



North American
ADHESIVES®

NA 1550

Crack-Isolation Membrane

Peel-and-Stick Flexible Fabric for Crack Isolation and Sound Reduction



PRODUCT DESCRIPTION

NA 1550 Crack-Isolation Membrane is a flexible, thin, lightweight, load-bearing, "self-adhered" membrane over which ceramic tile and natural stone can be installed immediately with any polymer-modified cement mortar. *NA 1550 Crack-Isolation Membrane* can be used to prevent in-plane floor cracks (up to 3/8" [10 mm] wide) from transferring through tile, stone and grout, and to help prevent gaps in wood-floor installations due to subfloor movement. *NA 1550 Crack-Isolation Membrane* is also excellent for use in multi-story buildings to reduce airborne and impact sound transmission between floors.

USES

- For residential homes, apartments and condos
- For multi-family and multi-story buildings
- For commercial office buildings
- For restaurants, malls, airports and theaters
- For exterior spaces with proper drainage

SUBSTRATE REQUIREMENTS

Substrates must be smooth, structurally sound and free of any substance that could prevent adhesion. Do not use chemical means (acid etching or stripping) to prepare approved substrates. Use mechanical methods only. To remove any bond-inhibiting materials, concrete substrates should be mechanically cleaned and prepared by diamond-cup grinding or other engineer-approved methods to obtain the International Concrete Repair Institute (ICRI) concrete surface profile #2. When concrete requires more mechanical preparation, the profile will typically increase. In such cases, the surface should be made smooth by applying a North American Adhesives (NAA) cement-based patch. For large areas, consider using a NAA self-leveling underlayment. Contact Technical Services for more information.

Tile Council of North America (TCNA) Statement on Deflection Criteria

Floor systems, whether wood framed or concrete, over which the tile will be installed using the appropriate TCNA method, according to the Floor Tiling Installation Guide, shall be in conformance with the International Residential Code (IRC) for residential applications, the International Building Code (IBC) for commercial applications, or applicable building codes.

The owner should communicate in writing to the project design professional and general contractor the intended uses of the tile installation, including in-service loads or information to allow a project design professional to calculate such.

The tile contractor shall not be responsible for problems resulting from any structural subfloor installation not compliant with applicable building codes, unless structural subfloor was designed and installed by tile contractor, nor for problems from overloading. Please reference the most current version of the TCNA Handbook for more complete substrate requirements.

Consult Technical Services for installation recommendations regarding substrates and conditions not listed.

SUITABLE SUBSTRATES

Interior

- Fully cured concrete (28 days old)
- Cement mortar beds
- Leveling coats
- Cement backer units (CBUs)
- Exterior-grade plywood
- Well-bonded ceramic tile and natural stone
- Properly prepared cement terrazzo floors
- Vinyl composition tile (VCT)
- Laminate countertops

Exterior

- Fully cured concrete (28 days old) with proper drainage

LIMITATIONS

- Not recommended for:
 - Use over cracks subject to out-of-plane movement, or in-plane movement greater than 3/8" (10 mm). Note: See the "Expansion and Control Joints" section.
 - Use over substrates containing asbestos, plank wood flooring, presswood, particleboard, chipboard, oriented strand board (OSB), pressure- or oil-treated plywood, Lauan plywood, Masonite, self-stick tile, metal or fiberglass surfaces, or poured epoxy floors or similar dimensionally unstable materials.
 - Use where excessive substrate moisture and/or where negative hydrostatic pressure exists. The maximum amount of acceptable moisture in a concrete substrate for *NA 1550 Crack-Isolation Membrane* is 3 lbs. per 1,000 sq. ft. (1.36 kg per 92.9 m²) per 24 hours as determined by a calcium chloride test kit. When moisture vapor emissions are in excess of 3 lbs. per 1,000 sq. ft. (1.36 kg per 92.9 m²) per 24 hours, call Technical Services for recommendations.

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- Use on vertical surfaces.
- Use under glass-tile installations.
- Use as a waterproofing or roof-deck membrane or wear surface.
- Use for submerged applications.
- Use on plywood in exterior applications.
- Use on exterior floors with improper drainage (no standing water).
- If using *NA 1550 Crack-Isolation Membrane* over gypsum-based floor patching or leveling compounds, confer with Technical Services.
- Do not use *NA 1550 Crack-Isolation Membrane* or the accompanying *NA 1510 Membrane Primer* with solvent-based materials.
- Do not use premixed products to set tile over *NA 1550 Crack-Isolation Membrane*.
- Do not use self-leveling products over *NA 1550 Crack-Isolation Membrane*.

Note: On occasion, dimensionally weak natural stone tile that normally would not be categorized as moisture-sensitive (such as travertine, limestone, marble and agglomerates) can exhibit doming, cupping or curling when wet-set or medium-bed mortar methods of installation are used over impervious sheet membranes such as *NA 1550 Crack-Isolation Membrane*. For this reason, areas requiring more than 3/8" (10 mm) buildup require the use of a self-leveling underlayment or cured mud-bed application before installation of *NA 1550 Crack-Isolation Membrane*. When installing natural stone, always do a mockup area of the proposed installation and allow materials to reach full cure to ensure achieving the desired effect. For more information regarding these methods or materials, contact Technical Services before installation or design.

APPLICATION

- Apply when substrate and ambient temperatures are between 40°F and 95°F (4°C and 35°C).
- Install *NA 1550 Crack-Isolation Membrane* only in conjunction with undiluted *NA 1510 Membrane Primer*.
- Allow *NA 1510 Membrane Primer* to dry tacky before installing *NA 1550 Crack-Isolation Membrane*.

1. Individual crack isolation before installing tile

- 1.1 *NA 1550 Crack-Isolation Membrane* may be applied directly to the substrate area that has existing in-plane cracks (with movement up to 3/8" [10 mm] wide).
- 1.2 Cut *NA 1550 Crack-Isolation Membrane* to size so that the length and width of the membrane will cover the entire length and width of the crack, plus three times the width of the largest tile being used.
- 1.3 Center the cut membrane over the crack's width and length. Number each piece and mark on the floor where the membrane is to start.



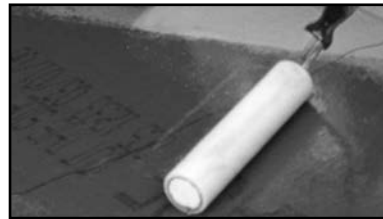
- 1.4 Set aside precut sections (or entire rolls) of *NA 1550 Crack-Isolation Membrane*. Continue with installation instructions at Step 3.

2. Full-floor crack isolation (or sound reduction)

- 2.1 To effectively isolate and protect an entire tile installation from existing or future substrate cracks, and to achieve effective sound reduction, *NA 1550 Crack-Isolation Membrane* must be installed over 100% of the substrate that will be covered with ceramic tile, stone or wood. For effective sound reduction, an approved acoustical sealant should fill gaps between the end of the tile or wood and walls, columns, etc.
- 2.2 Unroll *NA 1550 Crack-Isolation Membrane* and cut to size for the substrate to be tiled. For easier handling and installation, each roll may be cut into shorter lengths (such as 10 ft. [3.05 m]) before installation. Ensure that all edges or ends of each roll abut edges or ends of other rolls. To ensure a flat surface and proper sound reduction, do not overlap edges or ends from one roll onto another.
- 2.3 Number each sheet and mark its starting point on the floor.
- 2.4 Set aside precut sections of *NA 1550 Crack-Isolation Membrane*.

3. *NA 1510 Membrane Primer* application

- 3.1 Using a roller or brush, prime the clean, properly prepared substrate with undiluted *NA 1510 Membrane Primer*.



- 3.2 Allow the primer to dry until tacky (about 10 to 15 minutes). Clean up any fresh primer with water. Remove any dried primer with mineral spirits.

4. *NA 1550 Crack-Isolation Membrane* installation

- 4.1 Peel back the first 1" (2.5 cm) of release film from the end of the precut sections or roll.
- 4.2 Apply this leading edge at the previously marked starting point to the primed and tacky substrate.



- 4.3 Continue removing short amounts of release film and apply the membrane to the substrate. Continue until the substrate is covered with the membrane.

- 4.4 To ensure a positive bond between the sticky membrane and the substrate, roll a 75- to 100-lb. (34.0- to 45.4-kg) roller over the installed membrane.



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4.5 Using a razor knife, remove any wrinkles or objects trapped beneath the membrane and then repair.

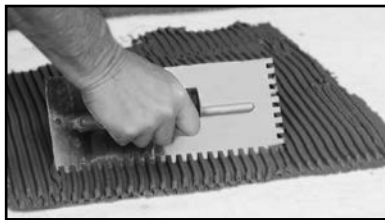


4.6 Chalk lines or other layout methods are easily applied over the light-colored *NA 1550 Crack-Isolation Membrane* surface.



5. Select a tile mortar or wood adhesive

To install ceramic tile or natural stone, use an appropriate NAA latex polymer-modified mortar meeting ANSI A118.4 or ANSI A118.11 industry standards. To install wood, or moisture-sensitive tile or stone, use an appropriate urethane adhesive.



Note: For installation of tile larger than 18" x 18" (46 x 46 cm), longer mortar cure times may be required before the tile can be grouted or walked on. For shorter turnaround times when installing larger tile, use a NAA full-contact, rapid-set mortar such as *NA 3240 Multi Flex™ Rapid*.

For additional information, instructions and protection recommendations, see the respective Technical Data Sheet (TDS) for the mortar or adhesive selected.

6. Glue-down wood-flooring installation (for sound reduction)

Apply an appropriate urethane adhesive. Follow the wood-flooring manufacturer's instructions and recommended trowel size. Note: Wood by nature will normally expand and contract with variances in ambient relative humidity. Moreover, it is understood that different species and/or different wood construction of wood floors (e.g., engineered floors) will undergo greater or lesser dimensional changes. Because of this, some expansion and contraction of planks used for wood flooring can be expected and therefore will not be considered a defective condition resulting from using NAA's membrane.

7. Nail-down wood-flooring installation (for sound reduction)

7.1 Follow Steps 2 to 4 above.

7.2 Follow the wood-flooring manufacturer's instructions.

EXPANSION AND CONTROL JOINTS

- Do not cover any substrate expansion joints with *NA 1550 Crack-Isolation Membrane*, mortar or tiles. Provide for expansion joints where specified. Refer to the most current TCNA handbook for ceramic tile installation, Detail EJ171-07.
- When necessary, cut tiles along both edges of the expansion joints. Do not allow tile and mortar to overlap the joints.
- Protect tilework with metal strips (edge metal) along both edges of structural building expansion joints.
- Install the specified compressible bead and sealant into all expansion and control joints.

GROUTING

- Allow tiles to reach a firm set (at least 24 to 48 hours). Select an appropriate NAA Portland-cement grout meeting ANSI A118.6 or ANSI A118.7 industry standards, or an epoxy grout meeting ANSI A118.3 industry standards. For additional information, instructions and recommended protection, see the respective TDS for the grout selected.

PROTECTION

- Provide for temperature-controlled storage (at 40°F to 95°F [4°C to 35°C]) on site and deliver materials at least 24 hours before work begins.
- Do not store *NA 1550 Crack-Isolation Membrane* in direct sunlight.
- Protect *NA 1550 Crack-Isolation Membrane* from spills, contamination and damage before and during tilework to ensure a positive bond with the mortar.
- Always provide proper protection of finished floors when heavy equipment (such as fork lifts or scissor lifts) is to be used over installations with sheet membrane underlayments during construction.

System Used and Results for Robinson Floor Test ¹	
Application	Residential and commercial
ASTM C627 service rating	Extra heavy
NAA grout	<i>NA 4200 Color Fill™ S</i> sanded grout, for 1/4" (6-mm) joints
12" x 12" (30 x 30 cm) unglazed solid-body porcelain	Yes
NAA mortar	<i>NA 3220 Multi Flex Plus</i> or better
<i>NA 1550 Crack-Isolation Membrane</i>	Yes
<i>NA 1510 Membrane Primer</i>	Yes
6" (15-cm) concrete slab	Yes

¹ *The above configuration was tested and is warranted for the system noted.*

ASTM Standards for Sound Reduction: It is certified that the following sound tests (for tile and wood flooring) were conducted and results supplied by NGC Testing Services, Buffalo, NY.

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		Sound-Reduction Ratings (Over 6" [15-cm] Concrete Slab)			
		Solid Porcelain Tile ¹		Engineered Oak Flooring ²	
ASTM Test Methods	Type of Sound-Transmission Measurement	Suspended Ceiling ³	No Suspended Ceiling ⁴	Suspended Ceiling ³	No Suspended Ceiling ⁴
E492-04 (IIC)	Impact sound	64	47	71	51
E2179-03 (Delta IIC)	Impact sound	N/A	16	N/A	N/A
E90-04 (STC)	Airborne sound	66	52	66	51

- ¹ 12" x 12" (30 x 30 cm) solid-body, unglazed porcelain tile installed with NA 3220 Multi Flex Plus mortar (with 1/4" x 3/8" [6 x 10 mm] square-notched trowel) and NA 4200 Color Fill S sanded grout
- ² 3/8" x 3" (10 mm x 7.5 cm) oak-engineered, prefinished flooring installed with adhesive (with 3/16" x 5/32" [4.5 x 4 mm] V-notched trowel)
- ³ Drywall grid suspension system consisting of 5/8" (16 mm) Type X gypsum board (2.3 lbs. per sq. ft. [11.2 kg per m²]) attached with screws 12" (30 cm) on center to suspended grid suspension system; and 12" (30 cm) plenum with 3-1/2" (8.9 cm) lay-in fiberglass insulation 0.16 lbs. per sq. ft. (0.78 kg/m²)
- ⁴ Bare concrete ceiling in room below

Product Characteristics	
VOCs (Rule #1168 of California's SCAQMD)	0 g per L
Fabric color	White
Shelf life	1 year stored in a dry area in original shipping container at between 40°F and 95°F (4°C to 35°C)
Fungus and microorganism resistance [†]	Pass
Point load resistance after 28-day cure [†]	Pass
Maximum crack-movement capacity [†]	3/8" (10 mm), in-plane
Accelerated aging [†]	Pass

[†] Per ANSI A118.12 standard (Crack-Isolation Membranes for Thin-Set Ceramic Tile and Dimensional Stone Installation)

For technical data on the accompanying NA 1510 Membrane Primer, see its TDS.

ANSI Specification	
Test Method	Test Results
ANSI A118.12 high-performance standard for crack isolation	Exceeds the standard

Packaging and Approximate Coverage	
Membrane thickness	40 mils
Roll width/length	39.4" x 68.6 ft. (1 x 20.9 m)
Roll area/coverage	225 sq. ft. (20.9 m ²)
Roll weight	53 lbs. (24.0 kg)

LEGAL NOTICE

The contents of this Technical Data Sheet ("TDS") may be copied into another project-related document, but the resulting document shall not supplement or replace requirements per the TDS in effect at the time of the NAA product installation. For the most up-to-date TDS and warranty information, visit our Website at www.na-adhesives.com. **ANY ALTERATIONS TO THE WORDING OR REQUIREMENTS CONTAINED IN OR DERIVED FROM THIS TDS SHALL VOID ALL RELATED NAA WARRANTIES.**

Before using, the user must determine the suitability of our products for the intended use, and the user alone assumes all risks and liability. **ANY CLAIM SHALL BE DEEMED WAIVED UNLESS MADE IN WRITING TO US WITHIN FIFTEEN (15) DAYS FROM DATE IT WAS, OR REASONABLY SHOULD HAVE BEEN, DISCOVERED.**