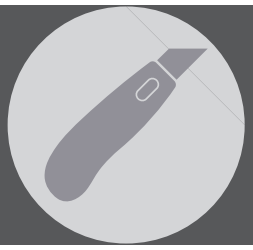
NOVAFLOOR® BY NOVALIS® INNOVATIVE FLOORING

HDC RigidCore – NovaClic™ FD
For Serenbe™ HDC



INSTALLATION AND MAINTENANCE INSTRUCTIONS

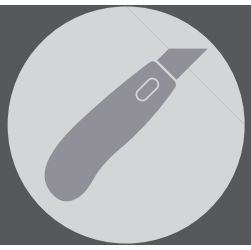
ALWAYS CHECK WWW.NOVAFLOOR.US FOR THE LATEST INSTALLATION, WARRANTY AND MAINTENANCE INSTRUCTIONS. IT IS THE RESPONSIBILITY OF THE INSTALLER TO ENSURE THAT THE MOST CURRENT DOCUMENTS ARE USED DURING INSTALLATION OF NOVAFLOOR® FLOORING PRODUCTS.

GENERAL INSTRUCTIONS

	Residential	Commercial
Acclimation	Not Required[1] (3-Season room* requirement please see below)	24 hrs. in normal operating temperature of installed environment.
Optimal Interior Conditions	50° F to 100° F (maximum) degrees	50° F to 100° F (maximum) degrees
Expansion spacing at vertical surfaces	5/16" (8 mm) minimum	5/16" (8 mm) minimum
Large Space Transition Requirements	Not Required[2]	Required[2]
Doorway Transition Requirements	Not Required[3]	Required[3]
Subfloor Flatness	F32 Flatness required - 3/16" in 10' (1/8 in 6' allowed)	F32 Flatness required - 3/16" in 10' (1/8 in 6' allowed)
Substrate Moisture Limits	Concrete: 85% RH (ASTM F2170); see installation instructions	Concrete: 85% RH (ASTM F2170); see installation instructions
Vapor Barrier (6 mil poly)	Not Required[4]	Not Required[4]
Pet Warranty	Yes[6]	Yes[6]
3-Season Rooms	Recommended up to 500 sq. ft.[7]	Not Recommended
Underlayment Required	Not Recommended (not permitted on products with factory attached acoustical backings)	Not Recommended (not permitted on products with factory attached acoustical backings)

1. Flooring temperature, storage environment and installation environment should have no more than 15°F temperature difference when performing installation; flooring temperature should always be greater than 50°F (10° C). If a wide variation exists acclimate flooring in the installed environment for 24 hours prior to installing. Ideal acclimation temperature range is 65°F to 85°F.
2. Required in rooms greater than 65 ft. with 5/16" expansion spacing at all vertical surfaces, door frames, cabinetry, etc. For rooms greater than 65 ft. use 1/2" expansion spacing on the perimeter.
3. Wooden door frames must be undercut completely to studs and allow for 5/16" of clear expansion spacing. Metal door frames shall have flooring material scribed to the frame allowing for 5/16" expansion spacing. Door jamb moldings shall be kept 1/64" above the surface of installed flooring.
4. Use of a poly moisture barrier is not required with NovaFloor® HDC flooring. Moisture testing should be conducted per instructions and limits for moisture content observed. Should a high moisture situation occur in the substrate proper remediation of the slab should be performed. Contact Technical Services at 886-668-2547 or techsupport@novalis-intl.com
5. Compressible-type underlayment is not required for the performance of NovaFloor® HDC flooring products, however if one is required on a specific installation for an acoustical reduction contact Technical Services at 886.668.2547 or our website at www.novafloor.us for requirements.
6. HDC flooring with NovaShield™ protective coating is warranted against all stains from domestic pets (only) including vomit, urine and feces. Cleaning of the affected area should begin immediately after discovery. See warranty for full details
7. 3-season rooms must be fully enclosed, not exposed to any outside elements and environmental (year-round) temperatures should be within a range of -10°F to 120°F for best performance. Acclimate the flooring between 65°F to 85°F for 48 hours before install and maintain this temperature during installation. Allow 1/2" spacing against vertical surfaces and all fixed objects. Transitions must be used at doorways and spans greater than 40 lineal feet.

* A 3-Season Room is a glass enclosed sunroom.



INSTRUCTIONS (cont.)

- The space where flooring is to be installed shall be fully enclosed and the permanent HVAC system shall be operational at 65° - 80° F (18° to 26° C) before, during and after installation.
- NovaFloor® HDC floating floors should be protected from direct sunlight and not exposed to direct sunlight for extended periods of time by use of blinds, drapes or suitable window coverings or be in use in areas of large amounts of direct sunlight exposure.
- Do not use tapping blocks, adjustable spacers (screw type) or other tools common to hardwood and laminate flooring installation to prevent damage to the locking mechanism. A small, 6", piece of NovaFloor® scrap flooring with the top joint tongue intact should be used as a tapping block and locked into the joint groove before tapping.
- NovaFloor® floating flooring is designed to be installed as a "floating" floor. Do not secure individual planks or tiles to the subfloor with mechanical fasteners or adhesives. *Do not install cabinets, kitchen islands, door hardware or other non-movable objects on top of or through vinyl floating floors.*
- Use of a small, soft bristle brush to clean the joints prior to locking will ensure that there is no debris which will cause stressing or failure of the joint after interlocking the pieces together.
- This product cannot be installed with full spread adhesives.
- Use care when installing wall moldings and transition strips to not fasten through floating flooring planks or tiles. A spacing of .010" (.254mm) shall be kept above the floor when installing moldings over the surface of the floor.
- Improper locking of the mechanism may cause one or more of the following conditions in your flooring: joints to be distressed resulting in a 'peaked' appearance; delamination due to ledging; separation of joints from normal environmental temperature changes; cupping or side joint failures.

Subfloor Requirements

All substrates regardless of composition **must** be smooth and flat to within 3/16" (4.76mm) in 10 feet or achieve an "F32" rating by use of mechanical grinding/sanding or substrate appropriate patching/leveling compound.

Approved Substrates:

- Above, on or below grade concrete without hydrostatic pressure, excess moisture or alkalinity; must be fully cured and dry, free from curing compounds, sealers, etc.
- Above or on grade lightweight concrete, properly prepared and without hydrostatic pressure, excess moisture or alkalinity
- Above or on grade Gypsum concrete surfaces, properly prepared and sealed, and without hydrostatic pressure, excess moisture or alkalinity
- APA registered underlayment, sanded face exterior grade with minimum rating of C-C plugged face
- APA registered exterior grade plywood sanded face with ratings as follows: APA A-B, A-C, B-B, B-C, C-C plugged face
- APA Approved / Rated OSB panels, minimum 23/32" thickness, properly installed. It is recommended to fully sand the surface of the OSB panels to ensure smooth, even seams and reduce the surface ridges on the panels. Contact Technical Support for instructions.
- Properly prepared and well bonded existing resilient floor covering, single layer only
- Cement Terrazzo, ceramic tile, marble – must be properly prepared.
- Certain metal floors – contact Novalis Technical support for assistance.
- Old adhesive residue that has been properly prepared.
- Radiant heated floors where heat does not exceed 85°F (29°C)

The following are not approved substrates for installing NovaFloor® HDC flooring: Rolled or panel-type foam, rubber, cork or other compressible underlayments not recommended by Novalis Innovative Flooring; rubber, cork or asphalt tiles; textured or cushion backed resilient flooring; "Sleeper" floor systems or plywood floors that have been installed directly over a concrete slab; lauan and mahogany-type plywood panels; Masonite™ or other hardboard or fiber based underlayment; CCA (pressure treated), oil treated or other coated plywood; CDX or other plywood

with knots or open defects; underlayment made of pine or other soft woods; hardwood flooring; paint, wax, oil, grease, residual adhesive, mold, mildew, and other foreign materials that might prevent floating planks and tiles from natural movement; other uneven or unstable substrates.

Subfloor Preparation

Although NovaFloor® HDC flooring is not susceptible to damage from moisture, excessive subfloor moisture is an ideal breeding ground for mold, mildew, fungus and mites - all of which can contribute to an unhealthy indoor living environment. If excess moisture is found in the substrate proper remediation steps should be taken prior to installation.

All substrates must be properly prepared and tested according to the following instructions.

1. Concrete Subfloors
   a. Concrete substrates should be properly prepared according to the latest revision of ASTM F710, *Preparing Concrete Floors to Receive Resilient Flooring*.
   b. All concrete substrates, regardless of grade or age of slab, must be properly tested using one of the methods outlined below for warranty to apply. Acceptable test method is the ASTM F 2170 and ASTM F1869. Testing shall be conducted according to the relevant ASTM documentation and instructions of the manufacturer of the testing equipment. Consult Technical support for RH values greater than 85% or MVER 5 lbs./1,000 sqft./24 hrs.
   c. Concrete Alkalinity / pH Test shall be conducted in accordance with ASTM standards. Acceptable level of pH in the substrate is between 7 and 10.
2. Wood Subfloors
   a. All wood substrates should be prepared according to the latest revision of ASTM F1482 *Installation and Preparation of Panel Type Underlayments to Receive Resilient Flooring*.
   b. Wood panel subfloor construction shall be a minimum of 1" in total thickness.
   c. Panels designed as suitable underlayment shall be at a minimum ¼" in thickness, dimensionally stable, fully sanded face to eliminate grain texture or show through, and have a written manufacturer's warranty and installation instructions. Panels shall be installed according to manufacturer's instructions regarding stapling pattern, sanding and filling of joints, and acclimation to installed environment. Where not specified consult ASTM 1482 or the relevant document from the American Plywood Association.
3. Gypsum and Lightweight Cellular Concrete Substrates shall be per ASTM F2419 or F2471 respectively. Visit NovaFloor.us or contact Technical Services at 886.668.2547 or techsupport@novalis-intl.com for instructions over gypsum and lightweight concrete substrates.
4. Existing resilient flooring must be single layer only, thoroughly stripped of all wax, floor finish, dirt and other contaminants. Be firmly bonded to the substrate, flat and smooth with no curling edges or loose seams. Must not be of a cushion back, loose-lay, or perimeter bonded floor.
5. Adhesive residue shall be properly prepared by hand scraping, mechanical scraping or grinding be used as a primary means of removing old adhesive residue. Black cutback/asphalt adhesives shall only be scraped by hand to remove any loose patches, trowel ridges and puddles so that only a thin residue layer remains. Residues shall be properly covered using a Portland based patching compound properly mixed with the manufacturer's recommended latex/acrylic additive. Do not use chemical adhesive removers.
6. Ceramic, porcelain, marble and granite tiles are suitable and must be properly bonded with intact grout joints and free of cracks or loose tiles. Surface of tile and grout joints should be free from sealers, coatings, dirt and contaminants. Properly prepare the surface of tiles by grinding any high areas and using a suitable Portland-based leveling compound and primer to fill in all low areas.
7. For any subfloors or substrates not listed please contact Novalis

Technical Services. Any surface deemed unsuitable should be covered with an approved ¼" wood underlayment or suitable Portland-based cement leveler or patching compound. Always follow the manufacturer's recommended practices when covering an existing substrate.

Installation and Layout

NovaFloor® HDC floating flooring is designed with an angle/drop mechanism. The angle/drop flooring requires that the top or long sides be installed first by engaging the joint at a shallow angle while lining up the short side drop lock mechanism. Once the top joint is engaged, firmly press the left end (top of the drop-lock joint) down with the thumb to properly seat and align the joint. The installing plank should not be resting on the face of the adjacent plank nor should there be any gaps in between the two planks. Once properly aligned the end joint can be carefully seated with a rubber mallet while tapping approximately 1" from the end of the joint.

NOTE: The drop lock joints cannot be 'lifted' or angled apart when removing or repositioning a plank or tile. If it is necessary to replace an installed plank during the installation the best method is to replace the whole row.

1. Layout

   a. Install flooring perpendicular to direct sunlight sources, including large windows, doors, etc.
   b. It is important to balance the layout of the plank format. Proper planning and layout will prevent narrow piece widths at wall junctures. Determine layout to prevent planks having less than half the width or very short length pieces.
   c. Tile patterns shall be installed in a brick or ½ - width offset to ensure integrity of the seams and overall performance of the floating flooring.
   d. Dry lay a section of plank from the center lines of the room to one wall to determine that the pattern is centered and fit. Border cuts should be measured and should not be less than half the width of a plank or tile. If the cut row falls under these conditions, adjust the first row at the center line to make the centerline match the centerline of the row of planks.

2. Installing NovaFloor® HDC (Angle/Drop) flooring

   NovaFloor® HDC planks and tiles are best installed with a No.2 white rubber mallet. While not required, this will help ensure the tongue and groove are properly mated and clicked together.

   a. Starting in the farthest left upper corner of the room, position the first plank / tile so that both the head and side seam groove is exposed. This requires installing the product from left to right in the room. Trim the top tongue from the piece.
   b. Install the second plank / tile in the first row by laying the short-end tongue onto the previously installed plank / tile short-end groove. Fasten the planks / tiles together by firmly pressing down with your thumb along the seam to vertically align the edges the planks together. Use of a soft, white No. 2 rubber mallet is recommended to fasten the tongue & groove together by tapping the surface of the installing plank approximately 1" from the edge of the joint. You will feel the planks lock together.
   c. Maintain an expansion gap of approximately 5/16" from the wall. Then cut a plank / tile in half or 1/3 of the length to start the second row. Install the first plank / tile in the second row by inserting the long side tongue into the groove of the plank / tile in the first row. This is best done with a low angle (20° to 30°) of the plank / tile and then angling down to lock it in.
   d. Continue the first row by laying the short-edge tongues onto the previous plank short-end groove and firmly pressing the seam down with the mallet until the planks click together as in STEP C above. Measure and cut the last plank in the row while maintaining the 5/16" spacing at the right side wall.
   e. Install the remaining planks in the second row by first aligning the long edge tongue into the groove of the previous row while making sure the short-edge tongue is laying on the short-edge groove of the previous plank. Remember to

ensure alignment of the end joint as in step B above.

f. Angle the long edge tongue into the plank/tile in the row above and lock it together.
g. Firmly tap or press the short-edge tongue into the short edge groove of the previous plank/tile as in STEP C above. It is critical to keep these two rows straight and square, as they are the "foundation" for the rest of the installation. Check for squareness and straightness often.
h. Use the cutoff plank from the first row to start the third row.
i. Work across the length of the room installing rows of planks/tiles as in the first row while using the cutoffs as starter pieces. This will help in maintaining a random appearance. FOR TILE INSTALLATIONS MAINTAIN THE BRICK ½-WIDTH OFFSET; this may require all tiles at the left/right walls to be cut.
j. *Use of several 5/16" spacer blocks along the first wall will ensure the proper spacing is achieved and that floor does not 'walk' back towards the wall during installation.*

Continue installing plank/tiles, being certain to maintain a random appearance (planks) or the pattern (tiles) and offset end seams by at least 6". Maintain a 5/16" expansion gap at all fixed vertical surfaces. Check to be certain all planks are fully engaged; if slight gapping is noticed, simply disengage the long/top side joint and then carefully slide the short/end joint apart. Reinstall the plank.

After Installation

1. Be sure planks are set, flat and have tight edges.
2. In the event that the LV plank / tile flooring is not the last portion of the construction project, the floor must be protected from construction traffic and damage. Utilize a reinforced fiber protective board or a heavy Kraft paper (min. 60 lbs.) and cover the floor.
3. Initial maintenance can be performed immediately after installation of the NovaFloor® HDC flooring. Cleaning utilizing a neutral pH cleaning solution and mop is recommended. White, green or blue abrasive pads can be used to remove heavier deposits. Rinse the floor thoroughly and allow to air dry. Do not overwater the flooring.
4. Daily and weekly maintenance by sweeping, vacuum or dust mopping the floor as needed to remove dust loose dirt and grit. In high traffic areas this may be a daily or twice daily procedure. Use only vacuums that do not have bristle beater bars or metal heads.
5. Clean liquid spills immediately to prevent the possibility of stains, slips or falls.
6. Damp mop the floor as needed to remove dirt and stains. Use a neutral pH cleaner and a white, green or blue pad if needed to remove ground in dirt. Soft white bristle brushes can also be used on flooring with embossed surfaces.
7. Preventative steps
   a. Use mats at all entry areas to keep dirt, sand and water off of the floor. Clean the mats on a regular basis. If mats are placed directly on top of the Novalis floor, be sure the mats have a non-staining back. Rubber mats are not recommended over Novalis flooring products.
   b. Furniture shall have protective glides of at least 1" in diameter to minimize indentations or scratching to the surface of the floor. Do not use narrow chair glides! Felt pads are also excellent protection for the floor for furniture that will be frequently moved directly across the floor.
   c. Do not move heavy furniture, appliances or fixtures directly across the floor. Use protective boards or appropriate furniture movers designed for use over hard surface flooring.
   d. Protect the floor from direct sunlight by using appropriate window coverings.
   e. Areas with caster chairs must have protective mats under the chairs. Use chair mats at desks to protect the floor from damage due to chair legs or casters. Periodically clean caster wheels and check for wheels that may be broken or no longer rotating. Replace damaged wheels immediately.
   f. Avoid use of metal or razor scrapers to remove dirt, residues or other marks from flooring. This will damage the protective wear layer of the vinyl flooring.

Reference Documents

The latest versions of all listed Standards, Guides and Work Practices shall be used in all cases.

ASTM F 710	Standard Practice for preparing Concrete floors to receive resilient flooring
ASTM F 1482	Standard Practice for Installation and Preparation of Panel Type Underlayment's to Receive Resilient Flooring
ASTM F1869	Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride
ASTM F 2170	Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs using In Situ Probes
ASTM F2419	Standard Practice for Installation of Thick Poured Gypsum Concrete Underlayments and Preparation of the Surface to Receive Resilient Flooring
ASTM F2471	Standard Practice for Installation of Thick Poured Lightweight Cellular Concrete Underlayments and Preparation of the Surface to Receive Resilient Flooring
ASTM F2659	Standard Guide for Preliminary Evaluation of Comparative Moisture Condition of Concrete, Gypsum Cement and Other Floor Slabs and Screeds Using a Non-Destructive Electronic Moisture Meter
ASTM F2678	Standard Practice for Preparing Panel Underlayments, Thick Poured Gypsum Concrete Underlayments, Thick Poured Lightweight Cellular Concrete Underlayments, and Concrete Subfloors with Underlayment Patching Compounds to Receive Resilient Flooring
ACI 302	Guide for Concrete Floor and Slab Construction
RFCI	Recommended Work Practices for Removal of Resilient Floor Coverings
APA	American Plywood Association
CANPLY	Canadian Plywood Association