

National Applied Construction Products, Inc.



## 1. Product Name

NAC Anti-Fracture Membrane Systems

## 2. Manufacturer

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## 3. Product Description

### BASIC USE

National Applied Construction Products, Inc. (NAC Products), offers a family of anti-fracture membrane systems to protect new ceramic, porcelain, stone and hardwood floors from failure due to lateral substrate movement and moisture vapor transmission. These self-adhering, sheet-applied membrane systems are comprised of a base layer of polymer modified elastomers permanently laminated to unique "stress flex" fiber sheets and are designed for installation over concrete, concrete backer-board, plywood or existing floors. Crack suppression, waterproofing and sound abatement options are available.

### ECB Anti-Fracture Membrane

ECB is the original Elastomeric Crack Bridging Membrane. This 40 mil (0.04") membrane will adhere permanently to the subfloor and can be used for both interior and exterior applications. The membrane is engineered to remain flexible and to last the life of the flooring surface.

### Strataflex Waterproofing Membrane

Strataflex is a self-bonding, sheet-applied membrane for use under interior or exterior surfaces requiring fracture-free protection from water penetration. This high strength, 40 mil (0.04") elastomeric waterproofing membrane is manufactured with a 2" (51 mm) double-stick lap joint to enhance waterproofing integrity and ease installation.

### SAM<sup>3</sup> Sound Abatement Membrane

The SAM<sup>3</sup> System is a 70 mil (0.07") sound abate-

ment sheet membrane designed for use with a sound rated ceiling assembly. It is formulated to reduce impact and airborne sound transmission when used under hard surface floors. SAM<sup>3</sup> serves as a membrane for sound reduction and crack suppression and can also be used in waterproofing applications. Rated for light commercial and residential use, SAM<sup>3</sup> is designed for floors that require Impact Insulation Class (IIC) and Sound Transmission Class (STC) ratings of not less than 50 in accordance with ASTM E90 and E492.

### Super SAM Sound Abatement Membrane

Super SAM is a 110 mil sound abatement membrane for use over 6" (152 mm) and thicker concrete slabs or wood subfloors without a sound rated ceiling assembly. This enhanced sound reduction and crack suppression system can also be used for waterproofing applications. Super SAM is rated for light commercial and residential use on floors that require Impact Insulation Class (IIC) and Sound Transmission Class (STC) ratings of not less than 50 in accordance with ASTM E90 and E492.

## 4. Technical Data

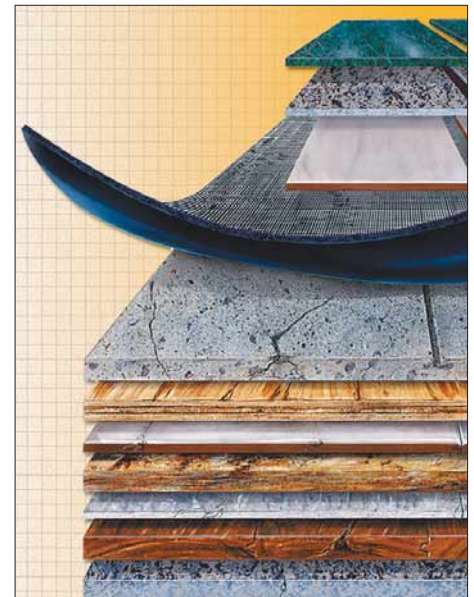
### APPLICABLE STANDARDS

#### ASTM International

- ASTM C627 Standard Test Method for Evaluating Ceramic Floor Tile Installation Systems Using the Robinson-Type Floor Tester
- ASTM D583 Methods of Test for Water Resistance of Textile Fabrics (Withdrawn 1971)
- ASTM E90 Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements
- ASTM E492 Standard Test Method for Laboratory Measurement of Impact Sound Transmission Through Floor-Ceiling Assemblies Using the Tapping Machine
- ASTM E2179 Standard Test Method for Laboratory Measurement of the Effectiveness of Floor Coverings in Reducing Impact Sound Transmission Through Concrete Floors

#### American National Standards Institute (ANSI)

- ANSI A118.4 Specifications for Latex Portland Cement Mortar
- ANSI A118.10 Specifications for Load Bearing, Bonded, Waterproof Membranes for Thin-Set Ceramic Tile and Dimensional Stone Installations



Protect hard surface floors from failure.

- ANSI A118.12 Crack Isolation Standard  
Military Specifications (MIL) - MIL-D-3134J Deck Covering Materials

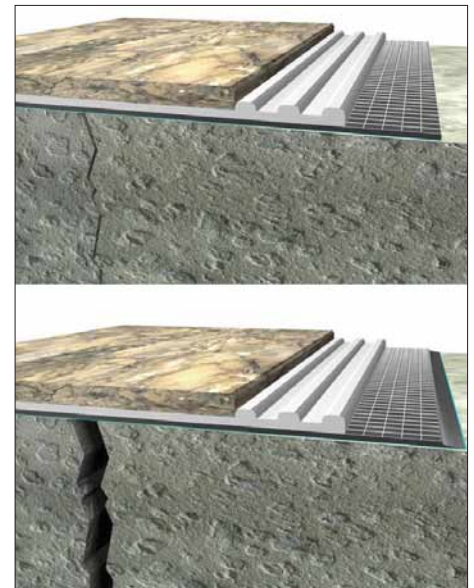
### PHYSICAL PROPERTIES

See Table 1 on the third page of this document.

## 5. Installation

### PREPARATORY WORK

Surfaces must be level and structurally sound.



Up to 3/8" (9.5 mm) lateral movement and crack suppression ability



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Lifetime fracture-free performance warranty with full floor coverage

and must meet live or dead load subfloor deflection requirement 1/360 for ceramic and porcelain tile or 1/720 for stone and tile. The surface must not exceed the maximum variation of 1/4" in 10' (6.4 mm in 3.1 m) from the required plane.

Slab depressions must be leveled using a quality latex underlayment in accordance with manufacturers' instructions, and bumps and raised surface abrasions must be ground.

Surfaces must be free of holes, projections, moisture, dirt, waxes, curing compounds or bond breakers. Consult the manufacturer's current product literature for additional preparatory instructions. Comply with manufacturer's recommendations for substrate preparation and with the Tile Council of North America (TCNA) Handbook for Ceramic Tile Installation requirements.

**METHODS**

**Primer Application**

Installation begins with a clean, dry floor. Substrates must be well adhered and clean of wax, petroleum sealers, dirt, grease, oil or other bond breakers.

Select NAC TAC primer for interior use or NS97 for exterior use. For damp or wet area installations, apply a latex-modified thinset meeting ANSI A118.4 to the substrate in lieu of NAC TAC or NS97.

Shake, mix or stir primer thoroughly. Prime only the area that will be covered by the

membrane within 4 hours.

If using NAC TAC, apply a thin, even film to the substrate in single strokes, using a short nap roller, flat trowel, brush applicator or sprayer. Ensure that the primer is of uniform thickness. Substrate temperature must be at least 65 degrees F (18 degrees C). Do not re-roll NAC TAC.

If using NS97 Exterior Primer, apply a thin, even film to the substrate in single strokes with a short nap roller, notched trowel no larger than 1/16" x 1/32" x 1/32" (1.6 x 0.8 x 0.8 mm) or paintbrush. Ensure that the primer is of uniform thickness. Substrate temperature must be at least 55 degrees F (13 degrees C).

If using a latex-modified thinset in lieu of NAC TAC or NS97, apply mortar with a 1/8" (3.2 mm) v-notch trowel.

Allow the primer to dry until it does not transfer to the finger and is tacky to the touch. This usually takes 10 - 45 minutes, depending on temperature, humidity, internal moisture level and porosity of the substrate and application thickness. See the primer label for additional information.

Remove the release sheet from the underside of the membrane and place it onto the substrate adhesive-side down. Press the membrane into place with the flat side of the trowel or a 75 - 100 lb (34 - 45 kg) roller.

**Installation**

Consult the manufacturer's current product literature for complete installation recommendations and instructions. Detailed installation instruction sheets and Material Safety Data Sheets (MSDS) can be found on the manufacturer's website. For more information, consult National Applied Construction Products, Inc.

**PRECAUTIONS**

Consult National Applied Construction Products for special instructions when applying cement leveling and patching compounds over any NAC Products membrane.

Some backerboards are not suitable for vertical membrane application. A successful overnight bond test is required.

Keep the membrane protected from rain and other elements until tile is installed and grouted.

**LIMITATIONS**

- Not recommended for use on concrete floors with excessive water vapor transmission or excessive hydrostatic head pressure
- Not recommended for applications where horizontal floor movement exceeds 3/8" (9.5 mm)

National Applied Construction Products, Inc.

- Joint openings larger than 3/16" (4.8 mm) must be first prepared with proper materials (consult manufacturer for more information)
- Not recommended for protection against vertical shear or to cover cracks and joints larger than 3/8" (9.5 mm)
- Do not use petroleum based cleaners or sealers for tile, marble, stone or grout
- Latex modified mortar meeting ANSI A118.4 required when installing tile
- Protect finished floor from steel or hard rubber wheeled equipment
- Impervious tile (less than 0.5% absorption) requires a 48 hour cure prior to grouting
- Protect finished floor from heavy construction equipment during construction as tile damage may result

**6. Availability & Cost**

**AVAILABILITY**

Contact National Applied Construction Products for information on local availability.

**COST**

Budget installed cost information may be obtained from the manufacturer.

**7. Warranty**

National Applied Construction Products, Inc., offers a Lifetime Fracture-Free Performance Warranty for full floor coverage projects or a Lifetime Limited Material Warranty for strip applications. Consult manufacturer for complete terms and conditions.

**8. Maintenance**

None required.

**9. Technical Services**

A staff of factory trained service personnel offers design assistance and technical support. For technical assistance, contact National Applied Construction Products, Inc.

**10. Filing Systems**

- Reed First Source®
- MANU-SPEC®
- Additional product information is available from the manufacturer upon request.



**TABLE 1 PHYSICAL PROPERTIES OF NAC ANTI-FRACTURE MEMBRANE SYSTEMS**

Property, Test Method	ECB		Strataflex		SAM <sup>g</sup>	Super SAM
Thickness	40 mil, ± 5 mil		40 mil, ± 5 mil		70 mil, ± 5 mil	110 mil, ± 5 mil
Seams	Butt joint application		Double stick lap joint		Butt joint application	Butt joint application
Roll sizes and weight	1' x 50' (305 mm x 15 m) @ 17 lb (7.7 kg)		-		-	-
	2' x 50' (610 mm x 15 m) @ 34 lb (15.5 kg)		-		-	-
	3' x 50' (914 mm x 15 m) @ 50 lb (22.7 kg)		3' x 50' (914 mm x 15 m) @ 50 lb (22.7 kg)		3' x 50' (914 mm x 15 m) @ 70 lb (31.8 kg)	3' x 50' (914 mm x 15 m) @ 90 lb (40.9 kg)
Shelf life	1 year		1 year		1 year	1 year
Freeze/thaw	Stable		Stable		Stable	Stable
Ceramic installation systems (ASTM C627)	Extra heavy duty		Extra heavy duty		Light commercial, residential	Light commercial, residential
FHA 4900.1 (ASTM D583)	Pass, 3' (914 mm) head		Pass, 3' (914 mm) head		Pass, 3' (914 mm) head	Pass, 3' (914 mm) head
Crack bridging	3/8" (9.5 mm)		3/8" (9.5 mm)		3/8" (9.5 mm)	3/8" (9.5 mm)
Impact resistance (MIL-D-3134J)	Pass*		Pass*		N/A	N/A
Crack Isolation (ANSI A118.12)	NAC Results	ANSI Specifications	NAC Results	ANSI Specifications		
5.1 Shear strength						
5.1.5 28-day cure	168 psi	50 psi	168 psi	50 psi	N/A	N/A
5.1.6 Accelerated aging	116 psi	50 psi	116 psi	50 psi	N/A	N/A
5.2 Point load	1756 lb	1000 lb	1756 lb	1000 lb	N/A	N/A
4.1 Mold growth	Pass		Pass		N/A	N/A
5.4 System crack resistance	Pass		Pass		N/A	N/A
Waterproof Membranes (ANSI A118.10)						
M-4.1 Mold growth	Pass		Pass		N/A	N/A
M-4.2 Seam strength	27 lb/2" width	16 lb/2" width	27 lb/2" width	16 lb/2" width	N/A	N/A
M-4.3 Breaking strength	1123 psi	170 psi min	1123 psi	170 psi min	N/A	N/A
M-4.4 Dimensional stability	0% change	0.7% maximum change	0% change	0.7% maximum change	N/A	N/A
M-4.5 Waterproofness	No moisture	No moisture	No moisture	No moisture	N/A	N/A
M-5.5 4-week shear strength	168 psi	50 psi	168 psi	50 psi	N/A	N/A
M-5.6 12-week shear strength	160 psi	50 psi	160 psi	50 psi	N/A	N/A
M-5.7 100-day water immersion shear strength	95 psi	50 psi	95 psi	50 psi	N/A	N/A
Sound Abatement						
IIC (ASTM E492)	Minimal		Minimal		58**	51*** and 52****
IIC Delta Δ (ASTM E2179)	-		-		-	Δ 23***
STC (ASTM E90)	Minimal		Minimal		54**	55*** and 54****

\* Modified for ceramic tile. 2 lb (0.91 kg) ball dropped 8' (2.4 m) on an 8" x 8" (203 x 203 mm) porcelain tile bonded to ECB and Strataflex.

\*\* Performed on 6" (152 mm) concrete slab with ceiling assembly.

\*\*\* Performed on 8" (203 mm) concrete slab; no ceiling assembly.

\*\*\*\* Performed on 6" (152 mm) concrete slab with Homasote; no ceiling assembly.