noraplan environcare™ 3.0mm SHEET

1 Product Name / Manufacturer

1.1 Product
noraplan environcare™ 3.0mm sheet goods resilient floor covering, Article 1463

1.2 Manufacturer
nora systems, Inc.
9 Northeastern Blvd.
Salem, NH 03079
800-336-5096
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www.nora.com/us

1.3 Product Description
nora® vulcanized rubber compound 913 with environmentally compatible color pigments that are free of toxic heavy metals like lead, cadmium or mercury.

1.4 Physical Characteristics
Material Size: ~39.37' x 48" (~12.0m x 1.22m)

Thickness: ~0.12" (~3.0mm)

Dimensional Stability: Meets requirements

Composition: Homogeneous rubber compound with a random scattered design.

Color: 48 Standard colors

Surface: Smooth

2 Technical Data

2.1 Static Load Limit
ASTM F970, Residual compression of 0.003" with 800 lbs. achieved, ≤ 0.005" with 250 lbs. is required.

2.2 Rolling Load Limit
≤ 550 lbs. /sq. inch, with no forklift traffic.

2.3 Slip Resistance
ASTM D2047 Static coefficient of friction, Neolite dry 0.93, Neolite wet 0.91 achieved, ≥ 0.5 is required (not recommended for ramps).

2.4 Flammability
ASTM E648; NFPA 253; NBSIR 75 950, 1.03 achieved, ≥ 0.45 watts/sq. cm for Class 1 is required.

2.5 Smoke Density
ASTM E662; NFPA 258; NBS, 376 (flaming) and 256 (non-flaming) achieved, < 450 is required.

2.6 Bacteria Resistance
ASTM E2180 and ASTM G21, resistant to bacteria, fungi, and micro-organism activity.

2.7 VOC's
This flooring is GREENGUARD Gold Certified for Low VOC Emissions, Blue Angel Certified and CA 01350 Compliant.

2.8 Sound Absorption
ASTM E2179 Δ IIC 11, ISO 140 Δ Lw 8 dB (compare only Δ values).

2.9 Hardness
ASTM D2240, Shore type "A", 92 achieved, ≥ 85 is required.

3 Installation

3.1 Site Conditions
The flooring, adhesives, and accessories must be acclimated in the correct conditions for at least 48 hours prior to use. Areas of the flooring subjected to direct sunlight, for example through doors or windows, must be covered using blinds, curtains, cardboard or similar materials for 24 hours before, throughout and for a period of 72 hours after the installation to allow nora "wet" adhesives to cure.

The area to receive flooring must be fully enclosed, weather tight and climate controlled at the normal service ambient temperature and humidity (except walk-in freezers or similar). If this is not possible then the ambient temperature must remain steady (± 10ºF) and be between 59ºF and 80ºF for at least 48 hours prior, during and 72 hours after installation (do not use gas

fueled blowers.) The ambient relative humidity is recommended to be 50% RH ± 10%. However, dew point must be avoided, or stop the installation and remove any applied adhesive. The substrate surface must be at least 5°F above dew point.

3.2 Substrates

All on and below-grade concrete subfloors require a confirmed permanently effective vapor retarder with a low permeance (≤ 0.1) having a minimum thickness of 10 mils, or meets the current requirements of *ASTM E1745 — Standard Specification for Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs*. It must also be placed directly underneath the concrete, above the granular fill or use an effective moisture mitigation system that conforms to *ASTM F3010 – Standard Practice for Two Component Resin Based Membrane Forming Moisture Mitigation Systems for use Under Resilient Floor Coverings.*

Moisture Testing: Test the slab with a testing apparatus that conforms to and follows the exact protocol of *ASTM F2170 — Standard Test Method for Determining Relative Humidity in Concrete Slabs Using in situ Probes*. If for any reason you are unable to drill into the concrete, please contact the nora® Technical Department.

Adhesive limits when tested at the correct service temperature and ambient humidity, the maximum allowable internal slab relative humidity levels (with effective vapor retarder as required) are as follows:

- nora® 385, 485, 585, 685 and dryfix adhesives = 85% RH.
- nora® stepfix and profix tape adhesives = 75% RH.

If the moisture test results exceed the maximum allowed then the installation must not proceed until either the moisture content drops to an acceptable level or an effective moisture mitigation system is used that conforms to ASTM F3010 and installed following that manufacturer's written instructions.

All concrete subfloors must be absorptive (see water droplet test), permanently dry (see moisture testing), clean, smooth and structurally sound as per *ASTM F710 – Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring*. In addition, concrete subfloors must be free of dust, solvents, paint, wax, varnish, oil, grease, asphalt, old adhesives and other extraneous materials that may interfere with the bond. Use only mechanical means such as diamond grinding with a Diamabrush™ Concrete Prep Plus Tool (or similar), or shot blasting. Use a suitable vacuum cleaner or water-based sweeping compound as required. All local, state and federal regulations must be followed.

Water droplet test: When using nora 485 or 685 adhesives it is mandatory that the substrate be absorptive as detailed within ASTM F710. To confirm this, the installer must perform a water droplet test in a sufficient number of places throughout the project. To perform the test, simply place a dime sized droplet of clean potable water using a clean straw or similar onto clean concrete (without any floor patching or leveling compounds). The water must absorb into the concrete within five minutes to be considered absorptive, or the substrate is considered non-absorptive.

Surface cracks, grooves, depressions, control joints or other non-moving joints, and other irregularities must be filled or smoothed with latex modified patching or underlayment compound for filling or smoothing, or both. Patching or underlayment compound must be moisture-, mildew-, and alkali-resistant, and, for commercial installations, must provide a minimum of 3000 psi compressive strength when tested in accordance with *ASTM C109/C109M Standard Test Method for Compressive Strength of Hydraulic Cement Mortars - Using 2-in. or 50mm Cube Specimens* or *ASTM C472 Standard Test Method for Physical Testing of Gypsum, Gypsum Plasters and Gypsum Concrete*, whichever is appropriate. Warranties should be obtained by the manufacturers of the products used.

Begin by mechanically removing all laitance, dirt, debris and coatings from the fill area. Use a suitable dustless concrete saw with a diamond blade or similar to achieve this followed by vacuuming. Do not install over any moving cracks or joints. If the concrete moisture level is too high, do not fill these with any patching compound. Use only those products and method as directed by the moisture membrane manufacturer.

All expansion joints and moving joints must not be covered or overlaid with any nora® product. Use a suitable industry standard expansion joint assembly system. For moving cracks please contact the nora Technical Department for recommendations.

All wooden subfloors must be a total minimum thickness of 1-1/4 inch and overlaid 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 must not be in direct contact with concrete subfloors, even if built on sleepers. All suspended wood floors must have adequate under floor ventilation and a permanently effective vapor retarder or membrane placed directly on the ground beneath the air space.

The plywood must be clean and free of any bond breaking contaminates, this may be achieved by sanding if required or replacing the plywood with new APA plywood. Any gaps at the seams must be filled and smoothed with suitable and flexible joint filler. Any ridges must be sanded smooth.

Other subfloors/substrates: Please contact the nora Technical Department 1-800-332-NORA for any other type of subfloor or substrate inquiries and recommendations. Do not install over any oriented strand board (OSB), particleboard, Masonite, lauan or any similar unstable or contaminated substrates.

Mat Bond tests are recommended as they can help to determine the compatibility of the flooring system to a variety of substrates and may provide an indication of the presence of moisture. It is the responsibility of the installing party to determine the suitability of the subfloor being covered and how many Mat Bond tests need to be performed.

The areas and products to be tested must be properly conditioned for 48 hours before and during the testing period. There are several factors that can influence the outcome of a bond test, therefore it is important to follow this protocol. The responsible party must ensure that the tests are conducted only at a time when subfloor and jobsite conditions comply with those requirements which are outlined in the nora® Installation Guide and ASTM F710.

The correct adhesive selection will be determined based upon the usage and type of nora flooring along with the type of existing substrate conditions. If required, contact your nora® representative for adhesive recommendations. Place tests randomly and at appropriate locations such as near walls or in light traffic areas. It is recommended that each test plot should be 2 by 2 sq. feet.

Install the bond tests using the appropriate adhesive, trowel notch, open times, and rolling etc., Do not uplift to check for adhesive transfer after flooring placement. Use Duct tape or similar to seal the edges of the flooring test sample to the substrate on all sides. Protect the flooring from foot traffic for 12 hours and rolling traffic for the duration of the test which must be a minimum 3 days (72 hours).

Refer to the nora Installation Guide for Mat Bond Test & evaluation of adhesives.

3.3 Adhesive

Use nora® 485 adhesive for porous substrates and/or nora dryfix for non-porous & porous substrates.

The nora 485 is water-based acrylic adhesive which are formulated for the installation of specific nora rubber floor coverings (2 mm – 4 mm) on absorptive subfloors.

Note: Not recommended for use in sterile areas (operating rooms etc.)

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. Coverage is approximately 160 –180 square feet per gallon for a CSP 1 (depending on the substrate). Replace worn trowels to ensure proper spread rate, do not re-notch.

The nora® dryfix tape must be installed prior to dry fitting the flooring materials. Carefully vacuum the installation area to remove all loose debris. If the substrate remains dusty after cleaning, use a water-based primer that is not film forming, diluted 1:1 with clean, cold potable water. Refer to installation instructions.

Note: If nora dryfix tape is used over existing flooring, nora systems, Inc. accepts no liability for any failure due to other manufacturers' flooring products or the possible breakdown of that flooring bond from the subfloor for any reason. Providing both the moisture test and Mat Bond test have acceptable results then the installation may continue.

3.4 Heat Welding
Optional (if required) nora® heat welding rod. Refer to the nora Installation Guide

3.5 Cold Welding
Optional (if required) nora® cold weld. Refer to the nora® Installation Guide

3.6 Flash Coving
Optional (if required) – Refer to the nora Installation Guide

3.7 Installation Guidelines
Refer to the nora Installation Guide. For complete details go to www.nora.com/us.

4 Care and Cleaning
Refer to noraplan® product maintenance guides. For complete details go to www.nora.com/us.

5 Warranty
Limited 5-year warranty. See nora® Limited Warranty. For complete details go to www.nora.com/us.

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