nora®
Installation Guide
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The nora® Installation Guide covers the typical projects and circumstances where nora® rubber flooring is to be installed. If you need assistance or require a project specification, please contact the nora® technical department at 1-800-332-NORA. The MSDS shall be read and understood prior to using any nora product.

All nora products are intended for indoor use only, by professional floor installers, in high stressing commercial and industrial sectors, e.g., hospitals, schools, airports, shopping centers, radiant heating and castor chair traffic, etc. The nora® pro install system products shall only be used under nora flooring; nora accepts no liability under any other manufacturer’s floor coverings. Always check the production date, if expired, do not use.

The area to receive flooring shall be fully enclosed, weather tight and climate controlled at the normal service ambient temperature and humidity (except walk-in freezers or similar) or 68°F ± 5°F and 50% ± 10% ambient relative humidity (RH) for 48 hours before, during and 72 hours after the installation. When using nora wet adhesives in areas of flooring subjected to direct sunlight, for example through doors or windows, they must be covered using blinds, curtains, cardboard or similar materials throughout the installation and for a period of 72 hours after the installation to allow the adhesive to cure.

nora flooring and nora pro install system products shall not be installed when dew point occurs (a surface temperature at which condensation occurs). The substrate surface shall be at least 5°F above dew point when using nora products. Example: If the ambient conditions are 70°F and 65% RH, the dew point is 57°F and you shall not proceed with the installation, unless the surface temperature is at a minimum of 62°F. A dew point calculation chart is available upon request.

Only use a suitable vacuum cleaner or water-based sweeping compounds as required. It is the responsibility of the installing party to determine the suitability of the subfloor being covered. Perform your own Mat Bond Tests to confirm your acceptance that the substrate and preparation is suitable for your project.

MOISTURE TESTING

nora adhesives can be used, where appropriate on all grade levels of concrete, in the absence of excessive moisture. It is essential that moisture testing shall be performed regardless of grade level or whether the concrete is freshly poured or classified as an older slab. Test following the protocol of ASTM F2170—Standard Test Method for Determining Relative Humidity in Concrete Slabs Using in situ Probes, with Wagner Rapid RH probes only. If for any reason you are unable to drill into the concrete, please contact the nora technical department.

Tested at the correct service temperature and ambient humidity, the maximum allowable results (with effective vapor retarder as required) are as follows:

1. nora® membrane = must be surface dry (visually)
2. nora® 485, 685, 385 and 585 adhesives, primer, leveler and patch = 85% RH
3. nora® dryfix and Quickfix tape adhesives = 75% RH

If the test results exceed the listed percentage relative humidity (% RH) levels, the installation shall not proceed until the moisture level lowers to an acceptable level, or use the nora membrane following the Installation Guide.

CONCRETE SUBFLOORS

All subfloors shall be permanently dry, clean, smooth and structurally sound as per ASTM F710—Standard Practice for
Preparing Concrete Floors to Receive Resilient Flooring and nora Installation Guide. They shall be free of dust, solvents, paint, wax, varnish, oil, grease, asphalt, old adhesives and other extraneous materials that may interfere with the bond. These shall be completely removed by mechanical means only. Dustless diamond grinding is the preferred method to remove contaminants and bond breakers, as it also helps to level the concrete. All local, state and federal regulation shall be followed.

Concrete subfloors shall not be subject to shrinking, curling, cracking or moving in any way prior to the application of any nora products. nora systems, Inc. accepts no liability for a failure or complaint due to slab movement of any kind. nora products shall not be installed over expansion joints; use an industry standard expansion joint assembly. When concrete slabs have or are suspected of having ASR (Alkali Silica Reaction) present, do not proceed; contact the nora technical department. Do not use any nora product where hydrostatic pressure can occur.

On and below grade concrete subfloors require a confirmed permanently effective vapor retarder with a low permeance (less than 0.1) having a minimum thickness of 10 mils, or meets the requirements of ASTM E1745 — Standard Specification for Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs. It shall be placed directly underneath the concrete, above the granular fill or use the nora membrane following the nora Installation Guide.

On, above and below-grade concrete slabs that have a permanent effective vapor retarder with excess moisture can be allowed to dry naturally. Note: making the subfloor surface porous and using the HVAC or dehumidification systems in the correct conditions may help speed up the drying process; however, the rate at which the subfloor will dry cannot be confirmed.

WARNINGS

Do not sand, dry sweep, dry scrape, drill, saw, bead-blast or mechanically chip or pulverize existing resilient flooring, backing, lining felt, asphalt “cutback” adhesive or other adhesive. These products may contain asbestos fibers and/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, you must presume it contains asbestos. Regulations may require that the material be tested to determine asbestos content.

Various local, state and federal government agencies have regulations governing the removal of in-place asbestos-containing material. If you contemplate the removal of a resilient floor covering structure that contains (or is presumed to contain) asbestos, you must review and comply with all applicable local, state and federal regulations.

The RFCI (Resilient Floor Covering Institute) “Recommended Work Practices for Removal of Resilient Floor Coverings” are a defined set of instructions addressed to the task of removing all resilient floor-covering structures, including adhesive and adhesive residues. For more information, contact RFCI directly at www.rfci.com or 706-882-3833.

WOOD SUBFLOORS

All wooden subfloors shall be a minimum thickness of 1-1/4 inch and double sheeted with overlapping joints using APA (American Plywood Association) underlayment grade plywood, installed as per ASTM F1482 — Standard Practice for Installation and Preparation of Panel Type Underlayments to Receive Resilient Flooring.

Wooden substrates shall not be in direct contact with concrete subfloors, even if built on sleepers. All suspended wood
floors shall have adequate underfloor ventilation and a permanently effective vapor retarder or membrane placed directly on the ground beneath the air space.

OTHER SUBFLOORS

Please contact the nora technical department for any fire retardant surfaces or specific recommendations regarding all other substrates. Do not install over oriented strand board (OSB), particleboard, masonite, lauan or similar unstable substrates.

INFORMATION

For more information, please refer to the MSDS that must be read and fully understood prior to using the product. The latest MSDS, Guide Specifications, Maintenance Guides and Videos are all available at www.nora.com/us.

For copies of any of the ASTM standards or test methods, please visit www.astm.org.

nora® pro install system

The nora pro install system is a unique installation system available for use on nora rubber flooring. This five-step system affords access to all essential flooring installation components, from nora® membrane to nora® adhesive.

Registration for the 10 year nora pro install system warranty is required.

STEP 1: nora® membrane

GENERAL

Perform testing and the proper preparation protocol (as described in the opening section of this Installation Guide), and follow the appropriate sections of the guide for installing flooring, substrate preparation and adhesive usage.

The nora membrane is required when moisture levels within the concrete are too high and circumstances do not allow sufficient drying, also for all on, and below grade slabs, if a permanently effective vapor retarder is not confirmed.

The membrane is a two-component epoxy that has no application window and is formulated for properly prepared substrates, such as concrete and cement-based terrazzo. nora membrane requires two applications (double coating), resulting in a pin-hole free dry film thickness of ~16 mils.

CONDITIONING

nora membrane and substrate shall be fully acclimated to 40°F–90°F (5°C–32°C) for a minimum of 48 hours prior, during and 48 hours after the installation is completed. Temperature and ambient humidity variations will directly affect the curing times—they are reduced by higher temperatures and increased with cooler temperatures.

If product has been allowed to freeze, it must be fully thawed to a liquid state before mixing.
SUBSTRATE PREPARATION

Mechanically prepare the subfloor by dustless diamond grinding or shot blasting. The surface shall be surface dry, porous (absorptive), and have a profile similar to a light broom finish, a concrete surface profile (CSP) of 1–3 is required. Note: Shot blasting may produce an uneven surface that could require more membrane to achieve the required coverage. All local, state and federal regulations shall be followed.

Test for porosity until you are sure the entire area is porous. This can be done by placing dime size drops of water on the surface—it will begin to absorb into the concrete within one minute to be considered porous.

Mark out the project into 200 square foot grids and, using a suitable vacuum, thoroughly vacuum the entire area.

SAW CUTS/Crack Inducers

Remove all saw laitance, dirt, debris, coatings, sealers and visible moisture from the saw cuts. Use a suitable dustless concrete saw with a diamond blade slightly wider than the existing cut width or similar to achieve this.

Saw cuts shall be filled with nora membrane, mixed properly, then immediately mix in either nora patch or leveler powder or silica sand to a consistency that can be flat troweled (pressed) into the clean saw cuts. For wider gaps, a thicker mixture is usually preferred. For very deep joints, it may be preferable to insert a backer rod into the clean saw cut (minimum 1/2 inch down) prior to filling.

GENERAL DORMANT CRACKS

For any other dormant crack that is more than 1/32 inch wide, or if the crack is not sealed with the first application of the membrane, fill as described under Saw Cuts/Crack Inducers (Step 3 nora® leveler). Do not fill or install over moving cracks.

EXPANSION JOINTS

nora products shall not be installed over expansion joints. Use an industry standard expansion joint assembly.

MIXING

If the product has been allowed to freeze, it must be fully thawed to a liquid state before mixing. Do not over mix as the pot life will be reduced. Pot life is about 30 minutes at 70°F and will be reduced by higher temperatures or increased with cooler temperatures. Mix full units only, do not partial mix.

Using a slow speed drill (<150 rpm), fitted with a suitable mixing spindle (~3" in diameter) pre-mix Part A and Part B separately, as some of the ingredients may settle at the bottom of each container. It is important to scrape all of the material from the sides and bottom of the pail of Part B, while adding it to Part A. Mix for approximately one minute until a homogenous mix (without streaks) is obtained.

APPLICATION

Pour out the pre-mixed unit of membrane into a clean paint tray and using a suitable 3/8 inch non-shedding nap roller with an extendable handle, evenly roll out all of the membrane (within the 200 square foot grid) ensuring a uniform thickness is applied.

Allow about 10 minutes for the membrane to partially absorb into the concrete and re-roll paying special attention to any air bubbles; this will help eliminate pin holes. Spiked shoes are advised to be used with care following the manufacturer’s instructions, as they enable you to carefully walk in the wet membrane. Complete the remainder of the required area following the same procedure.
Allow the membrane to fully cure (until it is tack-free). This may be approximately 5–6 hours depending on temperature and ambient humidity.

For the second coat, mark out the required area into 200 square foot grids. Repeat the mixing and application process and make sure no pin-hole exists when you re-roll the membrane.

Note: If the substrate is extremely porous, then pin-holes may still occur even after two applications. This is not the responsibility of nora systems, Inc. If any pin-holes are present, they shall be filled with more nora membrane and allowed to cure (~5–6 hours) prior to continuing with the project.

CLEAN UP

Immediately clean all tools and equipment with a clean cloth and 70% Isopropyl alcohol or liquid soap and water. Once cured, this material can only be mechanically removed, which may damage some surfaces.

OTHER LIMITATIONS

This is not an anti-fracture membrane and shall not be used in areas subject to hydrostatic pressure.

STEP 2: nora® primer

GENERAL

Perform testing and the proper preparation protocol (as described in the opening section of this Installation Guide), and follow the appropriate sections of the guide for installing flooring, substrate preparation and adhesive usage. nora® primer is always required to be used directly over the nora membrane, prior to any nora® leveler, patch or skim coating. Priming is also required when nora leveler is used over other substrates. When nora® dryfix is to be used in operating rooms, the surface of any patch or skim coating product shall also be primed.

CONDITIONING

nora primer and substrate shall be fully acclimated to 60°F–90°F (15°C–32°C) for a minimum of 48 hours prior, during and 48 hours after the installation is complete. Temperature and ambient humidity variations will directly affect the cure and drying times—they are reduced by higher temperatures and increased with cooler temperatures.

MEMBRANE PREPARATION

The nora membrane shall be tack-free (~5–6 hours). Mark out the required area into 500 square foot grids.

CONCRETE PREPARATION

The concrete subfloor shall be prepared per ASTM F710, and nora Installation Guide. A dry, clean, smooth and structurally sound concrete with a surface profile (CSP) of 1–3 is required. This shall be achieved by mechanical means only. Dustless diamond grinding is the preferred method to remove contaminants and bond breakers, as it also helps to level the concrete. Bead blasting can also achieve the required results. All local, state and federal regulations shall be followed. Mark out the required area into 500 square foot grids.

EXPANSION JOINTS

nora products shall not be installed over expansion joints. Use an industry standard expansion joint assembly.
MIXING

Shake bottle vigorously for 1 minute prior to use. If, however, the primer has been allowed to freeze, it must be fully thawed to a liquid state and mixed with a suitable drill and paddle.

APPLICATION

Using a short nap roller (3/8 inch) and a suitable paint tray, coat the substrate evenly while not exceeding each 500 square foot grid per unit. Do not allow the material to puddle, as this will inhibit the drying time and adhesion.

CLEAN UP

Immediately clean all tools and equipment with 70% Isopropyl alcohol or liquid soap and water. Once cured, this material can only be mechanically removed, which may damage some surfaces.

GENERAL

Perform testing and the proper preparation protocol (as described in the opening section of this Installation Guide), and follow the appropriate sections of the guide for installing flooring, substrate preparation and adhesive usage. nora® leveler requires the use of nora primer prior to its application following the Installation Guide, except when used as a patch over suitable porous substrates.

nora leveler can be barrel and drill mixed or installed using a suitable pump. The leveler is used to repair, smooth and level concrete as well as existing ceramic, terrazzo or other approved subfloors. It is suitable for thickness from 0–1 inch thick or from 1/2 up to 5 inch thick when mixed correctly with pea gravel, then added. A minimum of 1/8 inch of dry nora leveler is required when using nora® 485 and 685 adhesives over properly prepared non-porous subfloors (nora membrane or similar).

nora leveler may be used as a skim-coating product; however, the entire room or area must be skimmed. Do not partial patch, as the edge of the leveler may telegraph through the flooring.

CONDITIONING

The required area and leveler shall be fully acclimated to 50°F–95°F (10°C–35°C) and be as dry as possible, for a minimum of 48 hours prior, during and until the leveler is dry. Note: Temperature and ambient relative humidity variations will directly affect the cure and drying times. After the leveler is “set,” fans may be used to speed up the drying process.

GENERAL SUBSTRATE PREPARATION

Test following the protocol of ASTM F2170—Standard Test Method for Determining Relative Humidity in Concrete Slabs Using in situ Probes, with Wagner Rapid RH probes only. Tested at the correct service temperature and ambient humidity, the maximum allowable shall be the same as the adhesive being used (including the requirement for vapor retarder). If the test results exceed the limitations, the installation shall not proceed until the moisture level lowers to an acceptable level, or use the nora membrane following the Installation Guide. Note: Making the subfloor surface porous and using
the HVAC or dehumidification systems in the correct conditions may help speed up the drying process, however, the rate at which the subfloor will dry cannot be confirmed.

Concrete subfloors shall be permanently dry, clean, smooth and structurally sound as per ASTM F710—Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring. Use only water-based sweeping compounds or a suitable vacuum cleaner as required.

On and below grade slabs shall have a confirmed permanently effective vapor retarder directly under the concrete. Alternatively, the nora membrane shall be used first, following directions. Concrete substrate shall have finished shrinking, curling, cracking or moving in any way prior to the application of nora leveler. nora systems, Inc. accepts no liability for slab movement resulting in a failure or complaint due to cracking, shrinking, curling or slab movement of any kind.

They shall be free of dust, solvents, paint, wax, varnish, oil, grease, asphalt, old adhesives and other extraneous materials that may interfere with the bond. These shall be completely removed by mechanical means only. Dustless diamond grinding is the preferred method to remove contaminants and bond breakers, as it also helps to level the concrete. All local, state and national regulations shall be followed.

Do not use chemicals for adhesive removal. The RFCI (Resilient Floor Covering Institute) “Recommended Work Practices for Removal of Resilient Floor Coverings” are a defined set of instructions addressed to the task of removing all resilient floor-covering structures, including adhesive and adhesive residues. For more information, contact RFCI directly at www.rfci.com or 706-882-3833.

When concrete slabs have or are suspected of having ASR (Alkali Silica Reaction) present, do not use this product, contact the nora technical department for recommendations.

For all other substrates, please contact the nora technical department. If any doubt exists, then bond tests shall be performed to confirm a very good bond of the entire system.

LEVELING PREPARATION

nora primer shall first be applied on a suitable substrate following the directions on the label and the Installation Guide and allowed to dry to a tack free state prior to the application of nora leveler (usually 2 – 4 hours). Note: An insufficient amount of primer may cause pin-holes to form in the underlayment or a weak bond, resulting in delamination. nora leveler is very fluid once it is mixed correctly. Prevent underlayment from seeping through holes in the floor. Pipes, holes and penetrations should be blocked or filled with caulking, grout or fiberglass insulation prior to the application.

SKIM COATING PREPARATION

On suitable non-porous substrates, nora primer shall be used and allowed to dry to a tack-free state prior to smoothing. If in doubt, conduct your own bond test. For suitable porous substrates, priming is not necessary when skim coating.

SAW CUTS/CRACK INDUCERS

Remove all saw laitance, dirt, debris, coatings, sealers and visible moisture from the saw cuts. Use a suitable dustless concrete saw with a diamond blade slightly wider than the existing cut width or similar to achieve this.

For optimum performance (wet slabs and heavy rolling loads), saw cuts shall be filled with nora membrane mixed properly first, then immediately mix in nora leveler powder or silica sand to a consistency that can be flat troweled (pressed) into the clean saw cuts. For wider gaps, a thicker mixture is usually preferred. For very deep joints, it may be preferred to insert a backer rod into the clean saw cut (minimum 1/2 inch down) prior to filling.
For dormant and permanently dry slabs, nora leveler may be used to fill the pre-cleaned saw cuts. For very deep joints, it may be preferred to insert a backer rod into the clean saw cut (minimum 1/2 inch down) prior to filling.

GENERAL DORMANT CRACKS

For any other dormant crack where the membrane is required and is more than 1/32 inch wide, or if the crack is not sealed with the first application of the membrane, fill as described under Saw Cuts/Crack Inducers. Do not install over moving cracks. On permanently dry slabs, cracks can be pre-filled using nora leveler. Mix to a thicker consistency with less water and then, using a flat trowel, fill the crack by pressing the leveler into the crack prior to smoothing.

EXPANSION JOINTS

nora products shall not be installed over expansion joints. Use an industry standard expansion joint assembly.

BARREL MIXING

Mix five-and-one-half (5-1/2) quarts of cool water per 50 lb bag of nora leveler, in a suitable mixing barrel. Always add the powder to the pre-measured water while mixing with a suitable high-powered drill (500–1000 rpm) and mixing paddle. Mix for approximately 2 minutes to a creamy, lump free liquid consistency and install immediately. Do not over water.

For deep pours that require an increase in elevation, 1–5 inch(es) of nora leveler it shall be reinforced with clean dry pea gravel having an average diameter of 1/8–3/8 inch. Pea gravel shall be mixed in at 15 lbs per 50 lb bag of premixed nora leveler. Note: When pea gravel is added to the mix, additional patching or smoothing may be required (after curing).

PUMP MIXING

Follow the pump manufacturer’s instructions. Note: The water/leveler ratio shall remain at five-and-one-half (5 1/2) quarts of cool water per 50 lb bag of nora leveler. Do not over water.

PARTIAL MIXING

When used as a patching product, use a mixing ratio of 3-1/2 fluid ounces of cool water per 1 lb powder of nora leveler. Always measure the water first, then mix in the powder to the water with a suitable drill, mixing barrel and mixing paddle. Mix for approximately 2 minutes to a creamy, lump free liquid consistency and install immediately. Do not mix more than can be applied within 15 minutes and do not over water.

LEVELER APPLICATION

nora leveler may be applied using a CAM, wire or pin gauge rake (minimum 1/8 inch) and unless it’s a very deep pour, use a long spiked roller with an extendable handle. Spiked shoes are also advised to be used with care following the manufacturer’s instructions.

Immediately pour the mixture at the far side of the area (starting point), using the gauge rake maneuver (pull) the leveler so all of the substrate is evenly covered while dragging the excess leveler off (towards you). Wearing spiked shoes enables you to carefully walk in the poured leveler (prior to it starting to set) without damaging the healing process or surface finish.

Using the long spiked roller, roll back and forth, breaking the surface tension of the wet leveler. This allows for better healing, resulting in a smoother surface. Do not turn the roller sharply, and slow down at the end of each push or pull (avoid waves) as these will adversely affect the finish.
SKIM COAT APPLICATION

Use a steel finishing trowel held at a ~45° angle, work the leveler into the surface, smoothing and filling all cracks and depressions in the substrate. Note: A slight, course sandy texture is expected. However, once cured, all lumps or ridges shall be smoothed either by light sanding or another application of leveler. Priming between layers is not required. The final substrate shall achieve a surface smooth enough for the flooring to be installed to the satisfaction of the end user.

OTHER LIMITATIONS

- Do not apply directly over gypsum-based substrates or compounds.
- Do not apply when temperatures will drop below 50°F or go above 95°F for 24 hours after application.
- Do not install nora flooring until the nora leveler is dry.
- Do not use as a wear surface.

CLEAN UP

Wash tools immediately with water.

STEP 4: nora® patch

GENERAL

Perform testing and the proper preparation protocol (as described in the opening section of this Installation Guide), and follow the appropriate sections of the guide for installing flooring, substrate preparation and adhesive usage. nora® patch may be used as a skim coat or from featheredge up to 1 inch deep in one application. Flooring can be installed typically (skim coated) in as little as 15–20 minutes if used over dry concrete or wood when unprimed.

CONDITIONING

The required area and patch shall be fully acclimated to 50°F–95°F (10°C–35°C) and be as dry as possible, for a minimum of 48 hours prior, during and until the patch is dry. Note: Temperature and ambient relative humidity variations will directly affect the cure and drying times. After the patch is “set,” fans may be used to speed up the drying process.

SUBSTRATE PREPARATION

Concrete subfloors shall be dry, clean, smooth and structurally sound as per ASTM F710—Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring. They shall be free of dust, solvents, paint, wax, varnish, oil, grease, asphalt, old adhesives and other extraneous materials that may interfere with the bond. These shall be completely removed by mechanical means only. Dustless diamond grinding is the preferred method to remove contaminants and bond breakers, as it also helps to level the concrete. Bead blasting can also achieve the required results. All local, state and federal regulations shall be followed.

PRIMING

Fully cured nora membrane shall be primed first using nora primer and allowed to dry. Other suitable non porous substrates may also require priming; it is your responsibility to perform a bond test to confirm an adequate bond.
SAW CUTS/CRACK INDUCERS

Remove all saw laitance, dirt, debris, coatings, sealers and visible moisture from the saw cuts. Use a suitable dustless concrete saw with a diamond blade slightly wider than the existing cut width or similar to achieve this.

For optimum performance (wet slabs and heavy rolling loads), saw cuts shall be filled with nora membrane mixed properly first, then immediately mix in nora patch powder or silica sand to a consistency that can be flat troweled (pressed) into the clean saw cuts. For wider gaps, a thicker mixture is usually preferred. For very deep joints, it may be preferable to insert a backer rod into the clean saw cut (minimum 1/2 inch down) prior to filling.

For permanently dry slabs and without heavy rolling loads, nora patch may be used to fill the pre-cleaned saw cuts. For very deep joints, it may be preferable to insert a backer rod into the clean saw cut (minimum 1/2 inch down) prior to filling.

GENERAL DORMANT CRACKS

For any other dormant crack that is more than 1/32 inch wide, or if the crack is not sealed with the first application of the membrane, fill as described under Saw Cuts/Crack Inducers (Step 3 nora leveler). Do not install over moving cracks.

EXPANSION JOINTS

nora products shall not be installed over expansion joints. Use an industry standard expansion joint assembly.

MIXING

Mix 10 lb of nora patch into 2-1/2 quarts of clean, cool water. Do not over water. Do not mix more material than can be applied in 15 minutes. Partial mixtures shall be 1 part of cool water mixing in 2 parts powder. Use a suitable drill, mixing paddle and the supplied bucket, mix to a creamy, smooth, lump-free consistency.

APPLICATION

Use a steel finishing trowel held at a ~45° angle, work the patch into the surface, smoothing and filling all cracks and depressions in the substrate.

Note: Once cured, all lumps or ridges shall be smoothed either by light sanding (with a suitable vacuum attachment) or another application of patch. Priming between layers is not required. The final substrate shall achieve a surface smooth enough for the flooring to be installed to the satisfaction of the end user.

OTHER LIMITATIONS

• nora patch should not be used in areas subjected to heavy rolling loads within five (5) days of application. For trafficking after 3 days, use nora leveler as a leveler or skim coat.

• Do not use in areas that require more than 1 inch depth. Use nora leveler.

• Do not install flooring until the nora patch is dry.

• Do not use as a wear surface.

• Do not apply directly over gypsum-based substrates or compounds.

CLEAN UP

Wash tools immediately with water.
nora® 485 and 685 Adhesives

GENERAL

Perform testing and the proper preparation protocol (as described in the opening section of this Installation Guide), and follow the appropriate sections of the guide for installing flooring, substrate preparation and adhesive usage. Confirm that you have the correct adhesive for the project. If unsure, please contact your local nora sales representative, customer service or technical department. These adhesives are freeze-thaw stable as determined by ASTM Test Method D7149, non-flammable, water and alkali resistant.

nora 485 is a water-based acrylic adhesive that has been formulated for the installation of specific nora rubber floor coverings (2 mm – 4 mm) on porous subfloors. nora 685 is a conductive water-based acrylic adhesive for installing the nora® ed range of products on porous subfloors. All nora products are intended for indoor use only, by professional floor installers. nora adhesives shall only be used under nora flooring.

CONDITIONING

The area to receive flooring shall be fully enclosed, weather tight and climate controlled at the normal service ambient temperature and humidity (except walk-in freezers or similar) or 68°F ± 5°F and 50% ± 10% ambient relative humidity (RH) for 48 hours before, during and 72 hours after the installation. Areas of the flooring subjected to direct sunlight, for example through doors or windows, must have them covered using blinds, curtains, cardboard or similar materials throughout the installation and for a period of 72 hours after the installation to allow the adhesive to cure.

CONCRETE SUBSTRATE PREPARATION

All subfloors shall be porous, permanently dry, clean, smooth and structurally sound as per ASTM F710 — Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring and nora Installation Guide. It is the responsibility of the installing party to determine the suitability and porosity of the subfloor being covered. To determine if a subfloor is porous, place dime-sized drops of water in various areas. To be considered porous, the drops of water will begin to be absorbed into the concrete within five minutes. For installed leveler or patch (over non-porous substrates), they shall be a minimum of 1/8 inch deep to be considered porous.

nora 485 and 685 adhesives can be used, where appropriate, on all grade levels of concrete, in the absence of excessive moisture. It is essential that moisture testing shall be performed regardless of grade level or whether the concrete is freshly poured or classified as an older slab. Test following the protocol of ASTM F2170 — Standard Test Method for Determining Relative Humidity in Concrete Slabs Using in situ Probes, with Wagner Rapid RH probes only. Tested at the correct service temperature and ambient humidity, the maximum allowable for these adhesives shall be 85% RH.

If the test results exceed the limitations (85% RH), the installation shall not proceed until the moisture level lowers to an acceptable level, or use the nora membrane following the Installation Guide. Note: Making the subfloor surface porous and using the HVAC or dehumidification systems in the correct conditions may help speed up the drying process, however, the rate at which the subfloor will dry cannot be confirmed.

On and below grade concrete subfloors require a confirmed permanently effective vapor retarder with a low permeance (less than 0.1) having a minimum thickness of 10 mils, or meets the requirements of ASTM E1745 — Standard Specification for Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs. It shall be
placed directly underneath the concrete, above the granular fill or use the nora membrane following the nora Installation Guide.

Concrete subfloors shall not be subject to shrinking, curling, cracking or moving in any way prior to the application of any nora products. nora systems, Inc. accepts no liability for a failure or complaint due to slab movement of any kind. They shall be free of dust, solvents, paint, wax, varnish, oil, grease, asphalt, old adhesives and other extraneous materials that may interfere with the bond. These shall be completely removed by mechanical means only. Dustless diamond grinding is the preferred method to remove contaminants and bond breakers, as it also helps to level the concrete. All local, state and federal regulations shall be followed.

Cracks and uneven surfaces must be filled using nora membrane and a leveler or patch as described within this Installation Guide. nora products shall not be installed over expansion joints. Use an industry standard expansion joint assembly. When concrete slabs have or are suspected of having ASR (Alkali Silica Reaction) present or an unsuitable surface, do not proceed, contact the nora technical department immediately. Do not use any nora product where hydrostatic pressure can occur.

WOOD SUBSTRATE PREPARATION

All wooden subfloors shall be porous with a minimum thickness of 1-1/4 inch and double sheeted with overlapping joints using APA (American Plywood Association) underlayment grade plywood, installed as per ASTM F1482 — Standard Practice for Installation and Preparation of Panel Type Underlayments to Receive Resilient Flooring and the nora Installation Guide.

Wooden substrates shall not be in direct contact with concrete subfloors, even if built on sleepers. All suspended wood floors shall have adequate underfloor ventilation and a permanently effective vapor retarder or membrane placed directly on the ground beneath the air space.

OTHER SUBFLOORS

Please contact the nora technical department for any fire retardant surfaces or specific recommendations regarding all other substrates. Do not install over oriented strand board (OSB), particleboard, masonite, lauan or similar unstable substrates.

ESD FLOORING (ed PRODUCTS)

For ESD flooring installations, nora® copper tape must be used with the proper conductive adhesive. In rooms < 2,500 square feet in size, the copper strip (minimum 4 feet long) shall be applied to the substrate and extended to a predetermined grounding point (to be connected by a qualified electrician). In rooms > 2,500 square feet, additional grounding points shall be predefined and also have the copper tape installed.

INSTALLATION

Following the appropriate section within this Installation Guide, dry-lay the flooring including all seams and perimeter cuts, only dry-lay that which will be adhered on that day. Carefully pull back sheet flooring, or for tile neatly stack (in order), removing a workable section, but not so large as to avoid late placement.

Apply the adhesive using a 1/16 inch x 1/16 inch x 1/16 inch square notched trowel, evenly without the formation of puddles or any voids. Do not apply fresh adhesive over drying adhesive as this will result in telegraphing of adhesive lines. Coverage is approximately 100–110 square feet per gallon. Replace worn trowels to ensure proper spread rate, do not re-notch.

Once troweled, the adhesive shall remain open (flash-off) for approximately 10–15 minutes before correct replacement
of the flooring into the adhesive. The adhesive must be able to transfer to your fingertips with a light touch, and it must transfer to the back of the flooring during installation; if not, contact the technical department immediately.

Immediately roll in both directions utilizing a 100-pound three-section roller. Reroll again in both directions after approximately 60 minutes. If required, place weights on any lifting edges or corners to ensure proper bonding. Repeat the procedure for the remainder of the project.

CLEAN UP

Remove any fresh adhesive from the surface of the flooring with water and a clean cloth. Dried adhesive may be removed using 70% Isopropyl alcohol and a clean cloth. Do not wash or perform any maintenance of the floor for a minimum of 72 hours after the installation is completed to allow adhesive to cure.

PRECAUTION

Prevent all traffic for a minimum of 12 hours and heavy traffic and rolling loads for 72 hours. If required, after 12 hours protect the flooring using plywood, masonite or a similar product ensuring first that the flooring surface is free of all debris. Lay the panels so that the edges form a butt joint and tape the joint to prevent both movement and debris entrapment underneath them.

nora® 385 and 585 Adhesives

GENERAL

Perform testing and the proper preparation protocol (as described in the opening section of this Installation Guide), and follow the appropriate sections of the guide for installing flooring, substrate preparation and adhesive usage. Confirm that you have the correct adhesive for the project. If unsure, please contact your local nora sales representative, customer service or technical department.

nora® 385 is a two-component polyurethane adhesive that has been formulated for the installation of specific nora rubber flooring. nora® 585 is a conductive two-component polyurethane adhesive for the nora ed range of flooring. When parts A and B are thoroughly mixed together, they form a reactive adhesive that cures to a tough, flexible film with a good resistance to surface moisture and many chemicals. All nora products are intended for indoor use only, by professional floor installers. nora adhesives shall only be used under nora flooring.

CONDITIONING

The area to receive flooring, shall be fully enclosed, weather tight and climate controlled at the normal service ambient temperature and humidity (except walk in freezers or similar) or 68°F ± 5°F and 50% ± 10% ambient relative humidity (RH) for 48 hours before, during and 72 hours after the installation. Areas of the flooring subjected to direct sunlight for example through doors or windows must have them covered using blinds, curtains, cardboard or similar throughout the installation and for a period of 72 hours after the installation to allow the adhesive to cure.

CONCRETE SUBSTRATE PREPARATION

All subfloors shall be permanently dry, clean, smooth and structurally sound as per ASTM F710—Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring and nora Installation Guide. It is the responsibility of the installing party to determine the suitability of the subfloor being covered.
nora® 385 and 585 adhesives can be used, where appropriate, on all grade levels of concrete, in the absence of excessive moisture. It is essential that moisture testing shall be performed regardless of grade level or whether the concrete is freshly poured or classified as an older slab. Test following the protocol of ASTM F2170—Standard Test Method for Determining Relative Humidity in Concrete Slabs Using in situ Probes, with Wagner Rapid RH probes only. Tested at the correct service temperature and ambient humidity, the maximum allowable shall be 85% RH for these adhesives.

If the test results exceed the limitations (85% RH), the installation shall not proceed until the moisture level lowers to an acceptable level, or use the nora membrane following this Installation Guide. Note: Making the subfloor surface porous and using the HVAC or dehumidification systems in the correct conditions may help speed up the drying process, however, the rate at which the subfloor will dry cannot be confirmed.

On and below grade concrete subfloors require a confirmed permanently effective vapor retarder with a low permeance (less than 0.1) having a minimum thickness of 10 mils, or meets the requirements of ASTM E1745—Standard Specification for Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs. It shall be placed directly underneath the concrete, above the granular fill or use the nora membrane following the nora Installation Guide.

Concrete subfloors shall not be subject to shrinking, curling, cracking or moving in any way prior to the application of any nora products. nora systems, Inc. accepts no liability for a failure or complaint due to slab movement of any kind. They shall be free of dust, solvents, paint, wax, varnish, oil, grease, asphalt, old adhesives and other extraneous materials that may interfere with the bond. These shall be completely removed by mechanical means only. Dustless diamond grinding is the preferred method to remove contaminants and bond breakers, as it also helps to level the concrete. All local, state and federal regulations shall be followed.

Cracks and uneven surfaces must be filled using nora membrane and a leveler or patch as described in this Installation Guide. nora products shall not be installed over expansion joints—use an industry standard expansion joint assembly. When concrete slabs have or are suspected of having ASR (Alkali Silica Reaction) present or unsuitable surface, do not proceed, contact the nora technical department immediately. Do not use any nora product where hydrostatic pressure can occur.

WOOD SUBSTRATE PREPARATION

All wooden subfloors shall be a minimum thickness of 1-1/4 inch and double sheeted with overlapping joints using APA (American Plywood Association) underlayment grade plywood, installed as per ASTM F1482—Standard Practice for Installation and Preparation of Panel Type Underlayments to Receive Resilient Flooring and the nora Installation Guide.

Wooden substrates shall not be in direct contact with concrete subfloors, even if built on sleepers. All suspended wood floors shall have adequate underfloor ventilation and a permanently effective vapor retarder or membrane placed directly on the ground beneath the air space.

OTHER SUBFLOORS

Please contact the nora technical department for any fire retardant surfaces or specific recommendations regarding all other substrates. Do not install over oriented strand board (OSB), particleboard, masonite, lauan or similar unstable substrates.

ESD FLOORING (es PRODUCTS)

For ESD flooring installations, nora copper tape must be used with the proper conductive adhesive. In rooms < 2,500 square feet in size the copper strip (minimum 4 feet long) shall be applied to the substrate and extended to a
predetermined grounding point (to be connected by a qualified electrician). In rooms > 2,500 square feet, additional grounding points shall be predefined and also have the copper tape installed.

INSTALLATION

Following the appropriate section within this Installation Guide, dry-lay the flooring including all seams and perimeter cuts; only dry-lay that which will be adhered on that day. Carefully pull back sheet flooring, or for tile neatly stack (in order), removing a workable section not so large, as to avoid late placement.

Apply the adhesive using a 1/16 inch x 1/16 inch x 1/16 inch square notched trowel, evenly without the formation of puddles or any voids. Do not apply fresh adhesive over drying adhesive, as this will result in telegraphing of adhesive lines. Coverage is approximately 100–110 square feet per gallon. Replace worn trowels to ensure proper spread rate, do not re-notch.

Once troweled, the adhesive shall remain open (flash-off) for approximately 10–15 minutes before correct placement of the flooring into the adhesive. The adhesive must be able to transfer to your fingertips with a light touch, and it must transfer to the back of the flooring during installation, if not contact the technical department immediately.

Immediately roll in both directions utilizing a 100-pound three-section roller. Re-roll again in both directions after approximately 60 minutes. If required, place weights on any lifting edges or corners to ensure proper bonding. Repeat the procedure for the remainder of the project.

MIXING

Add all of part B to part A and mix until homogenous (without streaks), using a slow speed drill (<150 rpm), fitted with a suitable mixing spindle approximately 3 inch in diameter. Note: Do not partial mix units.

CLEAN UP

Remove any fresh adhesive from the surface of the flooring with 70% Isopropyl alcohol or liquid soap and a clean cloth. Cured PU adhesive may not be removed without damaging the flooring. Do not wash or perform any maintenance of the floor for a minimum of 72 hours after the installation is completed to allow adhesive to cure.

PRECAUTIONS

Prevent all traffic for a minimum of 12 hours and heavy traffic and rolling loads for 72 hours. If required, after 12 hours protect the flooring using plywood, masonite or a similar product ensuring first that the flooring surface is free of all debris. Lay the panels so that the edges form a butt joint and tape the joint to prevent both movement and debris entrapment underneath them.

nora® dryfix Tape

GENERAL

Perform testing and the proper preparation protocol (as described in the opening section of this Installation Guide), and follow the appropriate sections of the guide for installing flooring, substrate preparation and adhesive usage. Confirm that you have the correct adhesive for the project. If unsure, please contact your local nora sales representative, the customer service or technical department.
CONDITIONING

For at least 48 hours before starting, the area to receive flooring shall be fully enclosed, weather tight and at the normal service temperature and ambient relative humidity that must be climate controlled and remain constant, between 60°F – 75°F at all times. Areas of the flooring subjected to direct sunlight, for example through doors or windows, must have those covered using blinds, curtains, cardboard or similar throughout the installation and for a period of 72 hours after the installation.

CONCRETE SUBFLOOR PREPARATION

All subfloors shall be permanently dry, clean, smooth and structurally sound as per ASTM F710 — Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring and nora Installation Guide. It is the responsibility of the installing party to determine the suitability of the subfloor being covered.

nora dryfix can be used, where appropriate, on all grade levels of concrete, in the absence of excessive moisture. It is essential that moisture testing shall be performed regardless of grade level or whether the concrete is freshly poured or classified as an older slab. Test following the protocol of ASTM F2170 — Standard Test Method for Determining Relative Humidity in Concrete Slabs Using in situ Probes, with Wagner Rapid RH probes only. Tested at the correct service temperature and ambient humidity, the maximum allowable shall be 75% RH for the nora dryfix.

If the test results exceed the limitations (75% RH), the installation shall not proceed until the moisture level lowers to an acceptable level, or use the nora membrane following this Installation Guide. Note: Making the subfloor surface porous and using the HVAC or dehumidification systems in the correct conditions may help speed up the drying process, however, the rate at which the subfloor will dry cannot be confirmed.

On and below grade concrete subfloors require a confirmed permanently effective vapor retarder with a low permeance (less than 0.1) having a minimum thickness of 10 mils, or meets the requirements of ASTM E1745 — Standard Specification for Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs. It shall be placed directly underneath the concrete, above the granular fill or use the nora membrane following the nora Installation Guide.

Concrete subfloors shall not be subject to shrinking, curling, cracking or moving in any way prior to the application of any nora products. nora systems, Inc. accepts no liability for a failure or complaint due to slab movement of any kind. They shall be free of dust, solvents, paint, wax, varnish, oil, grease, asphalt, old adhesives and other extraneous materials that may interfere with the bond. These shall be completely removed by mechanical means only. Dustless diamond grinding is the preferred method to remove contaminants and bond breakers, as it also helps to level the concrete. All local, state and federal regulations shall be followed.

Cracks and uneven surfaces must be filled using nora membrane and or leveler or patch as described within this Installation Guide. When nora dryfix is to be used in operating rooms, the surface of any patch or skim coating product shall also be primed. nora products shall not be installed over expansion joints, use an industry standard expansion joint assembly. When concrete slabs have or are suspected of having ASR (Alkali Silica Reaction) present or an unsuitable surface, do not proceed, contact the nora technical department immediately. Do not use any nora product where hydrostatic pressure can occur.

EXISTING FLOORING PREPARATION

For installing on existing non-cushion backed smooth resilient flooring, strip off all floor finish and dirt residue using an appropriate stripper and pad, rinse with clean water and allow to fully dry. Check the entire area to ensure the existing flooring is secured to the subfloor, remove and replace or repair all loose flooring and vacuum the entire area.
Note: nora systems, Inc. accepts no liability for other manufacturers’ flooring products or the possible breakdown of the flooring bond from the subfloor for any reason.

WOOD SUBSTRATE PREPARATION

All wooden subfloors shall be a minimum thickness of 1-1/4 inch and double sheeted with overlapping joints using APA (American Plywood Association) underlayment grade plywood, installed as per ASTM F1482—Standard Practice for Installation and Preparation of Panel Type Underlayments to Receive Resilient Flooring and nora Installation Guide.

Wooden substrates shall not be in direct contact with concrete subfloors, even if built on sleepers. All suspended wood floors shall have adequate underfloor ventilation and a permanently effective vapor retarder or membrane placed directly on the ground beneath the air space.

OTHER SUBSTRATE PREPARATION

Please contact the nora technical department for any fire retardant surfaces or specific recommendations regarding all other substrates. Do not install over oriented strand board (OSB), particleboard, masonite, lauan or similar unstable substrates.

APPLICATION

Unroll the nora dryfix tape into position; if required, it can be repositioned providing downward pressure was not applied. Overlap all seams by at least 1/2 inch and press into place using a broom or flat steel trowel, to remove all air pockets. Allow a minimum of 15 minutes before cutting the seams of the dryfix. If the tape has stretched during installation it will return to its original size.

Trace cut all seams without damaging the subfloor, resulting in no overlaps or gaps, then remove the excess material.

If required, the tape can now be patched to remove any debris trapped underneath (or repair any short cuts).

Dry lay the flooring as detailed in the appropriate section of this guide, then remove a workable area and vacuum both the surface of the dryfix tape and the back of the flooring, to ensure they are both clean. Remove the protective wax paper, fold or roll it up for ease of disposal. Replace flooring onto the exposed tape and do not stand on it until you are sure of correct positioning, as it is still possible to reposition. Using a heavy roller or a carpet covered glider, remove any air bubbles and ensure a good bond.

Weld all seams, this can be done immediately. For detailed instructions, please refer to the correct welding section of this guide. nora systems, Inc. cannot accept any liability for seams that open up or peak due to climate or temperature change when seams are not welded.

CLEAN UP

Do not wash or perform any maintenance of the floor for a minimum of 72 hours after cold welding to allow it to cure. For heat welded seams cleaning can begin immediately.
Installing norament® and noraplan® Tiles

GENERAL
Perform testing and the proper preparation protocol (as described in the opening section of this Installation Guide), and follow the appropriate sections of the guide for installing flooring, substrate preparation and adhesive usage.

CONDITIONING
The area to receive flooring shall be fully enclosed, weather tight and climate controlled at the normal service ambient temperature and humidity (except walk in freezers or similar) or 68°F ± 5°F and 50% ± 10% ambient relative humidity (RH) for 48 hours before, during and 72 hours after the installation. Areas of the flooring subjected to direct sunlight, for example through doors or windows, must have them covered using blinds, curtains, cardboard or similar throughout the installation and for a period of 72 hours after the installation to allow the adhesive to cure.

PREPARATION
The material layout should be decided by the architect, designer or end user, however, nora recommends the tiles are installed point to point (corner to corner), with the exception of norament® serra, which can be installed in multiple ways.

The dry-lay method (installing without adhesive) is required. Locate your center lines using the 3, 4, 5 method or a carpenter’s square. Balance the layout and mark your starting lines then vacuum the entire prepared area.

Do not dry-lay more material than will be adhered that day. Begin installing the center rows (following your center lines) in both directions, including end cuts. The tiles have arrows on the back and these shall all point in the same direction. Dry-lay, without stress (pressure fitting) the balance of the area including cuts, working from the center out.

Remove and neatly stack (in order for replacement later), a workable section of the dry-laid area, not too large, thus avoiding late placement into the adhesive.

ESD FLOORING (ed PRODUCTS)
For ESD flooring installations, nora copper tape must be used with the proper conductive adhesive. In rooms < 2,500 square feet in size, the copper strip (minimum 4 feet long) shall be applied to the substrate and extended to a predetermined grounding point (to be connected by a qualified electrician). In rooms > 2,500 square feet, additional grounding points shall be predefined and also have the copper tape installed.

ADHESIVE
Use the correct specified adhesive as described within this Installation Guide (Step 5 noradhesive). Then repeat the process until the required installation is completed.
Installing noraplan® Sheets

GENERAL
Perform testing and the proper preparation protocol (as described in the opening section of this Installation Guide), and follow the appropriate sections of the guide for installing flooring, substrate preparation and adhesive usage.

CONDITIONING
The area to receive flooring shall be fully enclosed, weathertight and climate controlled at the normal service ambient temperature and humidity (except walk-in freezers or similar) or 68°F ± 5°F and 50% ± 10% ambient relative humidity (RH) for 48 hours before, during and 72 hours after the installation. Areas of the flooring subjected to direct sunlight, for example through doors or windows, must have them covered using blinds, curtains, cardboard or similar throughout the installation and for a period of 72 hours after the installation to allow the adhesive to cure.

PREPARATION
Unroll the noraplan® product and allow it to relax (lay flat before cutting), and vacuum the entire prepared area. The dry-lay method (installing without adhesive) is required. The end user, architect or designer should decide the layout of the flooring; however, noraplan rolls have arrows printed on the back—these arrows should all point in the same direction.

ESD FLOORING (ed PRODUCTS)
For ESD flooring installations, nora copper tape must be used with the proper conductive adhesive. In rooms < 2,500 square feet in size the copper strip (minimum 4 feet long) shall be applied to the substrate and extended to a predetermined grounding point (to be connected by a qualified electrician). In rooms > 2,500 square feet, additional grounding points shall be predefined and also have the copper tape installed.

INSTALLATION
Locate your start line and cut the sheets to the required lengths, placing them into the correct position. All seams shall have a minimum 1 1/4 inch overlap. Be careful to insure that all of the tapered (uncut) edges are underneath.

The flooring pattern does not always continuously flow into the tapered edge, so check before cutting to ensure both the complete removal of the tapered edge and to maintain the flow of the flooring pattern (image 1).

All seams are to be double-cut using either the nora® knife or utility knife method (described below). When cutting seams, keep in mind that all seams shall have a neat fit (do not pressure fit), regardless of whether the seams are to be welded or not. Then cut or trim in the sides of the area using a scribe, suitable trimming tool or if preferred, free hand using a suitable utility knife. The end cuts may also be completed now (better for small areas) or after adhering.

- **nora® knife method**

Double cut using the nora knife, using a suitable straight utility blade, the nora knife can be used left or right handed.

Use two small pieces of scrap flooring as shown and adjust how deep you want the blade to cut (image 2). The blade needs to cut completely through...
the top sheet and about 3/4 through the bottom sheet. The blade holder (section with R and L) should be raised to the thickness of the straight edge, so it can slide on top of it during use.

Position the straight edge about 1/2 inch from the top edge of the overlapped flooring. Keeping the nora knife as vertical as possible, slide the blade along the side of the straight edge while pressing down (image 1). This will remove the factory edge and—at the same time—cut well into the bottom sheet.

Using a suitable utility knife with the same type of blade and the straight edge, cut the last six inches of the seam at both ends, making sure you cut completely through both layers. Then remove the trimmings, choosing one of the following options to avoid a burred edge:

- Place a screwdriver at one end horizontally between the tapered edge waste and the balance of the lower sheet, making sure that the screwdriver handle is over the top sheet (image 2). Slide the screwdriver along the seam and remove the tapered edge (pulling it down).

- Pull the tapered edge in a downward direction, pulling it under itself (image 3).

**utility knife method**

Position a straight edge about 1/2 inch from the top edge to be used as a guide. Use a suitable, straight bladed utility knife, double cut through both the top sheet and approximately 3/4 of the way through the bottom sheet. Make sure that while cutting, hold the utility knife as vertical as possible. Then remove the trimmings, choosing one of the options as detailed in the nora knife method.

**ACOUSTIC FLOORING**

Using either the nora knife or utility knife methods (above), double cut through both the top sheet and approximately 3/4 of the way through the bottom sheet.

Use a suitable utility knife with a large hook blade, complete the cut through the bottom sheet, holding the knife at a slight angle, resulting in a slight undercut edge, and remove the trimmings (image 4). Note: All noraplan® acoustic seams must be heat or cold welded.

**FLASH COVING (BOOT METHOD)**

**General**

Perform testing and the proper preparation protocol (as described in the opening section of this Installation Guide), and follow the appropriate sections of the guide for installing flooring, substrate preparation and adhesive usage. Note: A video of this process is available on www.nora.com/us.

**Wall Preparation**

At the intersection between the wall and subfloor, no gap should be so wide that the cove strip cannot be installed correctly. If it is, then it shall be filled and smoothed using a suitable product before installation. Ensure that the wall is dry, smooth and clean. If necessary, prime first using nora primer applied with a small roller or paint brush.
Installation

Install any required cove capping strip following the manufacturer’s written instructions. Ensure that the opening is sufficient to accommodate the thickness of the flooring material.

Install the appropriate nora® basefix (90 for 4 inch or 145 for 6 inch) to the wall keeping it close to the substrate (image 1).

Cut the nora® cove stick to size and miter all corners, then remove the bottom 1 inch of wax paper from the basefix and adhere the cove stick to the wall (no need to adhere it to the subfloor).

Dry-lay the flooring as detailed within this guide, however, also make relief cuts to avoid tears at all corners (image 2). Push the flooring into the internal corner as far as possible without damaging the flooring. Cut a straight line in the flooring, starting at the base of the cove stick up through to the top edge of the flooring at a ~45° angle. Cut all the external corners using the Boot Method (detailed below). Do not trim the perimeter or internal corners until the field flooring is adhered.

External Corners

Using a pencil and small straight edge, mark out where the cuts are required for each boot. Begin at the outside corner of the wall and draw a line towards the toe of the boot (45°), then approximately 2" perpendicular to the wall and then complete the boot up the vertical. If tiles are being used, then it may be preferred to continue the perpendicular cut to the end of the tile (image 3).

Using a small straight edge and a suitable utility knife, accurately cut and remove the excess flooring (in one piece) from the external corner following your pencil marks. Keep the excess for use as a template (image 4).

Trace and cut the removed section onto a new piece of flooring. The front vertical needs to be cut large from the 45° at the base of the cove stick (to be trimmed after installation) (images 5 and 6).

Carefully pull back sheet flooring, or for tile neatly stack (in order), removing a workable section not so large, as to avoid late placement. Apply the specified adhesive following the appropriate open time and rolling requirements.
Internal Corners

Place one side into position and trim off the excess material, resulting in a straight cut down the center of the corner and through to the base of the nora cove stick. Repeat the process with the second side. A slight gap is acceptable as all internal seams should be cold welded (image 1).

Walls

Carefully fold back the flooring, a section at a time, while being careful not to crease or tear it. Remove the wax paper from the basefix and, keeping the floor tight to the cove stick, push lightly into the tape. Trim the flooring to fit the capping strip and insert. When sure of correct positioning, press the flooring firmly into place.

Boot

Carefully remove the wax paper from the basefix and accurately place the “boot” (external corner) into the tape and press firmly into place. Trim the boot to fit the cap strip and insert. Trim the front seam (external) using a small straight edge, resulting in a straight 1/8 inch gap. Note: All external seams shall be cold welded as detailed within this guide.

SANITARY BASE SYSTEM

General

Perform testing and the proper preparation protocol (as described in the opening section of this Installation Guide), and follow the appropriate sections of the guide for installing flooring, substrate preparation and adhesive usage. nora® sanitary base should be used for the entire area (except at the doorway), or as specified.

Wall Preparation

At the intersection between the wall and subfloor any gap cannot be more than ~1/2 inch. If it is, then it shall be filled and smoothed using a suitable product, before installation. Ensure that the wall is dry, smooth and clean. If necessary, prime first using nora primer applied with a small roller or paint brush.

Application

Using nora basefix 145 tape, leave the wax paper on the sides of the roll and place the roll on the cardboard disk (supplied). The disk will help keep the tape at the correct height when applying it to the wall.

Install nora basefix 145 tape directly to the wall (~1/8 inch from the floor), pressing firmly into place (image 2). Then install nora basefix 50 tape directly to the floor tight to the intersection between the wall and floor, pressing firmly into place.

Note: If the walls are not straight it may be better to install the sanitary base first and then install the flooring up to it.

Install the nora flooring, ensuring that it is left large enough to cover the edge of the basefix 50 tape following the appropriate installation section within this guide. Then when applying the correct adhesive, go right up to the basefix 50, following the appropriate adhesive section within this guide.

Measure, mark, cut back and remove the flooring 2 inches from the wall where the sanitary base is to be installed using a straight edge with a sharp utility knife. Keep the line as straight as the wall will allow, a piece of waste sanitary base may be used to check suitability of the width prior to cutting.
Dry cut the sanitary base to size, miter the foot and ensure a tight snug fit at all seams unless welding is required or specified. When welding is required, leave an even gap between all sections of approximately 1/8 inch and when ready, follow the appropriate section within this guide for cold welding. Remove the wax paper from the basefix tape on the floor and press the sanitary base firmly into place, keeping it tight to the flooring. Remove the wax paper from basefix tape on the wall and press firmly into place. Tap the sanitary base with a rubber mallet or roll with a hand roller to ensure a good bond. Note: All external corners shall be cold welded.

**nora® wall base**

**GENERAL**

Perform testing and the proper preparation protocol (as described in the opening section of this Installation Guide), and follow the appropriate sections of the guide for installing flooring, substrate preparation and adhesive usage.

**WALL PREPARATION**

At the intersection between the wall and subfloor, any gap cannot be more than approximately 1/2 inch. If it is then it shall be filled and smoothed using a suitable product, before installation. Ensure that the wall is dry, smooth and clean. If necessary, prime first using nora primer applied with a small roller or paint brush.

**APPLICATION**

nora® wall base can be adhered using either nora basefix 90 (applied to the wall) or a suitable cove base adhesive (applied following the manufacturer’s written instructions). After cutting to fit and preparing the corners (as below), adhere it to the wall, positioning it carefully using your chosen adhesive method and press or roll (hand roller) to obtain a strong bond. Do not stretch the wall base during installation or it may shrink back later.

**INTERNAL CORNERS**

These can be cut and tightly butted or completed in one piece by heating with a heat weld gun and creasing. Hold it firm in the creased position and allow to cool, then cut and miter the foot (*in situ*).

**EXTERNAL CORNERS**

These shall be heated using a heat weld gun, held in the creased position, then allowed to cool. nora systems, Inc. does not recommend shaving the back as this will weaken the corners.

**nora® stairtreads and nora® nosings**

**GENERAL**

Perform testing and the proper preparation protocol (as described in the opening section of this Installation Guide), and follow the appropriate sections of the guide for installing flooring, substrate preparation and adhesive usage.
nora® stair treads are designed for straight stairs and cannot be used on winding steps. nora® nosings and standard flooring may be used for these applications. Note: The vertical part of nosing on the stair tread or nosing is not designed to be adhered. Avoid bending or flexing nora stair treads, especially if they have “VI” (visually impaired) strips. If they are creased during transportation, contact nora technical department before proceeding with the installation.

With steps that are wider than the stair treads (approximately 6 feet) it will be necessary to join sections together. nora systems, Inc. recommends staggered fitting (ashlar) of the cuts from one step to the next. Note: When ordering the stair treads for this purpose, ensure that they are all ordered from the same batch, and when possible use the factory edge for joining.

**CONDITIONING**

The area to receive stair treads shall be fully enclosed, weather tight and climate controlled at the normal service ambient temperature and humidity (except walk-in freezers or similar), or 68°F ± 5°F and 50% ± 10% ambient relative humidity (RH) for 48 hours before, during and 72 hours after the installation. Stair treads, adhesives and accessories must also be acclimated for a minimum 48 hours in advance of the installation.

**PREPARATION OF CONCRETE STAIRS**

All stairs shall be permanently dry, clean, smooth and structurally sound, also prepared per ASTM F 710 — Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring. If any step is damaged, rounded, uneven or out of level, then it shall be properly repaired by an experienced underlayment contractor, following the directions of the nora patch or leveler. The front edge of the step shall be straight and match the shape of the stair tread profile.

nora® repair angles are available and must be mechanically fastened, using the fixings supplied. Then, using nora patch or leveler, fully smooth the step to a suitable surface, including the nose. This area is subject to the most stress, once in service an unprepared step can compromise adhesion and result in damage to the stair tread.

**PREPARATION OF WOODEN STAIRS**

All stairs shall be permanently dry, clean, smooth, level and structurally sound. Sanding is an option to make them smooth. All nails and screws shall be countersunk and filled or removed. Loose boards shall be screwed down or removed and replaced. All gaps and uneven or broken areas shall be repaired or replaced. The front edge of the step shall be straight and match the shape of the stair tread profile.

**STAIRTREAD INSTALLATION**

Apply nora® stepfix to the entire prepared staircase (images 1 and 2). The stepfix should be flush with the intersection between tread and riser for both applications of the tape, one on riser (fold over the nosing) and one on tread. If the stepfix overlaps on the tread, or you slightly crease it during installation, do not be concerned. Proceed and press firmly into place with your hand.

Installation of stair treads should begin with the bottom step. The riser portion of the top stair tread is cut off and trimmed to fit the bottom and sides of the bottom riser. The balance of the stair tread will be required later for the top nosing. Remove the wax paper from the bottom riser and carefully press into position the pre-cut riser and trim the excess off flush with the top of the stair nosing.
Starting at the bottom of the staircase, cut each stair tread to fit the width of the step. The normal method is as follows. Each step should be measured across in at least three locations:

- Across the nosing.
- At the intersection between the tread and riser.
- At the top of the riser.

Add 1/16 inch to the measurements and transfer them to the back of the stair tread, trim to size and undercut both sides to ensure a snug fit. If required, uneven sides should be scribed in using a scribing bar or using a template.

Remove the paper from the tread and place the pre-cut stair tread into position (keep the stair tread nosing tight to the step nosing) and press firmly. Fold the riser section of the stair tread back (onto the tread) and remove the paper from riser. Carefully roll or push the stair tread tight into the intersection between the tread and riser of the step, then correctly position the riser and press firmly. Trim the excess flush with the nosing of the step above, and repeat the process until all of the steps are completed.

**TOP NOSING**

Between the nosing and tread part of the stair tread there is a gradual reduction of the material thickness. Take care to cut off the nosing (at the appropriate height) so the thickness matches that of the landing flooring (image 1). Mark each end of the balance of the stair tread and, using a straight edge and suitable utility knife, remove the nosing and discard the tread (image 2).

Cut the width of the top nosing to fit. It is the responsibility of the installing party to determine the suitability and porosity of the subfloor and the correct adhesive for this application.

For nora 485 adhesive, first determine if the substrate is porous. Place a dime-sized drop of water on the substrate, near the nosing. It must begin to absorb into the concrete within five minutes to be considered porous. For installed leveler or patch (over non-porous substrates), they shall be a minimum of 1/8 inch deep to be considered porous. Then follow the application recommendations of the nora 485 (Step 5 adhesive)—1/16 inch square notch trowel. Painters tape may help to hold the nosing in position until the adhesive is set for approximately 72 hours. All traffic shall be kept off for that period. Keep the rubber nosing tight to the step nosing.

For immediate trafficking, use a suitable solvent-free contact adhesive applied to the top step and back of the top nosing, following the manufacturer’s written instructions. Allow the appropriate open time and install the nosing, keeping it tight to the step nosing.

nora 385 adhesive may be used, however, painters tape will be required to hold the nosing in position until the adhesive has fully cured approximately 72 hours. All traffic shall be kept off for that period.

Do not use the nora step fix to bond the top nosing unless the nosing is joined (cold welded) to the flooring. All traffic shall be kept off until the cold weld is cured.
nora® STAIR NOSING INSTALLATION

For the installation of nora nosings, starting at the bottom of the staircase, cut the nosing to the correct width to ensure a snug fit. Use an off-cut of the nosing and mark an adhesive line on each step.

Install the flooring on the bottom riser, using either the recommended adhesive (not PU adhesive) or a suitable solvent-free contact adhesive following the adhesive manufacturer’s MSDS and written instructions. Allow the appropriate open time. Use the contact adhesive applied to both the nose of the step and the underside (tread part) of the rubber nosing. After the appropriate open time, install the rubber nosing, keeping it tight to the staircase nose, tap into place to ensure a good bond using a rubber mallet.

Continue repeating this process up the staircase, installing treads and risers then rubber nosings until the staircase is complete.

nora® heat welding

GENERAL

Perform testing and the proper preparation protocol (as described in the opening section of this Installation Guide), and follow the appropriate sections of the guide for installing flooring, substrate preparation and adhesive usage. Wait a minimum of 12 hours before heat welding, unless nora dryfix tape was used to adhere the flooring, then welding can begin immediately. Heat welding should not be used vertically or when welding to nora sanitary base. If required, these shall be cold welded.

PREPARATION

Groove the required seam with either a mechanical joint cutter or hand-grooving tool—ensure all grooves are clean. The depth of the groove shall be controlled at approximately 2/3 the thickness of the flooring, or for acoustic products, 2/3 of the top layer. The width of the groove shall be approximately 1/8 inch.

WELDING

Preheat the welding gun to 662°F – 752°F (350°C – 400°C). It is recommended to practice welding on a piece of scrap flooring material first to determine the heat setting and speed, as different heat guns and cable length will affect the temperature. Note: If the weld rod comes out during trimming, then either you welded too fast or the gun is not hot enough. Cut a length of nora® heat weld rod sufficient to weld the entire length of the seam plus approximately 6 inches extra.

Proceed to weld the seam starting at the wall and apply slight pressure to the gun nozzle (nose) to force the melting rod into the groove (image 1). Properly applied, the heat weld rod will have a slightly flattened portion on either side. Allow the rod to cool to the touch and begin the trimming or skiving process to remove the excess weld. To help prevent scratching or scuffing of the flooring surface during skiving, wet the weld rod about 2 inches on each side using liquid soap and water mixed to a approximately 1:10 ratio.
Using the trim plate and skiving knife, make the first cut of the weld rod (image 1). Alternatively, a Mozart trimming knife with the 0.7 mm spacer claw can be used. Allow the weld rod to cool to room temperature.

Next, using only the skiving knife, or Mozart (without the spacer claw), finish trimming the remainder of the weld (image 2). The finished weld should be smooth and on the same plane as the floor covering.

If for any reason you still have any excess weld rod left after the final trim, it is necessary to remove this using the melting technique. After heating up a non-sharpened metal putty knife, gently push the putty knife down the seam weld. Excess weld material will collect on the knife resulting in a smooth and flat seam weld.

norament® cold welding (liquid wax method)

GENERAL

Perform testing and the proper preparation protocol (as described in the opening section of this Installation Guide), and follow the appropriate sections of the guide for installing flooring, substrate preparation and adhesive usage. Wait a minimum of 8 hours before cold welding, unless nora dryfix tape was used to adhere the flooring, then welding can begin immediately. nora cold weld shall be used on all vertical corners, flash coving and when required for sanitary base, or if specified.

PREPARATION

To prevent bonding of the cold weld outside of the seam, using a clean cloth apply a thin even layer of nora® liquid wax to both sides of the seam (approximately 4 inches total), and allow to dry.

Groove the required seam with either a mechanical joint cutter or hand-grooving tool—ensure all grooves are clean. The depth of the groove shall be controlled at approximately 2/3 the thickness of the flooring, or for acoustic flooring, 2/3 of the top layer, and the width of the groove shall be approximately 1/8 inch.

For vertical seams, first apply the liquid wax to the entire seam area and allow it to dry. Using a small straight edge, trim or groove the seam or sanitary base back, approximately 1/8 inch.

The use of gloves is recommended when using nora® cold weld. Cut off the tip of the cartridge at the first thread, screw on the nozzle and place the cold weld cartridge into a cartridge gun. Cut off the nozzle tip at a slight angle.
APPLICATION

Inject the nora cold weld into the groove without gaps until a small bulb develops above the seam (about size of heat weld rod) (image 1). At the end of the seam, release the gun to prevent leaks. Any nora cold weld tracked or spilled on the flooring shall be removed immediately using 70% Isopropyl alcohol or liquid soap and a clean cloth, as cleaning at a later stage may not be possible.

Press the nora cold weld into the seam using a smoothing spatula, held nearly flat (~22° angle), resulting in a surface flush and on the same plane as the surface of the floor (image 2). Excess cold weld must be pressed away on each side of the seam. It is important to develop a slight gap between the excess weld and the weld within the seam for easy removal once cured.

For vertical corners, use a smoothing spatula to remove the excess cold weld and smooth the surface to approximately the required finish, then wait for approximately 10 minutes for the weld to skin over. Wet your fingertips using nora liquid wax, 70% Isopropyl alcohol or water, then finish smoothing the weld by lightly manipulating it to a slightly rounded acceptable finish.

EXCESS REMOVAL

The excess cold weld can be removed after approximately 8–12 hours, depending on thickness, temperature and ambient humidity. This can be done by simply peeling it off with your fingertips (image 3). If it is still connected anywhere, then trim it off using a sharp skiving knife.

Prevent any traffic on the seams until the nora cold weld has cured for approximately 12 hours. Prevent any heavy rolling loads (chair castors, etc.) for approximately 72 hours for it to fully cure. nora cold weld develops a skin after approximately 20–30 minutes at 68°F (20°C) and an ambient humidity of 50%. The skin formation is accelerated by higher temperatures and humidity, and slowed correspondingly by lower values.

CLEAN UP

Do not wash or perform any maintenance of the floor for a minimum of 72 hours after cold welding to allow it to cure. The initial maintenance will remove the residue of the liquid wax.

noraplan® cold welding (masking tape method)

GENERAL

Perform testing and the proper preparation protocol (as described in the opening section of this Installation Guide), and follow the appropriate sections of the guide for installing flooring, substrate preparation and adhesive usage. Wait a minimum of 8 hours before cold welding, unless nora dryfix tape was used to adhere the flooring, then welding can begin immediately. nora cold weld shall be used on all vertical corners, flash coving and when required for sanitary base, or if specified.
PREPARATION

To prevent bonding of the nora cold weld outside of the required seam, use masking tape (not painters tape) to completely cover the seam that requires welding. Approximately center the tape with the seam. Use a hand roller to firmly press the tape down and ensure a good bond.

Groove the required seam with either a mechanical joint cutter or hand-grooving tool—ensure all grooves are clean. The depth of the groove shall be controlled at approximately 2/3 the thickness of the flooring, or for acoustic flooring, 2/3 of the top layer, and the width of the groove shall be approximately 1/8 inch.

For vertical seams, use a small straight edge to trim or groove the seam or sanitary base back, approximately 1/8 inch.

Carefully apply masking tape onto the surface of each side of the flooring, keeping the edge of the tape flush with the edge of the flooring. Press or roll (hand roller) the tape and ensure a good bond.

The use of gloves is recommended when using nora cold weld. Cut off the tip of the cartridge at the first thread, screw on the nozzle and place the cold weld cartridge into a cartridge gun. Cut off the nozzle tip at an angle.

APPLICATION

Inject the nora cold weld into the groove without gaps until a small bulb develops above the seam (about size of heat weld rod) (image 1). At the end of the seam, release the gun to prevent leaks. Any nora cold weld tracked or spilled on the flooring shall be removed immediately using 70% Isopropyl alcohol or liquid soap and a clean cloth, as cleaning at a later stage may not be possible.

Press the nora cold weld into the seam using a smoothing spatula, held nearly flat (~22° angle), resulting in a surface flush and on the same plane as the surface of the floor (image 2). Excess cold weld must be pressed away on each side of the seam. It is important to develop a slight gap between the excess weld and the weld within the seam for easy removal.

For vertical internal and external corners, use a smoothing spatula to remove the excess cold weld and smooth the surface to approximately the required finish, then wait for approximately 10 minutes for the weld to skin over. Wet your fingertips using nora liquid wax, 70% Isopropyl alcohol or water, then finish smoothing the weld by lightly manipulating it to a slightly rounded acceptable finish.

EXCESS REMOVAL

The masking tape may be removed carefully now or after it has fully cured, this will be approximately 8–12 hours depending on thickness, temperature and ambient humidity. This can be done by simply peeling it off with your fingertips. If the cold weld is still connected anywhere, then carefully trim it off using a sharp skiving knife.

Prevent any traffic on the seams until the nora cold weld has cured for approximately 12 hours. Prevent any heavy rolling loads (chair castors, etc.) for approximately 72 hours for it to fully cure. nora cold weld develops a skin after approximately 20–30 minutes at 68°F (20°C) and an ambient humidity of 50%. The skin formation is accelerated by higher temperatures and humidity, and slowed correspondingly by lower values.

CLEAN UP

Do not wash or perform any maintenance of the floor for a minimum of 72 hours after cold welding to allow it to cure.
norament® ingresso Installation Guide

GENERAL

Perform testing and the proper preparation protocol (as described in the opening section of this Installation Guide), and follow the appropriate sections of the guide for installing flooring, substrate preparation and adhesive usage. Confirm that you have the correct nora® Quickfix system for the project. The corner squares used with the tape for the perimeter of the room is a releasable system; this is for when access to the substrate will be required (access flooring installations). The perimeter tape for each tile is designed to be permanent installation (life of the flooring).

CONDITIONING

The area to receive flooring for at least 48 hours before starting shall be fully enclosed, weather tight and at the normal service temperature and ambient relative humidity that must be climate controlled and remain constant, between 60°F – 75°F at all times. Areas of the flooring subjected to direct sunlight, for example through doors or windows, must have those covered using blinds, curtains, cardboard or similar materials throughout the installation and for a period of 72 hours after the installation.

RAISED ACCESS FLOORING

Raised-access floors suitable for the intended use shall be installed to a smooth, rigid, firm installation, free of rocking, rattles, squeaks and other unacceptable performance issues. They must comply with all technical performance and installation requirements and specifications. The subfloor must be permanently dry, free of cracks, level, pressure resistant and guarantee tensile strength. It may not contain any dust or other separating substances such as paints, waxes, oils, etc.

In the nominal dimension range of 3.94 inches (100 mm), a deviation of 0.04 inches (1 mm) may not be exceeded with regard to the plane (no short joints). However, all joints of the access flooring must be installed (at the same height) to a standard accepted by the end user or representative. Any uneven joints of the access flooring may telegraph through the floor covering. Raised-floor elements shall be realigned first as required.

CONCRETE PREPARATION

All subfloors shall be permanently dry, clean, smooth and structurally sound as per ASTM F710—Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring and nora Installation Guide. It is the responsibility of the installing party to determine the suitability of the subfloor being covered.

The nora Quickfix system can be used, where appropriate, on all grade levels of concrete, in the absence of excessive moisture. It is essential that moisture testing shall be performed regardless of grade level or whether the concrete is freshly poured or classified as an older slab. Test following the protocol of ASTM F2170—Standard Test Method for Determining Relative Humidity in Concrete Slabs Using in situ Probes, with Wagner Rapid RH probes only. Tested at the correct service temperature and ambient humidity, the maximum allowable shall be 75% RH for the Quickfix system.

If the test results exceed 75% RH, the installation shall not proceed until the moisture level lowers to an acceptable level, or use the nora membrane following the appropriate section within this guide. Note: Making the subfloor surface porous and using the HVAC or dehumidification systems in the correct conditions may help speed up the drying process, however, the rate at which the subfloor will dry cannot be confirmed.

On and below grade concrete subfloors require a confirmed permanently effective vapor retarder with a low permeance (less than 0.1) having a minimum thickness of 10 mils, or meets the requirements of ASTM E1745—Standard
Specification for Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs. It shall be placed directly underneath the concrete, above the granular fill or use the nora membrane following the nora Installation Guide.

Concrete subfloors shall not be subject to shrinking, curling, cracking or moving in any way prior to the application of any nora products. nora systems, Inc. accepts no liability for a failure or complaint due to slab movement of any kind. They shall be free of dust, solvents, paint, wax, varnish, oil, grease, asphalt, old adhesives and other extraneous materials that may interfere with the bond. These shall be completely removed by mechanical means only. Dustless diamond grinding is the preferred method to remove contaminants and bond breakers, as it also helps to level the concrete. All local, state and federal regulations shall be followed.

Cracks and uneven surfaces must be filled using nora membrane and a leveler or patch as described in this Installation Guide. nora products shall not be installed over expansion joints — use an industry standard expansion joint assembly. When concrete slabs have or are suspected of having ASR (Alkali Silica Reaction) present or an unsuitable surface, do not proceed. Contact the nora technical department immediately. Do not use any nora product where hydrostatic pressure can occur.

EXISTING FLOORING PREPARATION

For installing on existing non-cushion backed smooth resilient flooring, strip off all floor finish and dirt residue using an appropriate stripper and pad, rinse with clean water and allow to fully dry. Check the entire area to ensure the existing flooring is secured to the subfloor, remove and replace or repair all loose flooring and vacuum the entire area. Note: nora systems, Inc. accepts no liability for other manufacturer’s flooring products or the possible breakdown of that flooring bond from the subfloor for any reason.

WOOD SUBSTRATE PREPARATION

All wooden subfloors shall be a minimum thickness of 1 1/4 inch and double sheeted with overlapping joints using APA (American Plywood Association) underlayment grade plywood, installed as per ASTM F1482 — Standard Practice for Installation and Preparation of Panel Type Underlayments to Receive Resilient Flooring and nora Installation Guide.

Wooden substrates shall not be in direct contact with concrete subfloors, even if built on sleepers. All suspended wood floors shall have adequate underfloor ventilation and a permanently effective vapor retarder or membrane placed directly on the ground beneath the air space.

OTHER SUBSTRATE PREPARATION

Please contact the nora technical department for any fire retardant surfaces or specific recommendations regarding all other substrates. Do not install over oriented strand board (OSB), particleboard, masonite, lauan or similar unstable substrates.

nora® QUICKFIX RELEASE METHOD PREPARATION

Using nora primer, short nap roller (3/8 inch) and a suitable paint tray, prime all porous substrates and allow the primer to dry to a tack-free state (2–4 hours). Apply the nora® Quickfix tape to the perimeter of the substrate along all walls, connections and doorways pressing down firmly. Do not remove the wax paper from the tape at this time.

Remove the nora Quickfix squares from the roll and apply one to the back of the tiles at each corner (image 1). Do not remove the wax cover paper from the squares at this time. Allow 48 hours for the tiles to acclimate. Either lay them out across the required area or stack them neatly, not more than 10 tiles per stack.
nora® QUICKFIX PERMANENT METHOD PREPARATION

Using nora primer, short nap roller (3/8 inch) and a suitable paint tray, prime all porous substrates and allow the primer to dry to a tack-free state (2–4 hours). nora Quickfix tape (2 inch) shall be applied flush to the entire perimeter of each tile (image 2). This can be pre-ordered and applied at the factory or applied on site, pressing the tape firmly down into position. Do not remove the wax paper from the tape at this time. Allow 48 hours for the tiles to acclimate. Either lay them out across the required area or stack them neatly, not more than 10 tiles per stack.

INSTALLATION

After the 48 hours acclimatization period, the dry-lay method is required. Locate your center lines using the 3, 4, 5 method or a carpenter’s square. Balance the layout and mark your starting lines then vacuum the entire prepared area.

Without removing the wax paper from the tape or tiles, begin installing the center rows (following your center lines) in both directions, including end cuts. The tiles have arrows on the back and these shall all point in the same direction. Dry-lay the tiles without stress (pressure fitting), to the remainder of the area including cutting the edge tiles, door connections, pipes, etc., working from the center out. Another minimum of 8 hours acclimatization time is now required before continuing.

After the 8 hours acclimatization period, slightly raising the corners of the tiles individually, remove the wax paper from all of the preapplied Quickfix (images 3 and 4). Immediately roll in both directions utilizing a 100 pound three section roller.

REMOVAL

The tiles can be easily removed and reused if the Quickfix squares have been used. This is done by starting from the center of the tile edges; carefully uplift each corner keeping the tile as flat as possible. Make sure that the adhesive square remains on the back of the flooring. Do not remove the flooring by pulling it up at a 90° angle, as the tile may become distorted and you may not be able to reinstall it. Note: If the adhesive square is damaged, then remove and replace it.