

FLOATING LUXURY VINYL FLOORING INSTALLATION GUIDE

KEMPTEN[®]

COLLECTION





Product Handling and Site Conditions

- 1. Store cartons of tile and/or plank with cartons stacked one on top of the other. Do not store on end or sides, or allow cartons to bend during storage or transportation.
- 2. **IMPORTANT:** Deliver and acclimate all material including maintenance products to job site at 65° 85° Fahrenheit (18° to 29° Celsius) for 48 hours prior to installation**
- 3. The space where flooring is to be installed shall be fully enclosed and the permanent HVAC system shall be operational prior to installing flooring. The temperature shall be 65° 85° Fahrenheit (18° to 29° Celsius) for 48 hours before installation, during installation and for 48 hours after installation. The temperature of the space shall be kept at a minimum of 50° Fahrenheit (10° Celsius) continually after installation. Avoid dramatic and large temperature increases.
- 4. Floating solid vinyl floors should be protected from direct sunlight and not exposed to direct sunlight for extended periods of time. Excessive temperatures will cause the product to expand. Novalis recommends blinds, drapes or suitable window coverings be in use in areas of large amounts of direct sunlight exposure.
- 5. To prevent damage to the newly installed flooring the installation of flooring products should be after all other trades have completed their work. To further prevent damage after install until space is occupied, use of a reinforced fiber-based temporary floor protector product is strongly recommended.
- 6. To prevent problems staining of finished flooring and the general movement of a free-floating floor, areas to receive resilient flooring shall be permanently dry, clean, smooth, level and structurally sound. They shall be free of all contaminants, including but not limited to: dust, solvents, paint, wax, oil, grease, residual adhesive, adhesive removers, curing, sealing, hardening or parting compounds, alkaline salts, excessive carbonation or laitance, mold, mildew.

** Improper acclimation of floating Luxury vinyl flooring may result in gapping, or buckling or joints which are difficult to engage properly. 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.

GENERAL GUIDELINES

This information provides general guidelines for the **NovaClic™** product. All instructions and recommendations should be followed for an ideal installation.

- 1. Install **NovaClic™** only after the jobsite has been cleaned and cleared of debris that could potentially damage a finished plank installation.
- Inspect your shipment of Novalis products to ensure that all cartons are of the same lot / manufacturing run. Contact your Distributor with any discrepancies or assistance with locating this information.

July 2013 21Page



- 3. To minimize shade variation during the installation of **NovaClic™**, mix and install planks from several different cartons.
- 4. All subfloor/underlayment patching must be done with a non-shrinking, water-resistant Portland cement patching compound.
- 5. The maximum room size suggested is limited to 30 linear feet with 5/16" spacing gap around the perimeter. **NovaClic™** product can grow if the temperature in the room increases by 18° F (7°C). For installations larger than 900 square feet (83.6 m²) or runs longer than 30 feet (9 meters) control joints must be installed with a minimum of 5/16" (8mm) gap between the installed molding.
- 6. Doorways and archways 6 feet or less in width must have a suitable "T" molding installed as control joint to allow for normal product movement between rooms. A minimum of 5/16" gap is to be allowed on either side of the installed track for the molding.

Approved Substrates

The following are approved substrates for installation of Novalis Resilient Floor Coverings. See the next section for proper testing and substrate preparation prior to installing your Novalis floorcovering.

- All substrates regardless of composition <u>must</u> be smooth and flat to within 3/16"
 (4.76mm) or achieve an "F32" rating by use of mechanical grinding/sanding or suitable
 Portland cement-based patching and leveling compounds.
- 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
- Single layer Sturd-I-Floor rated panels (minimum 23/32" thickness) with sanded face. Check for jobsite damage before using as underlayment if panels were exposed to construction traffic or weather prior to installation.
- APA Rated underlayment veneer panels
- Properly prepared and well bonded existing resilient floor covering
- Cement Terrazzo, Epoxy terrazzo, ceramic tile, marble must be properly prepared; all grouts are patched with appropriate patching compounds or leveler.
- Certain metal floors all gaps are patched with appropriate patching compounds or leveler.
- Old adhesive residue- must be properly prepared with embossing leveler
- Radiant heated floors where heat does not exceed 85°F (29°C)

The following are not approved substrates for installing Novalis **NovaClic™** LV Flooring:

- Rubber, cork or asphalt tiles
- Textured or cushion backed resilient flooring
- "Sleeper" floor systems
- Plywood floors that have been installed directly over a concrete slab
- Luan, OSB, particle or chip

July 2013 3 | Page



- Masonite[™] or other hardboard 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 INFORMATION

Although **NovaClic**[™] is designed to be a "floating" floor installation, proper preparation of the subfloor is still a major part of a successful installation. Roughness or unevenness of the subfloor may telegraph through the new **NovaClic**[™] floor, resulting in an unsightly surface and cause excessive wear on high spots.

Substrate Preparation

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

1. Concrete Subfloors

Although **NovaClic**TM is not susceptible to damage from moisture, excessive subfloor moisture is an ideal breeding ground for mold, mildew and fungus-all of which can contribute to an unhealthy indoor living environment. Use of a suitable vapor barrier is recommended.

- a. Concrete slab construction shall be in accordance to industry standards for specification related to concrete mix design, curing methods and drying times to prevent moisture problems.
- b. On-grade and below-grade slabs should be installed with a suitable vapor retarder directly underneath the concrete slab.
- c. New concrete shall be properly cured and dried prior to the installation of floor covering. Curing agents, surface hardeners and other membranes or compounds shall be mechanically removed immediately after initial cure to allow the slab to properly dry before installation. Approximately 30 days per 1" of slab thickness.
- d. 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 In Situ Relative Humidity. Testing shall be conducted according to the instructions of the manufacturer of the testing equipment.
 - i. ASTM F 2170 In Situ Relative Humidity Test
 - 1. Relative humidity of the slab shall not exceed 75%. Floor covering should not be installed until concrete is sufficiently dry or until corrective measures are taken by the contractor.

July 2013 **4 |** Page



- 2. Testing should only be done when the test site is at the same temperature and humidity expected during normal use; or at a temperature of 65° 80°F (15° 26° C) and 45% 50% humidity for minimum 48 hours prior to testing.
- 3. A minimum of 3 test holes for the first 1,000 SqF (100 M²) and one additional test hole for each 1,000 SqF (100 M²) thereafter.
- 4. Test holes are to be drilled at a depth of 40% of slab thickness (one-side drying) or 20% of slab thickness (two-sides drying).
- 5. Test holes should be allowed to acclimate for 72 hours prior to insertion of the test probe. Re-usable probes should equilibrate at least 1 hour prior to use in the next test area.

ii. Concrete Alkalinity / pH Test

- 1. Testing should only be done when the test site is at the same temperature and humidity expected during normal use; or at a temperature of 65° 80°F (15° 26° C) and 45% 50% humidity for minimum 48 hours prior to testing
- 2. Using distilled water, place drops of water to form a small puddle approximately 1" in diameter.
- 3. Wait 60 seconds, then dip a portion of the pH paper into the water.
- 4. Acceptable pH level of the concrete is 7 when compared to the color chart provided in the test kit.

e. Concrete Slab Preparation

- Concrete slabs shall be clean and smooth prior to installing floor coverings.
 Remove all sealers, curing agents and compounds, grease, oil, adhesive removers, old adhesive residue, dirt, paint, etc. to ensure a clean bond surface for the adhesives.
- ii. Concrete floors shall be smooth and level to prevent irregularities, roughness or other defects from telegraphing through the new resilient flooring. The surface of the slab shall be flat to within 3/16" in 10 feet.
- iii. Uneven areas should be mechanically ground to smoothness.
- iv. Cracks, depressions or other similar irregularities should be leveled using a suitable Portland cement based patching compound. Follow the patch manufacturer's instructions regarding mixing and applications.
- v. Overly porous, dusty, flaky or soft concrete surfaces are not suitable for resilient floor coverings. It may be necessary to mechanically remove the top layer concrete in such cases and/or these surfaces may need to be primed and covered with a cement based underlayment compound. Follow the patching or leveling compound manufacturer's instructions regarding preparation of the concrete surface, priming, mixing of the product, thickness of application and drying time for resilient floor covering installation.

July 2013 **5!**Page



- vi. Expansion joints, isolation joints, control joints or other moving joints in the concrete slab shall not be filled with patching compound or covered with resilient flooring.
- vii. Use of vapor barriers is allowed under **NovaClic**™ as long as proper ventilating space is allowed around the perimeter of the room for moisture and vapors to escape the substrate.

2. Wood Subfloors

- a. All wood and wood composition panels are suitable for use under **NovaClic™** providing they are smooth, flat, structurally sound and free of deflection.
- b. A combination of wood subfloor and panel underlayment construction shall be a minimum of 1" in total thickness.
- c. There shall be at least 18" of well-ventilated air space beneath all wood subfloors. Crawl spaces shall be insulated and protected by a suitable vapor barrier.
- d. Wood subfloors installed directly on concrete or over "sleeper" joist systems are not acceptable for use under Novalis Resilient Flooring.
- e. Panels designed as suitable underlayment shall be at a minimum:
 - i. Minimum ¼" in thickness
 - ii. Dimensionally stable
 - iii. Fully sanded face to eliminate grain texture or show through
 - iv. Have a written manufacturer's warranty and installation instructions
 - v. Be free of substances such as ink, fillers and resins which may lead to staining of the resilient flooring
 - vi. Have all knots, voids and defects properly plugged and sanded
- f. Panels shall be installed according to manufacturer's instructions regarding stapling pattern, sanding and filling of joints, and acclimation to installed environment.
- g. Novalis will not cover or accept responsibility for the following:
 - i. Joint telegraphing, either as a "ridge" or "valley"
 - ii. Grain or texture telegraphing
 - iii. Discoloration of finished flooring due to materials used for filling of voids and defects in the face of the underlayment
 - iv. Use of Luan Plywood underlayment
- h. Unacceptable substrates shall be covered using a ¼" or thicker panel underlayment recommended for commercial use. Consult underlayment manufacturer for:
 - i. Recommended uses of product
 - ii. Warranty coverage
 - iii. Joint spacing
 - iv. Nailing or stapling pattern
 - v. Seam treatment
- i. Suitable underlayment panels include Artic (Baltic) Birch, A/C grade plywood with sanded face, or other underlayment grade exterior plywood.
- 3. Existing Resilient Flooring

July 2013 6|Page



- a. When installing Novalis LVT/LVP Flooring over existing resilient floors, the existing flooring must be:
 - i. Single layer only
 - ii. Thoroughly stripped of all wax, floor finish, dirt and other contaminants that may affect adhesive bond
 - iii. Be firmly bonded to the substrate
 - iv. Flat and smooth with no curling edges or loose seams
 - v. Dry and free from excessive moisture. All concrete floors shall be tested for moisture regardless of age or grade level. Do not assume that an existing floor is free of moisture related issues. Conduct testing per Section 1.d above.
 - vi. Must not be of a cushion back, floating, or perimeter bonded floor
- b. Novalis is not responsible for problems leading to or from indentations, telegraphing of old floor or adhesion release of old floor after the Novalis LV Flooring is installed.

4. Old Adhesives

- a. Adhesive residue shall be properly prepared prior to the installation of Novalis LV Flooring. It is recommended that mechanical scraping or grinding be used as a primary means of removing old adhesive residue.
- b. Residues include, but are not limited to carpet, vinyl, VCT, and or wood flooring adhesives.
- c. Black cutback/asphalt adhesives shall be scraped by hand to remove any loose patches, trowel ridges and puddles so that only a thin residue layer remains. This layer shall then be properly covered using a Portland based patching compound properly mixed with the manufacturer's recommended latex/acrylic additive.
- d. If chemical/liquid adhesive removers are utilized, the manufacturer's recommended instructions for cleaning after use of the remover shall be followed fully. Novalis is not responsible for any adhesive failures, indentation, bubbling, or delamination of new flooring due to improper cleaning of residue left from liquid adhesive removers.

WARNING!

DO NOT SAND, DRY SWEEP, BEADBLAST, SHOTBLAST OR USE ANY OTHER MECHANICAL MEANS TO PULVERIZE EXISTING TIEL FLOORING, BACKING, LINING FELT, ASPHALTIC "CUT-BACK" OR ANY OTHER ADHESIVES. THESE PRODUCTS MAY CONTAIN ASBESTOS FIBERS AND/OR CRYSTALLINE SILICA. AVOID CREATING DUST. INHALATION OF SUCH DUST IS A CANCER AND RESPIRATORY TRAC T 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, YOU MUST PRESUME IT CONTAINS ASBESTOS. REGULATIONS MAY REQUIRE THAT THE MATERIAL BE TESTED TO DETERMINE ASBESTOS CONTENT.

5. Other substrates

July 2013 7 | Page



- a. Cement terrazzo, epoxy terrazzo flooring, stained or painted concrete and metal floors may be suitable for installation and need to be properly prepared for adhesion. Most will need to be prepared with a suitable Portland-based cement patching compound, see manufacturer's recommendations for use and preparation of subfloor. Contact Novalis Technical Support at 1-866-NOVALIS for these installations.
- b. Ceramic, porcelain, marble and granite tiles are suitable as substrates when the following conditions are met:
 - i. Tiles must be properly bonded with intact grout joints and free of cracks
 - ii. Surface of tile and grout joints should be free from sealers, coatings, dirt and contaminants.
 - iii. 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. Follow leveling compound manufacturer's recommendations for surface preparation and application of product.
- c. The following are not suitable substrates for installation of Novalis LV Flooring: rubber, cork, or asphalt tiles; and any other material covered in the sections above and listed as unsuitable.
- d. Unsuitable substrates 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.

Installing Novalis NovaClic™ Flooring

1. Description

NovaClicTM Kempten Collection Floating floors are designed with an angle/angle locking mechanism. This requires that the right side or end joint be installed first at a shallow angle and locked into place. The top or long joint is then installed by sliding the plank towards the row above and installed at the same shallow angle by engaging the joint and pressing down to lock. This method is for both 12" x 24" locking tiles, 6" x 36" planks and 7" x 48" planks. See Section 4 below for installation instructions.

General

- a. **NovaClic™** is designed to be installed as a "floating" floor. Do not secure individual planks or tiles to the subfloor with mechanical fasteners or adhesives. Always undercut all doorjambs. Do not install cabinets or kitchen islands on top of **NovaClic** ™floating floors.
- b. 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.
- c. Use care when installing wall moldings and transition strips to not fasten through NovaClic™ planks or tiles.

July 2013 **8 |** Page



- d. When using more than one carton, make sure that the cartons are all the same dye lot. Different lots may have a variation in color, texture or gloss so they should not be mixed in the same room.
- e. Novalis square tile floating products are designed to simulate real stone and tile floors and are recommended to be installed in an ashlar (brick) pattern.
- f. Novalis plank simulates wood planks, and can be installed in the same pattern as a wood plank floor in a random pattern, staggered design.
- g. Planks are best in appearance when lying parallel to the longest walls in the room.
- h. Novalis products can be cut using a tile cutter or a utility knife. Keep knife blades sharp for easy, accurate and safe cuts. Fit tiles to walls, columns, door jambs, etc. using the same methods other floor tiles; overlap, pattern scribe, wall scribe and free hand.
- i. If it is necessary to heat the tiles to achieve a cut, heat slightly from the back only with minimal heat setting (a standard hair dryer will produce enough heat).
 Carefully make cuts with a sharp utility knife on the heated pieces.

3. Layout

- a. It is important to balance the layout of the plank and tile format. Proper planning and layout will prevent narrow piece widths at wall junctures. Determine layout to prevent having less than a half the width or very short length pieces.
- b. Determine the center of the room by measuring each end wall and marking the center of the wall. Chalk a line across the points and measure to determine the center point. At a right angle to the chalk line, using the center point, chalk another line out to the other walls.
- c. Be sure to allow for a 5/16" spacing along all walls when determining your starting plank width. On rooms greater than 900 ft² (83.6 m²) or runs longer than 30 feet (9 meters) control joints must be installed with a minimum of 5/16" (8mm) gap between the installed t-molding.
- d. Dry lay a section of tile/plank from the center line 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 less than 6" wide for tile patterns. 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.
 - i. Planks or should never be less than 9 inches long or less than half of the width of the plank. Avoid small pieces in border areas and adjust the center lines to achieve the proper pattern.
 - ii. Tiles should be balanced in the room with equal size cuts to the walls. The width of cut tiles should not be less than 6" inches wide by a full length of tile for the 12" x 24" tiles. See **Figure A**.
 - iii. Adjust the layout on the centerlines in the room if necessary to meet the above guidelines. See **Figure B**.

July 2013 9 | Page



Figure A

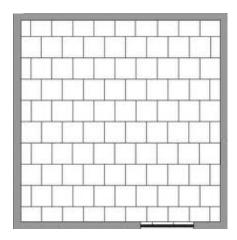
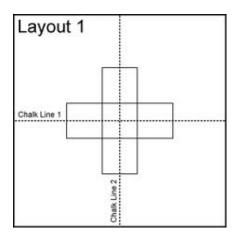
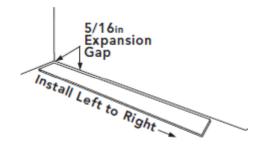


Figure B



- 4. Installing NovaClic™ Kempten (Angle/Angle) flooring Please note: pictures shown are for planks and are for reference only. Tile patterns install in the same manner.
 - a. Accurately measure the room to determine the centerline, adjust this established line to accommodate a balanced layout and then transpose this line to a comfortable width away from the starting wall (approximately 2' to 3' wide.) Determine if the starter row will need to cut. It will be necessary to cut off the unsupported tongue so that a clean, solid edge is toward the wall.
 - b. A small, soft bristle brush is recommended to be used to clean the joints of each piece before attempting to lock them together.
 - c. Starting in the farthest left, upper corner of the room position the first piece so that both the head and side seam groove is exposed. This requires installing the product from left to right in the room (Figure 1). Keep in mind that with a tile installation this may be a cut piece both in length and width based on the pattern layout.

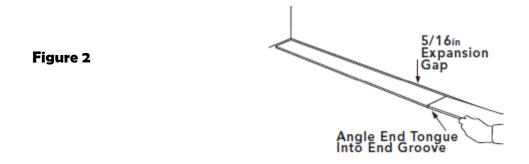
Figure 1







d. Install the second piece in the first row by angling the end tongue into the end groove of the first piece (Figure 2). Be careful not to bend the corner of the piece. Maintain an expansion gap of approximately 5/16" from the wall. Then cut a piece in half of the length to start the second row; stagger the end seam at least 6" from the first piece.

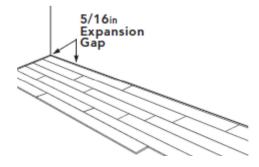


- e. Install the first piece in the second row by inserting the long side tongue into the groove of the piece in the first row. This is best done with a low angle (20° to 30°) of the plank.
- f. Install the second piece in the second row by inserting the short end tongue into the previously installed piece end groove. Align the piece by sliding it towards the first row so the long side tongue tip is positioned just over the groove lip of the piece in the first row. Working from the end seam, at a low angle(20° to 30°) insert the long tongue into the groove of the adjoining piece. Very little force is required to seat the tongue into the groove. You should feel the tongue lock into the groove.
- g. Work across the length of the room installing pieces along the wall in the first row and then aligning the pieces in the second row. 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.
 - <u>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.</u>
- h. Cut the last piece in the first row to fit approximately 5/16" short of the end wall. Use the cutoff of this plank to start the third row.
- i. Continue installing pieces, being certain to maintain a random appearance and offset end seams by at least 6" (Figure3). Maintain a 5/16" expansion gap at all fixed vertical surfaces. Check to be certain all pieces are fully engaged; if slight gapping is noticed, the gap can be tapped closed using a scrap of flooring and a tapping block.

July 2013 11 | Page



Figure 3



j. When fitting under door casings, etc., the flexibility and low angle of connection of **NovaClic**™ becomes evident. If necessary, a flat pull bar or "last board puller" may be used to assist in locking the planks.

5. Finishing the installation

- a. When fitting around obstacles or into irregular spaces, **NovaClic™** can be cut easily and cleanly using a utility knife with a sharp blade. It is often beneficial to make a cardboard template of the area and transfer this pattern to the plank.
- b. Protect all exposed edges of the **NovaClic™** by installing wall molding and/or transition strips. Use caution to prevent the fasteners from securing the planks to the subfloor.
- c. Protect the finished **NovaClic™** installation from exposure to direct sunlight.
- d. Tiles can be cut using a vinyl/ VCT tile cutter or using a utility knife with heavy-duty blades by scoring and snapping tiles carefully along the score line. Use a steel straight edge for cutting tile along the length with a utility knife.

After Installation

- 1. Be sure pieces are set, flat and have tight edges.
- 2. In the event that the LV piece 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
 - a. Wait 5 days after installation is completed and thoroughly clean the floor using a neutral pH cleaner.
 - b. If necessary, a slow (275-350rpm) buffer can be utilized with a white, non-abrasive pad to remove heavier deposits.
 - c. Rinse the floor thoroughly and allow to completely dry.
- 4. See the Novalis LV Flooring Maintenance guide for ongoing and preventive maintenance and cleaning of your flooring.

July 2013 12 | Page





REPAIRS

NovaClicTM is tough and durable; however, it is not indestructible. If a plank becomes damaged, it can be replaced. If the damaged plank is along the perimeter of the room, the easiest technique is to disconnect the planks until the damaged plank is removed. Replace the plank and reassemble the planks. If it's impractical to disconnect and reassemble the flooring, the following procedures should be used.

- Using a straight edge and a sharp utility knife, cut out and remove the center of the damaged plank, leaving approximately a 1" strip attached to the surrounding planks on all sides.
- 2. Carefully cut back from the corners of the plank to the inside edge.
- 3. Remove the plank edges by wiggling the cut plank out from the tongue and groove of the surrounding planks.
- 4. Prepare the replacement plank by placing the plank face down and folding back and removing the groove strip on both the long and end profile. Using the decorative surface of the tongue end as a guide, cut away this overhanging profile using a sharp utility knife.
- 5. Place some double sided carpet tape onto the subfloor covering sufficient area of the removed plank, seams and adjoining planks.
- 6. Position the replacement plank by engaging the tongue of the long side into the groove of the adjoining plank. "Hinge" the prepared replacement plank into position.
- 7. Use a hand roller and press the replaced plank into the double face tape to ensure bond.

July 2013 13 | Page



Produced under license of Flooring Industries™. U.S. Patent 6,291,078; U.S. Patent 6,218,001; U.S. Patent 7,384,697; and other Patents Pending.

Footnotes

Standards for Installation

ASTM	F 710	Standard Practice for preparing Concrete floors to receive resilient flooring
ASTM	F 1869	Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete subfloor using Anhydrous Calcium Chloride
ASTM	F 1482	Standard Practice for Installation and Preparation of Panel Type Underlayment's to Receive Resilient Flooring
ASTM	F 2170	Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs using In Situ Probes
ACI	302	Guide for Concrete Floor and Slab Construction

Accredited Organizations for Standard Practices

American Concrete Institute (ACI)

P.O. Box 9094

Farmington Hills, MI 48333

www.concrete.org

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West Conshohocken, PA, 19428-2959
www.astm.org

APA – The Engineered Wood Association (APA)

7011 S. 19th Street

Tacoma, WA 98466-5333

Www.apawood.org

Resilient Floor Covering Institute (RFCI)

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July 2013 14 | Page

¹ ASTM F 710 Standard Practice for Preparing Concrete Floors to receive Resilient Flooring