



nora[®] 685 adhesive

Product Description:

nora[®] 685 is an easy to use conductive water based acrylic adhesive that has been specifically formulated for the installation of specific nora[®] rubber flooring products (2mm - 4mm "ed") on suitable porous substrates.

Always follow the nora Installation Guide that is available on www.nora.com/us. nora systems, Inc. is approved by Lloyd's Register Quality Assurance to the Quality Assurance Management System Standard ISO 9001:2000. Also ISO 14001 Environmental Management Systems Certified.

All nora products are intended for indoor use only, by professional floor installers. On high stressing commercial and industrial sectors; e.g. hospitals, schools, airports, shopping centers, radiant heating and castor chair traffic etc., nora adhesives shall only be used under nora flooring.

Technical Data:

1. Packaging: White pail
2. Pail size: 4 gallons
3. Composition: Conductive water based acrylic dispersion adhesive with 10- 15% titanium dioxide
4. Color: Grey
5. Shelf life: 12 months
6. Storage: Room temperature
7. Freeze / thaw: Stable per ASTM D7149 at 0°F (- 18°C)
8. Open time: This will depend upon site conditions, refer to the installation section
9. Moisture tolerance: Maximum 85% RH following the protocol of ASTM F2170 using Wagner Rapid RH probes only
10. VOC content: VOC content is 0 grams/liter; product is in compliance with SCAQMD Rule 1168 Standard for Rubber Floor Adhesives, which has a VOC limit of 60.
11. LEED contribution: nora 685 adhesive is in compliance with the VOC limits of SCAQMD Rule 1168 required by LEED and can contribute to LEED Credit 4.1-Low Emitting Materials, Adhesives & Sealants.
12. Warranty: As detailed in the nora Warranty
13. Application: 1/16 x 1/16 x 1/16 inch V notch trowel
14. Coverage: ~160 – 180 square feet per gallon
15. Minimum Working Temperature: 59°F (15°C) at concrete surface
16. Ideal Working Temperature: 68°F ± 5°F (17-23°C)
17. Radiant Heating Yes, contact nora Technical Department
18. Castor Chairs: After 72 hours
19. Heavy Foot Traffic: After 12 hours
20. Heavy Rolling Loads: After 72 hours
21. Wet Cleaning: After 72 hours

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. The flooring, adhesive and all accessories shall be acclimated within this area or nearby with the same climate conditions for at least 48 hours prior to installation. Areas of the flooring subjected to direct sunlight; i.e. through doors or windows, must have those covered using blinds, curtains, cardboard or similar throughout the affected area 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 be able to use the nora 685 correctly, the substrate shall be porous an easy way to confirm this is to perform the water droplet test in a sufficient number of places throughout the project, for the

installer to be satisfied that the substrate is indeed porous. To perform the water droplet test simply place a dime sized droplet of water on clean concrete (without any patch or leveler), the water shall begin to be absorbed into the concrete within five minutes to be considered porous, or the substrate shall be considered non-porous.

If the concrete is non porous, polished or burnished then mechanical preparation is required to both open up the surface and make it porous by removing whatever sealer, hardener, curing compound or other contaminate that is present or to give a mechanical key to the adhesive. Alternatively contact the nora Technical Department for specific recommendations. Performing Mat Bond Tests (as detailed in the installation guide) will also give a good indication of the suitability and the porosity of the substrate. Substrate porosity directly influence not only the drying time of moisture from within the substrate but the working characteristics of the adhesive regarding both the open and working time. The qualified installer shall recognize and understand this so that the adhesive is at the correct condition at the time the flooring is placed onto it. Where the substrate is slightly porous, very porous, or if substrate porosity is not uniform, adjustments will have to be made in installation procedures to compensate. With a less porous substrate, the adhesive will dry slower, extending the open time. Where the substrate is more porous, the adhesive will dry more rapidly, as it will in areas subjected to air flow like near doors or windows. It is the installer's responsibility to recognize the working characteristics of the adhesive on all projects, and make any necessary adjustments in preparation or installation techniques that may be required to achieve a secure bond. A small test application of adhesive prior to beginning the installation to determine both the appropriate open and working time of the adhesive is recommend.

nora 685 adhesive can be used where appropriate on all grade levels of concrete in the absence of excessive moisture. It is essential that moisture testing 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.

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 sub-floors 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 contaminates and bond breakers, as it also helps to level the concrete. All local, state and federal regulation shall be followed.

Cracks and uneven surfaces must be filled using nora membrane and/or leveler or patch as described in this Installation Guide. nora products shall not be installed over expansion joints. When required, 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 nora Installation Guide or Guide Specifications.

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 installations (ed products)

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

Installation:

For ESD flooring installations, nora copper tape must be used with the proper nora 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.

Following the appropriate installation section within the Installation Guide dry-lay the flooring including all seams and perimeter cuts. Only dry-lay a sufficient amount of flooring that you are sure 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 V 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. Replace worn trowels to ensure proper spread rate, and do not re-notch.

Once troweled properly the adhesive shall have sufficient open time, this will depend upon the ambient temperature and humidity, substrate porosity, temperature, humidity and air flow. The acceptable condition of the adhesive is best described as follows: The adhesive ridges can be easily bent over with little or no transfer to your fingertips. When pressed firmly with your fingertip transfer should be achieved. Do not install if the adhesive becomes too dry and the ridges are not easily bent over, if it is – remove and replace it. Do not uplift to check for adhesive transfer after flooring placement. A small test application prior to beginning the installation to determine both the appropriate open and working time of the adhesive is recommend.

Immediately roll in both directions utilizing a 100 pound three section roller. Re-roll again in both directions after ~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.

Limitations:

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.

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.

Information:

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.

Please visit www.astm.org for copies of any of the ASTM standards or test methods.

Precautions:

Keep out of reach of children. Keep container closed during storage. Avoid contact with eyes and skin. Using protective gloves (rubber) and safety glasses is recommended.

First Aid:

In case of skin contact, wash thoroughly with soap and water and obtain medical treatment. If swallowed obtain medical help immediately.

Disposal:

Disposal should be in accordance with local, state and federal regulation. Do not allow liquid product to reach sewage system. Empty packaging can be recycled after thorough and proper cleaning.

For more information please refer to the MSDS that must be read and fully understood prior to using the nora 685 adhesive. The MSDS, Installation Guide and Guide Specifications and videos are available on www.nora.com/us.

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