POWERHOLD GALLERY SERIES

Natchez 20 mil | SPC

Installation Instructions

1. GENERAL INFORMATION

Important Information: The current version of all associated technical documents, including technical data sheets, installation instructions, maintenance guides and warranties (especially exclusions), must be read, understood, and followed prior to and during installation. For a complete list of suitable applications and installation environments, refer to the Material Usage Guide. For guidance regarding wet areas, please see all applicable technical bulletins. Ensure that all subfloor and substrate preparation, including any required moisture testing, has been completed, reviewed, and understood by all involved parties before installation. Do not proceed until all conditions are met. Site-related issues, such as those caused by substrate, installation and site-conditions, are not covered under warranty.

Do not install outside or expose the flooring to direct sunlight, prolonged UV/IR radiation or high heat sources, such as self-cleaning ovens, as these can lead to fading, damage, or excessive product movement. Avoid installing in areas where sharp or pointed footwear or objects (such as stiletto heels or cleats) may be present, as they may damage the product. Do not use rubber wheels, rubber casters, or rubber-backed mats directly on the flooring, as they may cause permanent stains. Allow all other trades to complete their work before installation begins. All ASTM standards referenced in this document can be purchased at www.astm.org.

Warning: All local, state, and federal regulations must be followed - this includes the removal of in-place asbestos flooring and adhesive and lead-containing materials. When appropriate, follow the Resilient Floor Covering Institute's (RFCI) Recommended Work Practice for Removal of Existing Floor Covering and Adhesive. Do not use solvent- or citrus-based adhesive removers. Follow all Occupational Safety and Health Administration (OSHA) guidance regarding exposure limits for respirable crystalline silica. Always wear safety glasses and use respiratory protection or other safeguards to avoid inhaling any dust. All liquid spills must be cleaned promptly - allow the floor covering to dry before allowing foot traffic.

Receiving Material & Initial Storage: The floor covering and accessories must be stored in dry indoors conditions between 40°F to 90°F (4°C to 32°C). Do not store outside, even in containers, and do not stack pallets. Remove all the plastic and strapping from the product after delivery. Confirm that the flooring product, color, and quantity are correct. Carefully check all materials for shipping damage and note all damage on the bill of lading before accepting the delivery. ***Material accepted with visible shipping damage that is not reported on the bill of lading is not covered under warranty.***

Check all product lot numbers: if more than one lot is onsite, mark the pallets or boxes of each lot to ease identification and lot management. While mixing materials from different lots will not affect performance, it may lead to noticeable visual differences in shade or texture. As such, ensure differing lots are installed in separate areas. If mixing lots is intended, compare different lots under various lighting conditions before installation and ensure customer approval. ***Observable visual variations due to mixing production lots are not covered under warranty.***

Recommended Personal Protective Equipment (PPE) & Tool List:

- Safety Glasses
- Shoes
- Dust Mask
- Cut-Resistant Gloves
- Knee Pads
- HEPA-Filtered Vacuum
- 10-foot or 6-foot Straight Edge or Level
- Utility Knife with New Blades
- Tape Measure
- Pencil
- Speed Square
- Chalk Marking Line
- 2 lb. Soft-Faced Dead Blow Hammer (preferred) or Rubber Mallet
- Wedge Spacers
- Pull-Bar
- Jigsaw with Carbide Blades (for complicated cuts)
- Oscillating Multi-Tool or Hand Saw (for door jambs)
- Non-Contact Infrared Thermometer
- Appropriate Substrate Preparation Tools

Documentation: Record and/or photograph all site conditions, test results, and corrective measures taken. All relevant pre-installation documentation, as well associated product sales invoices, shop drawings and/or project information, must be stored for the entire warranty period. In the unlikely event of a claim, these documents may be required to identify the product and validate compliance with all associated technical documents. A wireless, cloud-based monitoring system is recommended to monitor and track site conditions, especially when the site is unoccupied.

2. SUBSTRATE PREPARATION

Substrate Flatness: All substrates must be checked for flatness prior to installation. Substrates must have a maximum flatness deviation of 1/8 inch (3.18 mm) over 6-feet (1.83m), and/or 1/32 inch (0.8 mm) over 1-foot (305 mm), when measured using an industry-recognized method. All substrates that do not meet this requirement must be corrected using a suitable repair product prior to installation. ***Failure to correct flatness issues may affect the***

warranty – be sure to get customer or end-user acceptance or approval prior to installation.

Concrete Moisture Requirements:

- **Above-grade:** All concrete substrates must be visibly dry prior to and during installation.
- **On and/or Below-grade:** All concrete substrates that are in direct contact with ground must be visibly dry and comply with one of the following options prior to installation.
    1. Concrete must have a **confirmed, effective vapor retarder** installed directly beneath the slab, that is compliant with *ASTM E1745 Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slab*.
    2. Concrete must be tested for relative humidity within 3-weeks of flooring installation, following the *ASTM F2170 Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes*. **ASTM F2170 test results must not exceed 90% RH.**
    3. Concrete must be tested for surface porosity, following the *ASTM F3191 Standard Practice for Field Determination of Substrate Water Absorption (Porosity) for Substrates to Receive Resilient Flooring*. **Concrete must absorb water droplet(s) within 20-mins.** to be considered porous. If the concrete isn't porous, use mechanical methods to abrade the surface, such as diamond grinding, sanding with a DiamaBrush buffer attachment, shotblasting or similar. Acid etching is also an acceptable method, carefully following the manufacturer's instructions – ensure acid etched concrete is rinsed with clean water and remove the slurry with a wet-vacuum at least twice. Re-test per ASTM F3191 to confirm concrete is porous.
    4. Use a suitable effective **surface-applied moisture mitigation system** that prevents water and/or moisture accumulation directly beneath the flooring, following the manufacturer's instructions.

Concrete Subfloor & Substrate Preparation: All concrete must be at least 28 days old, structurally sound, stable and have a minimum compressive strength of ≥ 3000 PSI prior to installation. The concrete must be clean, dry, and free of contaminants, such as dust, residual adhesives, solvents, wax, oil, grease, mold, mildew, asphalt, and visible alkaline salts prior to installation. If site conditions are inadequate or if there is any evidence of water, hydrostatic pressure, or chemical adhesive removers on the concrete, do not proceed with the installation and contact the Novalis technical department for guidance.

To treat dormant construction joints and cracks that are ≥ ¼-in., first remove all debris, dust, and dirt from the cracks. Next, fill cracks with a rigid crack treatment designed for construction joints, ensuring the surface is troweled flush with the surrounding concrete. Use an appropriate expansion joint covering system over all expansion joints to manage concrete expansion and contraction. The Expansion joint covering system must be capable of covering the necessary flooring expansion gap without restricting the movement of the flooring.

If needed, flatten or smooth the surface with a moisture-resistant, commercial-grade leveling or patching compound, following the product manufacturer's instructions.

Gypsum or Lightweight Substrate Requirements: Lightweight or gypsum substrates must be dry as per the product manufacturer's specifications and have a minimum compressive strength of 2000 PSI when installed over wood, or 3000 PSI when installed over concrete. The substrate must be installed and prepared in accordance with the *ASTM F2471 Standard Practice for Installation of Thick Poured Lightweight Cellular Concrete Underlayments and Preparation of the Surface to Receive Resilient Flooring* or the *ASTM F2419 Standard Practice for Installation of Thick Poured Gypsum Concrete Underlayments and Preparation of the Surface to Receive Resilient Flooring*, respectively. New or existing substrates may require a sealant or primer before installing resilient flooring. Follow the product manufacturer's instructions for appropriate preparation. Substrates must be firmly bonded to a structurally sound subfloor. Any cracked or damaged areas must be removed and repaired using a compatible repair product.

Wood Subfloor & Substrate Requirements: All wood substrates must be structurally sound, stable, and free from deflection, movement, or instability. Sleepers and sleeper systems must not make direct contact with concrete foundations. The moisture content percentage (MC-%) of the wood must also meet the requirements for the specific region to ensure proper performance, stability, and durability. The subfloor must comply with International Building Codes (IBC) and local building codes. Wood subfloors may be required to be of double layer construction, with a recommended total thickness of at least 1-in., in accordance with ASTM standards, APA guidelines and sound control best practices. Wood subfloors and substrates should be compliant with and prepared in accordance with the *ASTM F1482 Standard Practice for Installation and Preparation of Panel Type Underlayments to Receive Resilient Flooring*. For standard installations, the top layer should be American Plywood Association (APA) rated underlayment grade plywood or an equivalent material, with a minimum thickness of 1/4 inch. The plywood should be fully acclimated, smooth, free of knots or voids, and fully sanded. When floors may be subjected to moisture, use an APA-rated exterior grade plywood or an equivalent material.

Resinous Coating Requirements: When installing directly over resinous coatings, such as epoxy coating or a moisture mitigation system, ensure the coating is clean, free of contamination, structurally sound, smooth, dry, and properly cured according to the manufacturer's instructions.

Metal Substrate Requirements: Metal substrates must be clean, dry, structurally sound smooth and free of oil, rust and/or oxidation. Metal substrates must be clean, dry, structurally sound smooth and free of oil, rust and/or oxidation. When installing flooring in areas that may be subject to topical water, moisture and/or high humidity, an anti-corrosive coating should be applied to protect the metal substrate. Contact a local paint or coating supplier for coating recommendations.

Other Subfloors & Substrates: Installing over existing resilient vinyl flooring is not recommended. However, it may be possible over some materials, such as vinyl composition tile (VCT), vinyl asbestos tile (VAT), quartz tile, solid vinyl tile, sheet vinyl or linoleum, as well as existing hard surface flooring substrates, such as terrazzo, porcelain, or ceramic tile. Ensure substrate is dry, existing flooring is clean, dry, sound, solid and well adhered. All loose material must be removed and repaired or replaced. All imperfections must be flattened and smoothed with a suitable repair product. ***Electing to install over existing floor covering releases the manufacturer from all liability related to suitability and continued performance of the existing product, including all subsequent effects on the new floor covering.***

Radiant Heating Requirements: When installing flooring over a substrate that contains a radiant heating system, ensure that none of the heating elements make direct contact with the flooring material. Ensure radiant heat is no higher than 70° F (21° C) 8-hours prior to and during the entire installation. After installation, the radiant heat may gradually be increased over the course of 24 hours, until normal operating temperature is reached. Ensure the temperature of the radiant heating system does not exceed 85° F (29.5° C) and avoid making abrupt changes in radiant heating temperature.

Sound Control Substrates: Only use approved sound control underlayments under this floor covering, following the product manufacturer's instructions. ***All issues associated with the use of unapproved third-party materials will not be covered under warranty.***

Unsuitable Substrates: These include but are not limited to: Floating or loose floor coverings, hardwood, carpet, cushioned vinyl, rubber, cork, foam, asphalt tile, additional acoustic underlayments and any subfloor with visible mold, mildew, or fungi and any subfloor in wet areas, such as inside showers and saunas. Do not install directly over adhesive or adhesive residue of any kind or in recreation vehicles, campers, or boats.

Note: Existing hardwood floor coverings will swell when exposed to moisture. Vinyl floor covering may restrict the movement of moisture in hardwood, which may result in flooring failure, especially when installed on or below grade. Some hardwood floor coverings may also discolor vinyl floor covering. ***Issues related to unsuitable substrate are not covered under warranty.***

3. FLOORING EXPANSION

Expansion Gap: To allow the flooring to freely and naturally expand and contract, an expansion gap must be created around the entire perimeter of the flooring and between the flooring and all adjacent vertical surfaces, such as adjacent flooring, fixed furniture, thresholds, fixtures, door jambs, and other protrusions. The required expansion gap is as follows:

- Areas that are ≤ **50-ft.** in length and/or width must have a ≥ **1/4-in.** expansion gap.
- Areas that are **50 - 85-ft.** in length and/or width must have a ≥**1/2-in.** expansion gap.
- Hotel rooms, multi-family units and assisted living facilities that may undergo **high-heat pest control** must have ≥ **1/2-in.** expansion gap.
- Fully enclosed and weatherproof three-season rooms, sunrooms and other areas that will remain within 40°F to 90°F (4°C to 32°C) must have a ≥ **1/2-in.** expansion gap. These areas must be ≤30 feet in length and/ or width and must be isolated from other areas with compatible T-molding.
- Areas where heavy furniture ≥ **800-lb.** (363-kg) with furniture feet will be installed on top of the flooring must be isolated from other rooms or installation areas with a compatible T-molding and have a ≥ **1/2-in.** expansion gap.

Note: Do not install more than one piece of heavy furniture within the same installation area. When covering expansion gaps, do not adhere or anchor accessories directly to or through the flooring material, as this may restrict movement and result in installation issues.

Expansion Joint: When the total installation length or width exceeds 85-ft., an expansion joint must be created to allow for expansion and contraction. Expansion joints must be wide enough to accommodate an appropriate t-molding and the appropriate expansion gap on either side of the t-molding. T-moldings must cover the flooring material by at least 1/8-in. on each side and must be glued or anchored directly to the substrate.

4. FLOORING INSTALLATION

Site Conditions: The prepared installation area must be fully enclosed and weatherproof. Maintain steady site conditions (within ± 5°F) using an HVAC system set to the normal, post-installation operating temperature and humidity conditions (In-Service Conditions) during installation. In-Service Conditions must be between 60°F (16°C) and 80°F (27°C) and between 35% and 65% relative humidity. Additionally, In-Service Conditions must be ≥ 10°F above dew point. Once all required site-conditions are met, the flooring product may be delivered to the installation area in its original packaging with all labels intact. During installation, block any direct sunlight using window treatments or other protective methods.

Product Acclimation: When stored in accordance with the Initial Storage requirements, the product does not require acclimation.

Note: When installed at temperatures > 80°F (27°C), the width of the expansion gap may increase as the flooring temperature decreases.

Layout: Confirm the installation pattern and direction according to the design specifications or work order. Planks should be installed in a random pattern, ensuring all joints are spaced ≥ 8-inches apart. Avoid creating "H" joints, "stair-stepping" patterns and obvious pattern repeats. Failure to randomize the end joints could weaken the integrity of the locking mechanism, which may lead to failure. Tiles should be installed in a brick-bond or 1/3 offset pattern.

General Preparation: Wall-base should be removed before flooring installation, unless a quarter round molding (fixed to the

wall or wall-base only) will be installed. Undercut all wooden door jambs and the first inch of any adjacent wall-base with an Oscillating Multi-Tool. The undercut height must be the thickness of the floor covering plus 1/64- in., which will allow the floor covering to expand and contract naturally. Steel door jambs should be pattern-scribed, accounting for the required expansion gap. After installation is complete, fill these gaps using a color-coordinated 100% silicone. Thoroughly clean the area with a HEPA-filtered vacuum prior to flooring installation.

Inspect all material prior to and during installation to verify that there are no visible defects, damage, excessive shading, sheen, or texture variations. Blend materials from multiple cartons within the same lot to ensure a consistent appearance. Some flooring products, colors and textures have acceptable color and shade variations. If there are concerns regarding defects, shade, sheen, or texture variation, do not install material and consult a sales or technical representative. ***Labor and associated costs with materials installed with obvious visual defects and/or mixing production lots is not covered under warranty.***

Starting Line: Determine the best place to start the installation. When installing in a room, this is typically along the longest straight wall with a doorway. Measure the width of each end of the installation area, then calculate the width of the final row. If the width of the final row is less than half the width of the flooring, adjust the width of the first row to compensate. Measure and mark the starting line using a chalk line.

Cutting: Using a speed square as a guide, carefully score along the cut line at least twice with a utility knife and a new blade. Snap the piece downwards to complete the cut. Alternatively, a suitable guillotine cutter may be used. As necessary, a jigsaw with a carbide blade may be used for complicated cuts, following the tool's safety instructions.

First Row (angle): At the left corner of the starting wall, position the first piece so that either the pre-cut side or the long side without the extended locking mechanism (tongue) is parallel to the wall. Place wedge spacers between the floor covering and the wall to maintain the required expansion gap. Insert the second pre-cut piece into the previous row at a ~25° angle and lay flat, ensuring the end joint is properly seated.

Repeat this process to complete the first row. When you reach a doorway, make sure the cut edge will be covered by the door jamb and frame while maintaining the required expansion gap. For the last piece, measure, mark, and cut, account for the required expansion gap. Keeping the installation straight is critical. Check the first row using the chalk line and adjust or reinforce the entire row with wedge spacers as needed to straighten it. The acceptable straightness tolerance is within 1/16-in. for > 20-ft. lengths or 1/32 -in. for < 20-ft. lengths.

Subsequent Rows - Horizontal Angle-Tap Method: Starting at the left corner, place a wedge spacer along the wall to maintain the expansion gap. Using a cut piece with proper joint spacing, push the tongue of the long side into the groove of the previous row at a ~25° angle, slide into position and lay flat. Ensure each piece is properly seated before continuing.

Install the next piece by angling the tongue of the long side into the previous row at a ~25° angle and push the piece into the adjacent groove until properly seated. The tongue of the short side should slightly overlap the groove of the previously installed piece. Seat the tongue of a ~6-in. scrap piece into the groove of the other end and use a 2-lb. (~ 32-oz.) soft faced dead blow hammer (preferred) or rubber mallet to lightly tap towards the previous piece until fully engaged. Complete the following rows using this method, using a pull bar on the last piece of each row and the last row as necessary.

Optional - Angle-Angle Method (Planks Only): First, complete five or six rows using the Angle Tap method and turn around to work on top of the installed material. This allows the side joints to be pulled together, rather than pushed.

Starting at the right end, place a wedge spacer along the wall to maintain the expansion gap. Using a cut piece with proper joint spacing, pull the tongue of the long side into the groove of the previous row at a ~25° angle, slide into position and lay flat. Ensure the piece is properly seated before continuing.

Install the next piece by angling the tongue of the short side into the groove of the previous short side. The tongue of the long side should slightly overlap the groove of the adjacent row. With the short side properly seated, carefully lift the piece and push into the side of the adjacent groove until it is fully engaged and lay flat. If necessary, Seat the tongue of a ~6-in. scrap piece into the groove of the other end and use a 2-lb. (~ 32-oz.) soft faced dead blow hammer (preferred) or rubber mallet to lightly tap towards the adjacent row until fully engaged. Complete the following rows using this method, using a pull bar on the last piece of each row and the last row as necessary.

Flooring Removal: To replace a piece or disengage end joints, first raise the outside edge of the entire row by ~25°, then disconnect the row from the rest of the installation. Once the row is removed, remove one piece at a time by angling upwards and separating, opposite of the installation method.

Additional Installation Tips: Do not hit any part of the locking mechanism directly with a hammer, tapping block or pull bar unless it is an end piece or the last row - doing so will damage the locking mechanism and may result in peaking, gapping, and joint separation. To tighten gaps in the installation, use a ~6-in. piece of scrap floor covering, seated in the locking mechanism, and lightly tap towards the adjacent piece or row.

When installing pieces that are < 3-in. in length or width, place a thin bead of clear liquid super glue on the adjacent grooves before installing to ensure the joints remain locked together during use. Immediately remove excess glue from the surface of the flooring or joint using isopropyl alcohol and a clean white cloth.

When installing in an area that includes a long hallway, installation should typically start from the center. Keeping the installation straight is critical - check the first row using the chalk line and adjust as necessary - the acceptable straightness tolerance is

within 1/16-in. for > 20-ft. lengths or 1/32 -in. for < 20-ft. lengths. Use starting blocks to ensure that the starting line does not shift and remains within the straightness tolerance. Pre-cut 6-in. scrap pieces with the long side groove intact to act as starting blocks – there should be a starting block for each joint of the first row. Attach double-sided vinyl flooring tape to the substrate at each end of the installation and above each joint. Remove the release paper from the tape and, ensuring the starting row is properly aligned with the starting line, push the groove of the starting block into the tongue of the adjacent starting row pieces and lay flat. Ensure the starting block is properly engaged with the starting row and make full contact with the tape. When removing the blocks, be sure to remove the tape and any remaining residue. Alternately, starting blocks may be attached to the substrate using appropriate screws once engaged with the starting row.

Post-Installation: Visually inspect the area to ensure that the installation is straight and that all joints are tight and correctly spaced. Fill any perimeter gaps that will not be covered by an accessory with a color-coordinated 100% silicone caulk. When covering perimeter gaps with an accessory (wall base, molding, thresholds, T-molding, etc.), ensure the accessory overlaps the flooring material by at least 1/8 inch. All accessories must be glued or anchored directly to the substrate or vertical surface. Take photographs and have any required documentation signed and filed following completion.

Do not place, slide, drag heavy objects across the floor. When moving appliances, heavy furniture, or equipment, protect the flooring with appropriate, hard surface furniture sliders or 1/2" plywood. Casters, glides and feet of all furniture or equipment must have a flat contact point that is at least 1 sq. in. or 1.125 in. in diameter to limit indentation and flooring or finish damage. To avoid maintenance-related issues, do not use nylon/hard plastic wheels, glides, or casters. ***Prior to final use, ensure the customer reviews the Floor Protection & Maintenance document.***

Provide the customer with three or more extra pieces of flooring in the original packaging as attic stock, to be kept for the lifetime of the floor. ***In the unlikely event of a product issue, attic stock can play a crucial role in product identification, color matching, product claim verification and possible repairs.***