces *"shall be suspended at least 18 inches above the ground, with adequate cross ventilation. Use of a vapor barrier on the ground surface, using overlapping widths and lengths to reduce high humidity from ground moisture into the crawlspace below the wood subfloor is recommended..."*
- Before installing Petrous over an existing solid or engineered hardwood floor, repair any loose boards or squeaks; Nail or screw every 6" along joists. Over an existing plank hardwood floor, install Petrous planks perpendicular (at a right angle) to the direction of the existing plank floor
- All other wood subfloors - Plywood, OSB, particleboard, chipboard, wafer board, etc. must be structurally sound and must be installed following their manufacturer's recommendations.



CONCRETE SUBFLOORS:

Please refer to the industry standard, *ASTM F710 Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring*, which is quoted here in *italics**

- *The surface of concrete floors shall be dry, clean, and structurally sound. New concrete slabs shall properly cured and dried or treated before the installation of resilient flooring. Drying time before slabs are ready for moisture testing will vary, depending on atmospheric conditions and mix design.*
- *Floors containing lightweight aggregate, or excess water, and those which are allowed to dry only from one side, such as concrete over a moisture vapor retarder or concrete on metal deck construction, may need a much longer drying time and should not be covered with resilient flooring, unless the moisture vapor emission rate or the percentage of an internal relative humidity meets the manufacturer's installation specifications.*
- *Surface cracks, grooves, depressions, control, joints, or other non-moving joints, and other irregularities shall be filled or smooth with latex patching or underlayment compound...that shall be moisture, mildew, and alkali resistant.*
- *Joints such as expansion joints, isolation, joints, or other moving joints shall not be filled with patching compound or covered with resilient flooring. Allow an expansion space in the finished Petrous floor, and cover with an appropriate T- molding.*
- *All concrete slabs shall be tested for moisture, regardless of age or grade level. Perform either ASTM F2170* In-Situ Relative Humidity (RH) test or ASTM F1869* Calcium Chloride Moisture Test. Perform pH test per ASTM F3441, Standard Guide for Measurement of pH Involving Resilient Flooring Installations*.*
- Per ASTM F1869, Maximum MVER (Moisture Vapor Emission Rate) is 5 lb/ 1,000 sq. ft./ 24 hours. Per ASTM F2170, Relative Humidity not to exceed 85%. If results are higher than referenced, a minimum 6mil polyethylene plastic moisture barrier sheet must be applied to the surface of the concrete slab, overlapping and taping the seams.
- The Limited Warranty does not cover damage from mold or from flooding, leaking plumbing or appliances, water entering through doorways, or failure due to hydrostatic pressure or moisture vapor emission.

GYPSUM OR LIGHTWEIGHT SUBSTRATES:

- Gypsum substrates must be mixed, placed, allowed to dry, and primed according to the product manufacturer's guidelines, in accordance with ASTM F4129* or ASTM F2471*, respectively. Test for moisture using the manufacturers recommended method.
- Gypsum substrates must have a compressive strength of 2000 psi when installed over a wood subfloor or 3000 psi when installed over a concrete subfloor.

EXISTING FLOOR COVERINGS:

- Petrous can be installed over most existing hard surface floor coverings, provided that the existing floor surface is a well-bonded single layer, and is clean, flat, dry, and structurally sound. Failures of the existing floor covering can affect the flatness of the finished Petrous floor and would not be considered a manufacturing defect under warranty.
- Existing resilient floors must not be heavily cushioned. Soft substrates will affect the indentation resistance of Petrous, and may lead to damage of the locking mechanism because of deflection.
- Plywood installed directly over concrete or installed over a sleeper system on a concrete subfloor, may not be a suitable substrate for Petrous, as moisture vapor emissions from the concrete could cause the plywood to swell or buckle, which would affect the flatness of the finished floor covering.
- When removing existing floor coverings, be sure to remove or any adhesive residue using mechanical means



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or isolate the adhesive layer. Adhesive residue left beneath a floating floor could affect the floor covering's ability to "float" (expand and contract). Never use solvents or citrus adhesive removers to remove old adhesive residue. Solvent residue left in and on the subfloor may affect the new floor covering.

Warning - do not sand, dry, sweep, dry, scrape, drill, saw, beat, blast, or mechanically chip, pulverize, existing resilient flooring, backing, lining, paint, asphalt cut back adhesives, or other adhesives. These products may contain asbestos fibers or crystalline silica. Avoid creating dust. Inhalation of such dust is a cancer and respiratory tract hazard. Smoking by individuals exposed to asbestos fibers greatly increases the risk of serious bodily harm. Unless positively certain that the product is a non-asbestos containing material, presume that it contains asbestos. Regulations may require that the material be tested to determine asbestos content. The Resilient Floor Covering Institute's (RFCI) Recommended Work practices for Removal of Resilient Floor Coverings should be consulted for instructions addressed to the task of removing all resilient floor covering structures.

Warning - certain paints may contain lead. Exposure to excessive amounts of lead dust presents a health hazard. Refer to applicable, federal, state, and local laws and guidelines for hazard, identification and abatement of lead-based paint published by the department of housing and urban development regarding appropriate methods for identifying lead-based paint and removing such paint and any licensing, certification, and training requirements for persons report performing lead abatement work.

DO NOT INSTALL OVER:

- Sound control underlayment. (Underlayment is not recommended or required; Petrous is manufactured with attached acoustic underlayment.)
- Any type of carpet.
- Existing cushion-backed resilient flooring.
- Floating floors of any type
- "Loose lay" or perimeter adhered flooring.

EXPANSION:

- When installing Petrous, leave an expansion gap between the edge of the last plank and ALL walls, adjacent floor coverings, stairs, pipes and fixtures such as cabinetry, millwork, and any stationary object. These gaps will be covered with trim moldings after the floor is installed.
 - For areas Up to 50' in length, allow 1/4" (6mm) expansion gap.
 - For areas 50' - 80' in length, allow 5/8" (16mm) expansion gap.
 - For areas exceeding 80 feet in any direction, and/or areas exceeding 6400 square feet, a 5/8" (16mm) expansion joint must be allowed within the floor. To cover these spaces, use "T-moldings" or another suitable molding that covers the expansion joint but allows Petrous to expand and contract.
- Do not install cabinets, millwork, fixtures or any heavy objects directly over Petrous; install the flooring after such fixtures are in place.
- Do not fasten anything to or through the planks.
- Do not adhere to the substrate.
- Remove baseboard, quarter-round moldings, wall base, appliances and furniture from room. For best results, door trim must be under-cut to allow flooring to move freely without being pinched.
- After preparation work, sweep and vacuum the entire work area to remove all dust and debris.



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VAPOR P##-412



WICKER P##-408



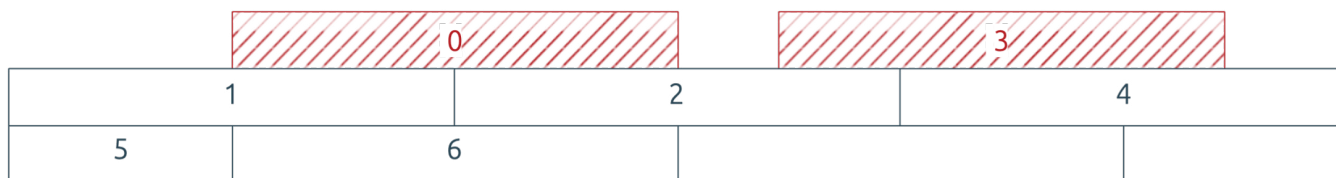
WREN P##-414

LAYOUT GUIDELINES FOR OF PETROUS COLORS VAPOR, WICKER AND WREN:

- Each carton will contain planks with high color variation (light streaks along the sides) and a small number of planks with a solid color (no light streaking on the sides).
- To achieve the linear look shown in the images above, install the solid color planks in one row with the “high variation” planks (light color streaking along the sides) in adjacent rows.
- Alternating the rows in this way will produce the desired linear look as shown.

INSTALLATION:

- Working from the same lot, blend material from multiple cartons to achieve a uniform visible appearance. Some colors are designed with shade and/or texture variations that enhance the design realism. These variations are considered normal product tolerance and are not manufacturing defects.
- Using different lots in the same area is not recommended because variations in color, texture and/or sheen may be noticeable, although product performance is not affected. If working from different lots is unavoidable, install in such a way that avoids using multiple lots in a large area, and compare the different lots side-by-side in different directions and lighting conditions to confirm that these are acceptable to the end user.
- Whenever possible, plan the layout so that the joints in the planks do not fall on top of joints or seams in the existing substrate.
- Decide the installation direction. It is recommended to install the length direction of the planks perpendicular (at a right angle) to the main light source.
- Measure the area to be installed: The board width of the last row shall not be less than 2”. If that is not the case, adjust the width of the first row to be installed.
- In hallways, it is recommended to install planks the long way (parallel to the length of the hall).
- The end joints of the planks must be staggered a minimum of 12” apart.



INSTALLATION PATTERN:

The installation process outlined here includes the use of two planks as an alignment guide (Plank 0 and Plank 3 shown above). Make sure Plank 0 is centered across Plank 1 and Plank 2 as shown. Planks should be staggered in a “brick” pattern. The length of cut planks must be at least 12 inches.



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1. ALIGN INSTALLATION

It is very important that the first two rows are aligned. Use a full plank (Plank 0) as an alignment guide and place it against the wall. No need for spacers yet.



2. INSTALL PLANK 1

Take another full-length plank, angle it into the center of the long side of Plank 0 and drop. Ensure there are no gaps



3. INSTALL PLANK 2

Take another full-length plank and angle it into Plank 0. Then slide Plank 2 towards Plank 1, until the short side makes contact with the short side of Plank 1.





4. ENGAGE THE SHORT SIDES

Drop the short side of Plank 2 onto the short side of Plank 1. Drop and Lock by pushing down firmly. If necessary, use the hard PVC mallet to tap the joints **LIGHTLY** on the short side to secure. This ensures 3-fold locking.

Important: TAP LIGHTLY, or risk damage to the end of the planks that may not be visible at the time of installation but will not be covered by warranty.



5. ALIGN INSTALLATION

Use a full plank (Plank 3) as an alignment guide by placing it against the wall. No need for spacers yet. Angle Plank 3 into Plank 2.





6. INSTALL PLANK 4

Take another full-length plank (Plank 4) and angle it into Plank 3. Then, slide Plank 4 towards Plank 2, until the short side of Plank 4 makes contact with the short side of Plank 2. Drop & Lock by pushing the planks firmly down. If necessary, use a hard PVC mallet to tap the joints **LIGHTLY** on the short side to secure. Ensure there are no gaps or height differences. If there are height differences, disassemble the planks, do not try to force them with the mallet.

Important: follow the instructions for disassembling planks on page 10.



7. FINISH ROWS 1 AND 2

Start the second row with a half plank (Plank 5) and angle in to Plank 1. Make sure the short sides are aligned. Repeat the same steps as above to finish the second row. Ensure there are no gaps or height differences. If there are height differences, disassemble the planks, do not try to force them with the mallet.

Important: follow the instructions for disassembling planks on page 10.



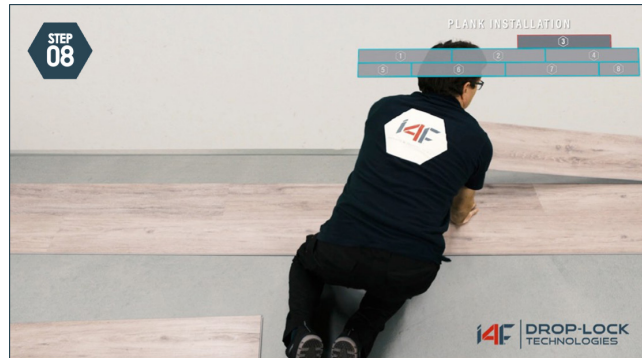


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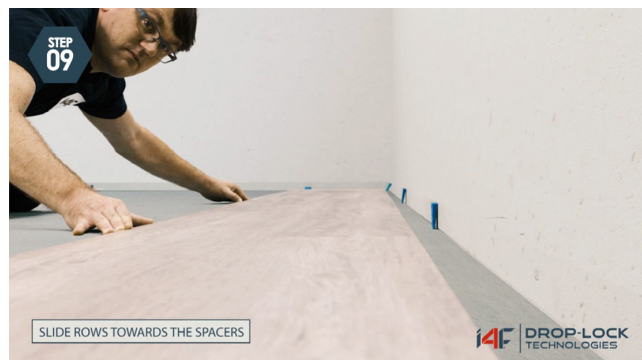
8. REMOVE ALIGNMENT PLANKS

Remove Plank 0 and Plank 3 by angling them out.



9. SET SPACERS AND SLIDE ROWS TOWARDS SPACERS

Place the spacers along the walls to create an expansion space of $\frac{1}{4}$ " or $\frac{5}{8}$ " (as required) Proceed by gently sliding rows 1 and 2 towards the spacers.





10. FINALIZE INSTALLATION

From row three on, installation does not require a specific pattern. To finish the last row, measure the distance from the wall, adjacent floor covering, cabinets or other stationary object, to the last installed row minus the expansion space to allow the recommended expansion gap. **Do not install Petrous flush to a wall, an adjacent floor covering or other fixed object.** Use an appropriate molding to cover the exposed edge but not pinch the planks.

Remove spacers when installation is complete. Place molding or wall base, allowing slight clearance between the molding and the planks so that the moldings do not “pinch” the flooring. Nail the molding to the wall, not through the flooring, and do not fasten anything to or through the planks.

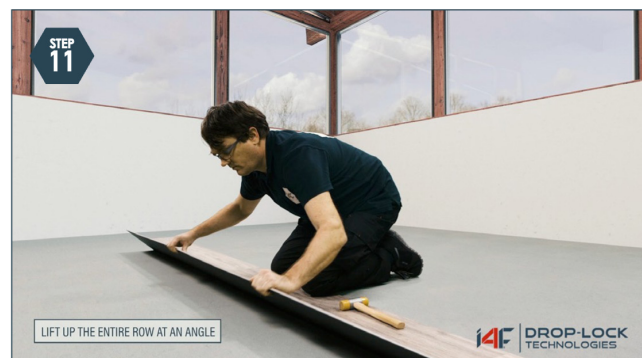


DISASSEMBLING PLANKS

If it is necessary to lift the planks for any reason, please follow the instructions for disassembling. Failure to follow these instructions can cause damage to the end of the planks that may not be visible at the time of installation but will not be covered by the warranty.

1.DISASSEMBLING THE LONG SIDE

Lift up the entire row with the same angle as you did during installation, then slide the rows apart.

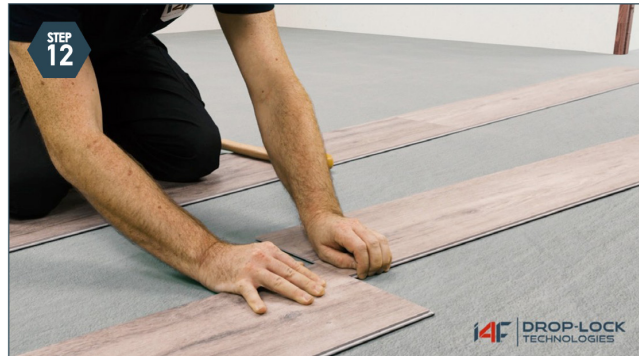




2. DISASSEMBLING THE SHORT SIDE

Disassemble the row by sliding apart the planks on the short side. Ensure the planks are laying completely flat. If you cannot slide the planks apart, that means that the short side is not fully engaged. Tap GENTLY with the mallet to engage, then slide the planks apart.

DO NOT LIFT THE PLANKS TO DISENGAGE THE SHORT SIDE. This can cause damage to the end of the planks that may not be visible at the time of installation but will not be covered under warranty.



AFTER INSTALLATION

It is preferred that floor covering installation be completed after all other building trades have done their work. If construction work is to be continued after the floor covering is installed, protect the floor from damage by sweeping thoroughly to remove sand and debris, then cover with brown Kraft paper, protective boards, or a combination thereof. Do not use pink paper, black tar paper, plastic, or any other covering that could stain or damage the floor covering.

MAINTENANCE

Please refer to COBALT MAINTENANCE GUIDELINES for detailed instructions. Here is a summary:

- Sweep or vacuum daily using soft bristle attachments.
- Clean up spills and excessive liquids immediately.
- Damp mop as needed using neutral cleaner such as Excelsior NC-900 Neutral Cleaner+
- Place walk-off mats at outside entrances to reduce the amount of dirt brought into the building. Do not use mats with a latex or rubber backing since these backings can cause permanent discoloration.
- Do not use abrasive cleaners, bleach or wax to maintain the floor.
- Do not drag or slide heavy objects across the floor.

PREVENTIVE CARE

- When moving appliances or heavy furniture, lay a plywood panel (or similar) over the Petrous floor and “walk” the item across it. This protects the floor from scuffing, gouging and tears.
- Frequently moved furniture must be equipped with felt pads to avoid scratching the floor. Heavy furniture and appliances should be equipped with non-staining large surface floor protectors.
- Caster wheeled chairs should have wide, rubber casters, must be easy swiveling, large surface non-



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staining and suitable for resilient floors. Do NOT use ball type castors as they can damage the floor.

- **Place protective mats under rolling chairs.**
- Use floor protectors under furniture to reduce indentation. As a rule of thumb, the heavier the item, the wider the floor protector needed.

REFERENCES

- Excelsior NC-900 cleaner available from Floor Guy Supply: (302-325-3801 or www.myfgsupply.com)
- ASTM Standards available from ASTM International: (877-909-2786 or www.ASTM.org.)
- ASTM F3261 Standard Specification for Resilient Flooring in Modular Format with Rigid Polymeric Core
- ASTM F710, Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring ASTM F2419, Standard Practice for Installation of Thick Poured Gypsum Concrete Underlayments and Preparation of the Surface to Receive Resilient Flooring
- F2471, Standard Practice for Installation of Thick Poured Lightweight Cellular Concrete Underlayments and Preparation of the Surface to Receive Resilient Flooring
- F2170, Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes
- ASTM F1869, Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride
- ASTM F3441, Standard Guide for Measurement of pH Involving Resilient Flooring Installations