



North American
ADHESIVES®

NA 3500

Glass Set™

Bright White Mortar for Glass Tile and Mosaics



PRODUCT DESCRIPTION

NA 3500 Glass Set is a premium-grade, polymer-fortified, multipurpose, thin-set mortar for installing glass tile, glass mosaics and marble mosaics, and is also ideal for installing light-colored translucent natural stone. When mixed with NA 3000 Mortar Additive instead of water, NA 3500 Glass Set provides greater bond strength, can be used for submerged installations, and meets or exceeds ANSI A118.11 and A118.4 industry standards. NA 3500 Glass Set's bright white property enhances the color of translucent and transparent glass tile better than ordinary white thin-set mortars.

FEATURES AND BENEFITS

- Non-sag performance
- Consistent bright white color enhances the color of translucent and transparent tile.
- Great for sheet-mounted mosaics
- Can be used for submerged applications when mixed with NA 3000 Mortar Additive
- Can be used in residential and commercial applications

INDUSTRY STANDARDS

- ISO 13007: When mixed with water, classification C2TE; when mixed with NA 3000 Mortar Additive, classification C2TES1P1
- ANSI: When mixed with water, meets or exceeds ANSI A118.4 requirements; when mixed with NA 3000 Mortar Additive, meets or exceeds ANSI A118.4 and ANSI A118.11 requirements

USES

When mixed with water:

- For most interior/exterior residential installations on floors and walls, most interior/exterior commercial installations on floors and most interior commercial installations on walls
- For setting glass tile, mosaic tile, ceramic and porcelain tile, quarry tile, pavers and Saltillo tile and most types of marble, granite and natural stone

When mixed with NA 3000 Mortar Additive:

- For setting all the above, as well as most commercial installations on walls and installations subject to water immersion

SUBSTRATE REQUIREMENTS

- Substrates must be in accordance with ANSI A108.5 current standards and recommendations.
- 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 adhesive's bond to the substrate. If the surface contains these substances, they must be mechanically removed.
- Consult Technical Services for installation recommendations regarding substrates and conditions not listed.

SUITABLE SUBSTRATES (properly prepared)

When mixed with water:

- Fully cured concrete (cured for at least 28 days)
- Cement mortar beds and leveling coats
- Masonry block and brick
- Cement backer units – see manufacturer's installation guidelines
- Gypsum wallboard and plaster, properly primed (interior walls only in dry areas)

When mixed with NA 3000 Mortar Additive:

- All the substrates listed above
- APA and CANPLY Group 1 exterior-grade plywood (interior, residential and light commercial in dry conditions only)
- Existing ceramic and porcelain tile, cement terrazzo, quarry tile and pavers (interior and dry conditions only)
- North American Adhesives (NAA) waterproofing, crack-isolation and sound-reduction sheet membranes

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Note: Glass tile may not be suitable over some of the above substrates (such as plywood). Consult the recommendations of the Tile Council of North America (TCNA) and the glass tile manufacturer regarding glass tile installations over these substrates and membranes.

LIMITATIONS

- Consult the glass tile manufacturer's specifications to verify product suitability for specific installations and installation procedures.
- Install only at temperatures between 40°F and 95°F (4°C and 35°C).
- Not recommended for:
 - Application over presswood, particleboard, chipboard, oriented strand board (OSB), hardwood flooring, Masonite, Lauan, plastic laminate surfaces, vinyl composition tile (VCT), substrates containing asbestos, metal or dimensionally unstable materials.
 - Setting moisture-sensitive stone (green marble, some limestones and granites), agglomerate tiles or resin-backed tiles. Instead, use a suitable epoxy or urethane adhesive.
- To use directly over gypsum-based patching or leveling substrates, apply a suitable sealer before use.
- Installations of tile over nonporous surfaces, such as waterproofing membranes and existing tile, may require extended setting/curing times.
- Do not spread more material than can be tiled over before ridges skin over.
- Do not use for setting glass tile larger than 6" x 6" (15 x 15 cm).
- If using *NA 3000 Mortar Additive*, do not dilute with any other liquids.
- If glass tile does not meet ANSI 137.2 (Specifications for Glass Tile), check with the glass tile manufacturer for installation recommendations. Do not use for glass tile that has a decorative coating on the backing.

When mixed with water:

- Do not use in areas of prolonged water immersion (swimming pools, spas, steam rooms, gang showers, hot tubs, fountains). Instead, mix *NA 3500 Glass Set* with *NA 3000 Mortar Additive* instead of water.
- Not recommended for areas subject to severe freeze/thaw conditions. Instead, mix *NA 3500 Glass Set* with *NA 3000 Mortar Additive* instead of water.

When mixed with *NA 3000 Mortar Additive*:

- Consult local building code requirements for use on exterior commercial building facades.

MIXING

Before product use, take appropriate safety precautions. Consult the Safety Data Sheet for safe-handling instructions.

1. Into a clean mixing container, pour about 1.8 U.S. gals. (6.81 L) of clean potable water or *NA 3000 Mortar Additive*. Gradually add 43 lbs. (19.5 kg) of powder while slowly mixing.
2. Use a low-speed mixing drill (at about 300 rpm), with an angled cross-blade mixer or double-box mixer. Mix thoroughly for about 5 minutes or until the mixture becomes a smooth, homogenous, lump-free paste. Avoid prolonged mixing.
3. Let the mixture stand ("slake") for 10 minutes.
4. Remix.
5. If the mixture becomes heavy or stiff, remix without adding more liquid or powder.

APPLICATION

1. Choose a typical notched trowel (see the "Approximate Coverage" chart) with sufficient depth to achieve more than 80% mortar contact to both the tile and substrate for all interior applications, and more than 95% for exterior installations, commercial floor and wet applications. It may be necessary to back-butter the tile in order to meet these requirements. (Refer to ANSI A108.5 specifications and TCNA handbook guidelines.)
2. With pressure, apply a coat by using the trowel's flat side to key mortar into the substrate.
3. Apply additional mortar, combing it in a single direction with the trowel's notched side. For glass tile and mosaics, knock down the trowel ridges to ensure that they do not show through.
4. Spread only as much mortar as can be tiled before product skins over. Open time can vary with jobsite conditions.
5. Place the tiles firmly into the wet mortar. Push the tiles back and forth in a direction perpendicular to trowel lines, to collapse the mortar ridges and to help achieve maximum coverage. Ensure proper contact between the mortar, tile and substrate by periodically lifting a few tiles to check for acceptable coverage.
6. Follow immediately with a proper beating-in of the tile to flatten ridges or notches. For the installation of sheet-mounted glass and marble mosaics, use light pressure to establish contact with the fresh mortar and then lightly tap the tile with a rubber-faced beating block.

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7. For face-mounted tile, check the manufacturer's instructions for proper application and removal of face mounting.
8. Remove excess mortar from the joint areas so that at least 2/3 of the tile depth is available for grouting (see ANSI A108.10 guidelines). Remove all mortar from the glass tile face using a soft, damp cloth.

GROUTING

- Wait 24 hours before grouting with an appropriate NAA grout.

MOVEMENT JOINTS

- Provide for movement joints where specified. Refer to the most current TCNA handbook for ceramic tile installation, Detail EJ171.
- 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 backer rod and sealant into all expansion and control joints.

CLEANUP

- Clean tools, tile and other surfaces with water while the mortar is fresh.

PROTECTION

- Protect from foot traffic for 24 hours. Protect from heavy traffic for 7 days.
- Protect from frost and rain for 7 days.

Product Characteristics

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

Color	White
Packaging	Bag: 43 lbs. (19.5 kg)
VOCs (Rule #1168 of California's SCAQMD)	0 g per L
Shelf life	1 year when stored in original, unopened container. Protect from moisture, freezing and excessive heat.
Open time*	20 to 30 minutes
Pot life*	> 2 hours
Time before grouting*	24 hours

* Open time, pot life and time before grouting vary based on jobsite conditions.

ISO 13007 Classification (when mixed with water)

Classification Code	Classification Requirement
C2 (cementitious, improved adhesion)	≥ 145 psi (1 MPa) after standard aging, heat aging, water immersion and freeze/thaw cycles
T (vertical slip resistance)	≤ 0.019" (0.5 mm)
E (extended open time)	≥ 72.5 psi (0.5 MPa) after 20 to 30 minutes

ANSI Specification (when mixed with water)

Test Method	Specification Standard	Test Results
ANSI A118.4 – shear strength, impervious ceramic (porcelain) mosaics, at 28 days	> 200 psi (1.38 MPa)	210 to 280 psi (1.45 to 1.93 MPa)
ANSI A118.4 – shear strength, glazed wall tile, at 28 days	> 300 psi (2.07 MPa)	425 to 640 psi (2.93 to 4.41 MPa)
ANSI A118.4 – shear strength, quarry tile to quarry tile, at 28 days	> 150 psi (1.03 MPa)	255 to 425 psi (1.76 to 2.93 MPa)

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ISO 13007 Classification (when mixed with NA 3000 Mortar Additive)	
Classification Code	Classification Requirement
C2 (cementitious, improved adhesion)	≥ 145 psi (1 MPa) after standard aging, heat aging, water immersion and freeze/thaw cycles
T (vertical slip resistance)	≤ 0.019" (0.5 mm)
E (extended open time)	≥ 72.5 psi (0.5 MPa) after 20 to 30 minutes
S1 (normal deformation of mortar)	≥ 0.1" (2.5 mm)
P1 (normal adhesion to plywood)	≥ 72.5 psi (0.5 MPa)

ANSI Specification (when mixed with NA 3000 Mortar Additive)		
Test Method	Specification Standard	Test Results
ANSI A118.4 – shear strength, impervious ceramic (porcelain) mosaics, at 28 days	> 200 psi (1.38 MPa)	210 to 400 psi (1.38 to 2.76 MPa)
ANSI A118.4 – shear strength, glazed wall tile, at 28 days	> 300 psi (2.07 MPa)	490 to 780 psi (3.38 to 5.38 MPa)
ANSI A118.4 – shear strength, quarry tile to quarry tile, at 28 days	> 150 psi (1.03 MPa)	425 to 640 psi (2.90 to 4.41 MPa)
ANSI A118.11 – shear strength, quarry tile to plywood, at 28 days	> 150 psi (1.03 MPa)	150 to 250 psi (1.03 to 1.72 MPa)

Approximate Coverage*	
Typical Trowel	Coverage per 43 lbs. (19.5 kg)
1/8" x 3/16" x 1/8" (3 x 4.5 x 3 mm), U-notch	80 to 105 sq. ft. (7.43 to 9.75 m ²)
1/4" x 1/4" x 1/4" (6 x 6 x 6 mm), square-notch	70 to 85 sq. ft. (6.50 to 7.90 m ²)
1/4" x 3/8" x 1/4" (6 x 10 x 6 mm), square-notch	50 to 60 sq. ft. (4.65 to 5.57 m ²)

* Trowel dimensions are width/depth/space. Coverage shown is for estimating purposes only. Actual coverage depends on substrate profile and porosity, equipment used, thickness applied, temperature and humidity.

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.**