

ECB® Anti-Fracture Membrane System

Installation Sheet

National Applied Construction Products, Inc. • 800-633-4622 • Fax: 330-644-3557 • www.NACproducts.com
Important: Proper installation of this system requires use of the appropriate primers and companion products. Read and understand Product Data (PDS) and Material Safety Data (MSDS) for all products prior to installation.

Suitable Substrates

Concrete: Poured, pre-stressed and pre-cast concrete. Concrete backerboard, mud beds, gypsum, lightweight concrete and patching compounds.

- Some concrete boards are not suitable for the application of ECB® Membrane; check with manufacturer.

Wood: Exterior or exposure 1 plywood, APA-rated sheathing, Sturd-I-Floor, hardwood, tongue and groove and OSB with standard face. (Gap between sheathing as required.)

Other Substrates: Ceramic and porcelain tile, stone, terrazzo, VCT/VAT, metal, radiant-heated, painted and sealed floors and floors damaged by dry shrinkage and structural movement.


Surface Preparation

- Surfaces must be level, structurally sound and meet 1/360 for ceramic and porcelain tile or 1/720 for stone tile on live or dead loads. Maximum variation of 1/4" in 10' from the required plane. Refer to TCNA Handbook.
- DO NOT** install membrane under mortar beds or leveling and patching compounds. **DO** install membrane over cured mortar beds, leveling and patching compounds.
- Surfaces must be clean, dry and free of holes, projections, moisture or bond breakers such as waxes, petroleum based sealers, dirt, grease or oil.
- Grind bumps and level slab depressions with quality latex underlayment in accordance with manufacturer's instructions. Scarify smooth surfaces.
- Ensure joist spacing consists of no more than 16" on center and a double sub-floor consists of at least 5/8" per sheet.
- Perform BlackMat MVT (Moisture Vapor Transmission) test to determine if moisture is present.
 - If no MVT is present, proceed to the next step of the installation process.
 - If MVT is present, conduct a Relative Humidity
 - Test or F-1869-98 test for emissions. If MVT is in excess of 3#/1000SF/24HRS or has an R.H. greater than 85%, call NAC for instructions.
 - For absorptive substrates, up to three coats of Moisture Lock 101® may be applied according to manufacturer's instructions. (see Moisture Lock 101® PDS for complete information)

- A cementitious parge coat must be applied to concrete block and allow to cure for 24 hours prior to applying primer.
- A successful overnight bond test is required. A bond test determines if the membrane system will successfully adhere to the substrate.
- Not recommended for vertical or overhead surfaces.
- Refer to current TCNA handbook for additional guidelines.

Installation

- Measure and pre-cut membrane 4"-6" longer than required size. Re-roll membrane to half the room's depth.
- Apply primer. (Use primer reference chart below to determine appropriate primer for application.)

	INTERIOR APPLICATION			EXTERIOR APPLICATION		
	Below Grade	On Grade	Above Grade	Below Grade	On Grade	Above Grade
NAC TAC	✓	✓	✓	✓	✓	✓
NAC TAC II	✓	✓	✓			
NS97				✓	✓	✓

Reference the PRIMER PDS SHEET for complete information of NAC Products, Inc. primers.

- NAC TAC or NAC TAC II** should be applied with a short nap roller, brush applicator or sprayer. Substrate temperature should be a minimum of 65°F.
 - Shake, mix or stir primer thoroughly.
 - Prime only an area that will be covered by membrane within 1-4 hours. Apply a thin film of uniform thickness to substrate in single strokes.
Do not re-roll primer.
 - Allow primer to dry until tacky to touch, but non-transferable to finger. This may take as little as 10 minutes, but usually no more than 45 minutes, depending upon temperature, humidity, internal moisture level/porosity of substrate and application thickness. Air pockets may form if membrane is installed over wet primer.

(See NAC TAC or NAC TAC II label for additional information.)

- **NS97** is for **Exterior Use ONLY** and should be applied with a short nap roller, brush, or sprayer. Substrate temperature should be a minimum of 55°F.

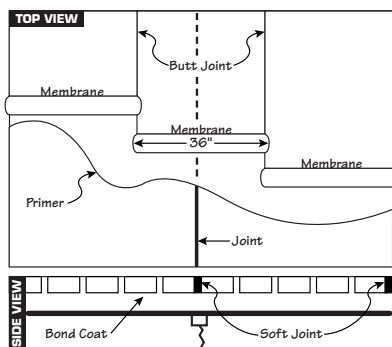
- Mix or stir primer thoroughly.
- Prime only an area that will be covered by membrane within 1-4 hours. Apply a thin film of uniform thickness to substrate in single strokes. Do not re-roll primer.
- Air pockets may form if membrane is installed over wet primer. Allow primer to dry until tacky to touch, but non-transferable to finger. This may take as little as 10 minutes, but usually no more than 45 minutes, depending upon temperature, humidity, internal moisture level/porosity of substrate and application thickness.

(See NS97 label for additional information.)

- Slit release paper and remove, allow membrane to roll out, adhesive-side down, across primed floor.
- Press membrane into place working out from the center of the membrane by applying heavy pressure with the flat side of the trowel, or use a 75-100# Roller.

Full Floor Coverage Application

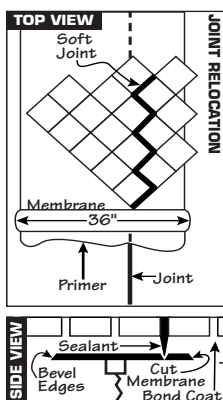
Butt joint 36" ECB® membrane or overlap and single cut through to remove excess. For end seams, continue with next roll and tightly butt jointing ends or double cut. Membrane is non-directional.



Placement of soft joints may be repositioned with full floor coverage. Isolation joints, and working expansion joints used for vertical displacement need to be carried through to tile installation. Soft joints in tile patterns are required as per TCNA Handbook method EJ171.

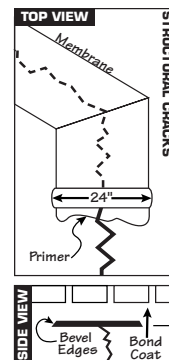
Strip Application

Joint Relocation: 36" ECB® may be placed over control/saw-cut joints. Offset ECB® membrane 24" to one side of joint. Measure in approximately 12" on membrane and cut thru tile joint nearest to control joint in substrate. This will assure lateral movement transfer to membrane. Apply appropriate caulk to new "soft joint". Level ECB® membrane edges with thin-set or mortar for a smooth transition to substrate.



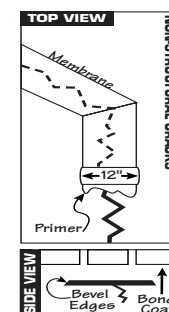
Structural Cracks:

Center 24" ECB® membrane over cracks that completely penetrate slab. For cracks greater than 3/8" wide, fill with a suitable urethane caulk before applying membrane. If crack turns, cut and butt joint ECB® membrane to accommodate direction. Level ECB® membrane edges with thin-set or mortar for a smooth transition to substrate.

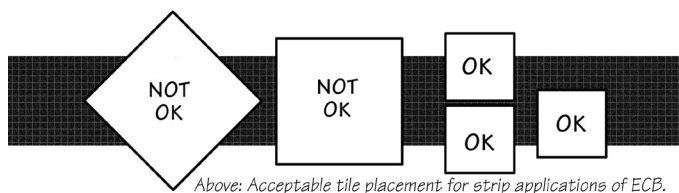


Non-Structural Cracks:

Depending on the size of the tile, center 12" or 24" membrane over cracks such as shrinkage cracks. If crack turns, cut and butt joint ECB® membrane to accommodate direction. Level ECB® membrane edges with thin-set or mortar for a smooth transition to substrate.



When using strip applications of ECB® membrane, be sure to follow the acceptable placement of tile according to the graphic below:



Above: Acceptable tile placement for strip applications of ECB.

Exterior and Wet Area Applications

All joints and termination points of the membrane must be sealed with 1/4" bead of NAC approved sealant. Smooth out sealant with flat side of trowel and let cure.

Interior Floors Using Radiant Heating or Floor Warming Systems

Full floor coverage of ECB® is required over hydronic heated floors and electric floor warming systems.

For hydronic systems using gypsum/gypcrete or other lightweight concrete products that have an absorption rate greater than 5%, apply one to two coats of Moisture Lock 101® depending on porosity of the substrate. The Moisture Lock 101® will seal and harden the surface and prepare it for the primer. Allow Moisture Lock 101® to dry for a minimum of two hours before applying primer. Proceed with ECB® application according to installation instructions.

For electric floor warming systems, install ECB® full floor coverage as directed in the installation instructions. Secure the tile warming system over the membrane as directed by the warming system manufacturer. **DO NOT** puncture or staple the floor warming system to the membrane. See Tile Setting Materials as noted below.

Tile Setting Materials

A thin-bed, latex-modified mortar meeting a minimum material specification of ANSI A118.4 is required when installing porcelain, ceramic or decorative stone tile or related products. Apply membrane over level coats, mortar and mud beds. Key setting material into membrane with flat side of trowel. Re-apply mortar with notch side of trowel using minimum trowel size of 1/4" x 3/8". Contact product manufacturer for trowel size when using organic adhesives and epoxy mortars suitable for ceramic tile applications.

Wood & VCT Installations

When installing wood or VCT over membrane, a urethane glue or solvent free adhesive must be used. Follow general membrane installation instructions.

Cautions:

- Not recommended for use on concrete floors with excessive hydrostatic head pressure or excessive moisture vapor transmission above 10#/1000SF/24HRS when used with NAC TAC or NS97 Primer. When using NAC TAC II, if MVT drive is in excess of 3#/1000SF/24HRS or has an R.H. greater than 85%, call NAC for instructions.
- Protect floors from traffic until new floor is fully cured. Large format tile installations may require extended cure times.
- Membrane and companion products must be protected from the elements and UV rays until tile is installed, grouted and cured.
- **DO NOT** install membrane under mortar beds or leveling and patching compounds. **DO** install membrane over cured mortar beds, leveling and patching compounds.
- Do not use petroleum-based cleaners or sealers for tile, marble, stone or grout.
- Impervious tile (less than 0.5% absorption) requires a 48 hour cure time prior to grouting.
- Protect floors from heavy construction equipment during installation to prevent damage.
- Not recommended for vertical applications. Use SubSeal Liquid Waterproof Membrane in place of sheet membrane.
- Movement joints must be installed in finished tile system per TCNA method EJ171:

Interior: 20' to 25' in each direction. If exposed to direct sunlight or moisture then 8' to 12' in each direction.

Exterior: 8' to 12' in each direction.

Application Notes for NAC TAC Primer

Coverage: 375-425 square feet per gallon depending upon applicator type and porosity of substrate.

Clean-Up: Remove wet NAC TAC or NAC TAC II with a damp cloth and plain water. Use mineral spirits for dried primer.

- NAC TAC and NAC TAC II primers are not freeze/thaw stable. Do not store below 35°F. If NAC TAC or NAC TAC II separates, shake to remix. If product will not remix, do not use.
- Due to increased adjustability of primer bond to membrane, a bond test, if needed, should be performed over 24 hours. A permanent bond is established in 48 hours.

Application Notes for NS97 Primer

Coverage: 300-400 square feet per gallon depending upon applicator type and porosity of substrate.

Clean-Up: Tools, equipment and spillage may be cleaned up with mineral spirits.

Spill or Leak Procedures: Contain spill if possible. Wipe up or absorb with suitable material and shovel up. Prevent entry into sewers and waterways.

- Do not use in direct contact with copper shower pan liners. Application equipment must be compatible with chlorinated solvents. Avoid contact with aluminum, copper, copper alloys or polystyrene foam. May damage painted surfaces, vinyl and plastics. Test a small area for damage before use.
- **Make sure the area is well-ventilated.** Prevent vapor buildup by providing fresh air to maintain levels below exposure limits. Open windows and doors or use other means to ensure continuous movement of fresh air and cross ventilation during application and drying. Vapor is heavier than air and will collect in low areas. Do not use in basements or other poorly ventilated areas. Wear a NIOSH approved self-contained breathing apparatus or other approved respiratory protection device if use conditions generate vapors at a level in excess of recommended exposure limits.
- Avoid skin contact. Wear gloves. Wear eye protection and side shields. Contact with flame or hot surfaces may produce toxic gases. Do not smoke.

See NAC TAC, NAC TAC II and NS97 primer labels and MSDS for additional instructions on use, storage and disposal. Contact NAC Products at 800-633-4622 with any questions and for additional information.