

# NA 3900



**North American**  
**ADHESIVES®**

## 100%-Solids Epoxy Mortar



GOOD	BETTER	BEST
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### PRODUCT DESCRIPTION

A solvent-free, 100%-solids epoxy setting floor and wall mortar that is suited for areas where most chemical-resistant setting material is necessary. NA 3900 is formulated to be used as a nonsag thin-set for wall applications of porcelain and monocottura tile up to 12" x 12" x 3/8" (30 cm x 30 cm x 10 mm) in format. It also has high compressive strength, which provides excellent impact strength in commercial facilities. NA 3900 is designed for setting most types of tile.

### USES

- For setting ceramic floor and wall tile, quarry tile, porcelain and monocottura tile, acid-resistant floor brick, paver tile natural stone and slate
- For industrial, commercial, residential and institutional applications with high mortar-strength requirements
- For heavy-traffic areas such as subway stations, shopping malls and air terminal buildings
- For applications requiring acid and chemical resistance for most areas of restaurants, hospitals and schools
- For outdoor building inset patterns, accent bands and borders
- For showers, gang showers, steam and sauna rooms
- For pools, spas, fountains and water features
- For setting most moisture-sensitive marbles, stones and agglomerates such as Rosso Levanto and Negro Marquina marble or green marble, granite and their agglomerates

Note: Marble, granite and slate are products of nature made from a vast combination of minerals and chemicals that may cause the material to behave or react in a manner beyond our control. Likewise, we do not have control over any of the materials or processes used in the manufacturing of agglomerates. Therefore, determine the suitability of all the materials before proceeding with the installation and test material for possible staining or discoloration.

### SUBSTRATE REQUIREMENTS

All supporting surfaces must be structurally sound. The surface area that will receive tile must be dry, clean and free of dust, oil, grease, tar, paint, wax, curing agents, primers, sealers, release agents, existing adhesives and any other substance that can weaken the product's bond to the substrate. If the surface contains these substances, they must be mechanically removed.

### SUITABLE SUBSTRATES (properly prepared)

- Fully cured concrete (at least 28 days old)
- Masonry block and brick
- Cement mortars and leveling coats
- Cement and epoxy terrazzo
- Cement backer units (see manufacturer for recommendations)
- Existing ceramic tile
- Steel

### TECHNICAL QUICK REFERENCE

Meets ANSI A118.3 requirements for chemical resistance

**Product characteristics** at 73°F (23°C) and 50% relative humidity

Pot life	1 hour
Open time	1 hour
Initial set	24 hours
Final cure	14 days
Shear strength	> 1,000 psi (> 6,90 MPa)
Compressive strength	> 3,500 psi (> 24,1 MPa)
ASTM C627	Extra heavy-duty rating; passes all 14 cycles without damage
Color	Natural sand
Cleanup	With water while fresh. Consult MAPEI's Technical Services Department regarding removal of hardened epoxy.
Shelf life	2 years when stored in original, sealed containers at room temperature (73°F [23°C])
Packaging	<ul style="list-style-type: none"> <li>• Pail, 3 U.S. gals. (11,4 L)</li> <li>• Part A: 2.733 U.S. gals. (10,3 L)</li> <li>• Part B: 0.267 U.S. gals. (1,01 L)</li> </ul>

### TYPICAL TROWELS AND APPROXIMATE COVERAGES\*

1/4" x 1/4" x 1/4" .....27 sq. ft./U.S. gal.  
(6 x 6 x 6 mm) .....(0,66 m<sup>2</sup>/L)

1/4" x 3/8" x 1/4" ..... 18 sq. ft./U.S. gal.  
(6 x 10 x 6 mm) .....(0,44 m<sup>2</sup>/L)



\* Trowel dimensions are width/depth/space. Coverages shown are for estimating purposes only. Actual job-site coverages may vary according to the type of trowel used, substrate conditions and setting practices

### HEALTH AND SAFETY

Consult the Material Safety Data Sheet (MSDS) for safe-handling instructions.

- Exterior-grade plywood for indoor residential floors and countertops in dry areas only. Plywood must be Group 1, CC-type, conforming to APA classification and U.S. Product Standard PS 1-95 or COFI exterior plywood "Select" or "Select Tight Face" conforming to CSA-0121 standard for Douglas fir. (See TCNA Handbook for details and the following statement regarding deflection).

### Tile Council of North America (TCNA)

#### Statement on Deflection Criteria

Floor systems, including the framing system and subfloor panels, over which tile will be installed should be in conformance with the IRC [International Residential Code] for residential applications, the IBC [International Building Code] for commercial applications, or applicable building codes.

Note: The owner should communicate in writing to the project design professional and general contractor the "intended use" of the tile installation, in order to enable the project design professional and general contractor to make necessary allowances for the expected live load, concentrated loads, impact loads, and dead loads including the weight of the tile and setting bed. The tile installer shall not be responsible for any floor framing or subfloor installation not compliant with applicable building codes, unless the tile installer or tile contractor designs and installs the floor framing or subfloor.

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

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## LIMITATIONS

- The epoxy mortar thickness should not exceed 1/4" (6 mm) under the tile.
- Do not use on outdoor walls as a full continuous building covering, as this will restrict moisture vapor transmission.
- Do not use for grouting.
- Do not use in areas subject to excessive heat. Once cured, NA 3900 will resist temperatures up to 212°F (100°C).
- Do not use in areas subject to excessive hydrostatic pressure.
- Do not apply over wood planking, presswood, particleboard, chipboard, oriented strand board (OSB), pressure-treated or oil-treated plywood, Masonite, Lauan, gypsum floor-patching, gypsum leveling compounds, metal (other than steel) or similar dimensionally unstable substrates.

## MIXING

1. Wear rubber gloves and avoid skin contact during mixing, application and cleaning.
2. Parts A and B are packaged to exact proportions for proper mixing.
3. Pour all material out of the Part B container into the Part A (paste) container. To improve flowability and texture, allow enough time for the Part B material to flow completely out of the container. Always mix complete units. Do not add other materials to this mixture.
4. Using a slow-speed mixer (at about 300 to 400 rpm), mix thoroughly until a homogenous, consistent color is obtained.
5. Avoid air entrapment by prolonged mixing, which will shorten the pot life.
6. Wash hands and tools immediately with water before epoxy hardens. NA 3900 is extremely difficult to remove once cured.
7. Do not place the lid on the container after material has been mixed.

## APPLICATION

1. The temperature of the tilework or substrate must be between 60°F and 90°F (16°C and 32°C) while spreading. This temperature should be maintained until NA 3900 has hardened sufficiently (after 24 to 72 hours).
2. Remove the mixed product from the container and place in piles on the floor. NA 3900 is a thermosetting product, so it sets up faster in a container or a large mass.
3. Use a typical notched trowel (see chart in "Technical Quick Reference") with sufficient depth to ensure proper epoxy mortar transfer, covering at least 95% of the back of the tile with all edges supported.
4. Using the trowel's flat or straight edge, spread a thin pressure-applied coat on the substrate. Then using the trowel's notched side, follow immediately with additional material, combing in a single direction to achieve an even-setting bed. The entire substrate should be covered, leaving no bare areas between the ridges.
5. Do not spread more epoxy than can be covered while the consistency of the troweled material is plastic. If the applied epoxy is no longer plastic in consistency, scrape off and replace with fresh epoxy mortar.
6. Tile or stone must be dry before setting into epoxy mortar.
7. Set tiles firmly over the fresh mortar with a slight push/pull motion across the direction of the mortar ridges to achieve good tile-to-mortar contact.
8. Follow immediately with proper and thorough beat-in of the tile to flatten ridges or notches into a continuous bed, allowing at least 25% of the thickness of each tile to be embedded in the mortar.
9. Make all alignments or adjustments immediately following the beat-in of the tile.
10. Clean all joints and wipe smudges from the tile face with a damp sponge or towel before material hardens.
11. Wash hands and tools immediately with water while material is still fresh.

## EXPANSION AND CONTROL JOINTS

1. Provide for expansion and control joints where specified. Refer to the most current TCNA handbook for ceramic tile installation, Detail EJ-171.
2. Do not cover any substrate expansion joint or control joints with mortar or tiles.
3. When necessary, cut tiles along both edges of the expansion joints. Do not allow tile and mortar to overlap the joints.
4. Protect tilework with metal strips (edge metal) along both edges of structural building expansion joints.
5. Install the specified compressible bead and sealant into all expansion and control joints.

## GROUTING

Wait at least 24 hours after installation, and grout with the appropriate North American Adhesives (NAA) grout.

## IMPORTANT NOTICE

Before using, user shall determine the suitability of the product for its intended use and user alone assumes all risks and liability whatsoever in connection therewith. **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.**

For the most current product data, visit [www.na-adhesives.com](http://www.na-adhesives.com).



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**ADHESIVES®**

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