

NA 4500



North American ADHESIVES®



Resin-Based Grout

GOOD	BETTER	BEST
------	--------	------

PRODUCT DESCRIPTION

An improved, water-cleanable, reactive resin grout with chemical and stain resistance. NA 4500 is a nonsagging, efflorescence-free grout with no shrinkage. It provides color uniformity and durability beyond that of cement grouts. In addition, it is easy to maintain, does not require sealer and will clean to the original color.

USES

- For grout joints from 1/16" to 3/8" (1,5 to 10 mm)
- For grouting indoor and outdoor installations on floors, walls and countertops (see "Technical Quick Reference")
- For grouting most commercial and residential applications
- For grouting of ceramic floor/wall tile, glass tile, quarry tile, porcelain tile, pavers, marble, granite, slate and agglomerate tile
- For use in wet-area applications, such as showers, swimming pools, fountains and steam rooms
- High-performance, stain-resistant, color-consistent and durable
- Can also be used to re-grout

LIMITATIONS

- Do not use in areas subject to harsh chemicals or exposed to aggressive cleaning procedures. In addition, do not use in kennels, veterinary clinics or industrial applications exposed to high temperatures, high-volume food processing or mineral acids.
- When used to grout outdoor installations, color variations may occur over time, especially with lighter shades due to ultraviolet rays or environmental contaminants.
- Use a waterproofing membrane when required.
- Because NA 4500 contains aggregate, soft-polished marble, limestone, granite and delicate glazed or glass tiles might be scratched during application. In addition, because of its reactive resin formulation, NA 4500 may darken the color of porous stone. Before installation, a mockup is required to ensure desired results.
- The temperature of the tilework must be between 50°F and 100°F (10°C and 38°C) while grouting. This temperature range should be maintained until NA 4500 has hardened sufficiently.
- Grouted floors can be opened to light foot traffic after 12 hours at temperatures above 73°F (23°C).
- Marble, granite, limestone 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 NAA's control. Likewise, NAA does not have control over any of the materials and process used in the manufacturing of agglomerates. Therefore, determine the suitability of all the materials before proceeding with the installation.

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

TECHNICAL QUICK REFERENCE

Exceeds ANSI A118.3 industry standards

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

Pot life	> 90 minutes
Initial setting time	> 2 hours
Service strength setting time	< 7 days
Shrinkage	< 0.25%
Sag in vertical joints	Pass
Quarry-to-quarry bond strength	> 1,000 psi (6,90 MPa)
Tensile strength	> 1,000 psi (6,90 MPa)
Compressive strength	> 3,500 psi (24,1 MPa)
Thermal shock	> 500 psi (3,45 MPa)
Cleanability (at 80 minutes)	With water. Consult Technical Services regarding the cleaning of hardened resin film.

Colors

Available in 36 designer colors. Sample grout color chips are available upon request.

Shelf life	2 years when stored in original, sealed containers at room temperature
------------	--

	40°F (4°C)	73°F (23°C)	95°F (35°C)
Working time	3 hours	90 minutes	30 minutes
Tack-free after	36 hours	9 hours	4 hours
Ready for light foot traffic after [†]	2 days	12 hours	6 hours
Ready for heavy foot traffic after [†]	4 days	24 hours	12 hours
Resistant to dirt, stains, food spills and household cleaners after	14 days	7 days	3 days
Full cure [†]	28 days	14 days	7 days

[†] Readiness and cure times will vary depending on ambient temperatures, substrate temperature and humidity.

PACKAGING

Small kit (yield of 0.2 U.S. gal. [0,76 L] when mixed with Part C) =

- 1 Part A container measuring 6.27 U.S. oz. (185 mL)
- 1 Part B container measuring 4.08 U.S. oz. (121 mL)
- Gloves
- Cleaning sponge
- Scrubpad
- Instruction sheet

Part C powder, sold separately

– Case of 4 bags measuring 2.25 lbs. (1,02 kg)

HEALTH AND SAFETY

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

SURFACE PREPARATION

1. When setting tile, apply mortar with a properly sized trowel and fully embed the tile. This reduces voids beneath the tile that may cause the grout joints to settle.
2. Make sure that the tiles are firmly set and that adhesive/mortar is completely dry. Allow 24 hours after setting or follow the adhesive/mortar manufacturer's recommendations.
3. Remove all spacers, pegs, ropes and string.
4. Remove excess adhesive or mortar from the joint area so that at least 2/3 of the tiles' depth is available for grouting.
5. Grout joints must be clean and free of standing water, dust and dirt.

NA 4500

6. Clean the tile or stone surface to remove dust, dirt, mortar, adhesive and other contaminants that may cause grout discoloration.
7. Grout releases may be useful or required to prevent grout film residue. See the tile manufacturer's instructions and recommendations.
8. The installation surface temperature should be between 50°F and 100°F (10°C and 38°C).
9. Wear suitable rubber gloves and avoid skin contact with *NA 4500* during mixing, application and cleaning.

MIXING

1. Before mixing, be sure to have all the material required. To ensure uniform results, use kits with the same batch or lot numbers.

Needed to mix small kit (for yield of 0.2 U.S. gal. [0,76 L])

- Liquids: 1 Part A container measuring 6.27 U.S. oz. (185 mL), 1 Part B container measuring 4.08 U.S. oz. (121 mL)
 - Powder: 1 Part C bag measuring 2.25 lbs. (1,02 kg), sold separately
2. Into a clean container, empty all of Part A liquid (resin) and all of Part B liquid (hardener). Parts A and B are packaged to exact-quantity ratios for proper mixing. Be sure all the liquid is removed from the containers.
 3. Before adding Part C powder (colorant), mix the Part A and Part B liquids thoroughly. Completely blend all liquid from the bottom and sides of the pail, until a uniform color is achieved.
 4. Pour all of Part C (powder) into the liquid mixture of Part A and Part B. Do not add water to the mixture, as this will adversely affect the product.
 5. Mix with a slow-speed drill mixer with paddle at about 300 rpm. Use a margin trowel to occasionally scrape the bottom and sides of the mixing container, so that all of the material is mixed evenly.
 6. Mix thoroughly until a homogenous, consistent color is obtained. However, avoid air entrapment from prolonged mixing, which will shorten the pot life.
 7. Do not place the lid on the container after the material has been mixed.
 8. Wash hands and tools immediately with water before the grout hardens.

APPLICATION

1. Application and cleanup procedures for an entire mixed batch of *NA 4500* typically should not exceed 45 minutes to 1 hour at 73°F (23°C).
2. Using a hard-rubber float with a sharp edge, force *NA 4500* into the grout joints in a continuous manner. Fill the joints with the most grout possible. Leave the grout flush with the tile edge.
3. Be sure all grout joints are well-compacted and free of voids/gaps.
4. Thoroughly remove any excess grout from the tile face before the grout loses its plasticity or begins to set. This is most easily accomplished by holding the rubber float at a 90° angle to the tile surface and dragging the excess grout diagonally across the joints, leaving as little grout on the tile surface as possible.

INITIAL CLEANING

1. Grout can be cleaned immediately after application.
2. From a pail containing 2 to 3 U.S. gals. (7,57 to 11,4 L) of cool water, apply a generous amount of water to the tile surface using a white scrubpad. Use enough water with the scrubpad to loosen the grout film from the tile surface. Apply minimum pressure on the tile with the scrubpad in a circular motion, to loosen the grout residue, simultaneously smoothing the grout joints without removing grout from the joints.
3. To remove loosened grout residue, drag a clean sponge diagonally across the tile surface. Use one side of the sponge for each pass over the tile, rinsing the sponge following second pass.
4. Do not allow excess water to remain on the tile surface. This will allow the formation of a grout film that may be difficult to remove once hardened.

5. For wall applications: If the grout exhibits sagging or bleeding during the initial wash, wait an additional 10 to 15 minutes to complete the cleaning.
6. In certain applications, a terry-cloth towel substituted for the sponge may work more effectively to remove loosened grout residue.

Note: Change the cleaning water frequently to prevent putting residue back on the tile surface. Rinse the scrubpad and sponge frequently while cleaning. Be careful not to get any water in empty, ungrouted joints.

FINAL CLEANING (if necessary)

1. A final wash can be performed about 1 hour after the initial wash if residue is observed on the dry tile surface.
2. Follow the same process as referenced in the section above using clean water.
3. To aid in the cleaning process, 1 U.S. oz. (30 mL) of a clear dishwashing soap may be added (if needed) to a pail of 3 U.S. gals. (11,4 L) of clean water; then use a clean white scrubpad to loosen any remaining grout residue.
4. To remove loosened grout residue, drag a clean sponge diagonally across the tile surface. Use one side of the sponge for each pass over the tile, rinsing the sponge following second pass.
5. Allow time for the tile or stone to dry. Check to make sure all residue or grout film has been removed.

EXPANSION AND CONTROL JOINTS

1. Provide for expansion and control joints as specified per TCNA Detail EJ171 throughout the tilework.
2. Do not cover expansion or control joints with tile or stone.
3. Do not cover, bridge or fill any expansion or control joints with setting material or *NA 4500*.
4. Cut the tile on both sides along the edges of the expansion joints.
5. Protect the tilework with metal strips (edge metal) along both edges of the structural building expansion joints.
6. Insert the specified compressible bead and sealant for expansion and control joints, according to plans and specifications.

PROTECTION

1. Do not step on freshly cleaned tiles. Permanent damage to the grout could result.
2. Protect the surface from traffic for at least 12 hours at 73°F (23°F). Do not expose to acid cleaners for 7 days
Important: Check the installation the following day to make sure it is completely clean. For tacky residue found within 24 hours of installation, follow the above final cleaning instructions.

GROUT MAINTENANCE

NAA grout products are produced to the highest quality of standards. To maintain a clean tile surface, use a neutral-pH cleaner for maintaining the floor, followed by a clean-water rinse. Do not use harsh chemicals or no-rinse cleaners (including enzyme-based no-rinse cleaners) to maintain the tile surface. Before proceeding with cleaning, consult the cleaner's manufacturer for compatibility, use and application instructions.

NA 4500

CHEMICAL RESISTANCE

Chemical resistance data is in accordance with ASTM C267-1982. Chemical resistance refers to chemicals' potential to deteriorate product.

Results:

R = Recommended

NR = Not Recommended

Chemical Name	Splash Exposure (30 minutes)	Intermittent Exposure (24 hours)	Continuous Exposure (7 days)
5% acetic acid (vinegar)	R	R	NR
10% oxalic acid	R	R	R
50% tannic acid	R	R	R*
80% phosphoric acid (soda)	R	R	R
20% sulfuric acid	R	R	R
5% benzoic acid	R	R	R
50% tartaric acid	R	R	R
5% lactic acid	R	R	R
1% potassium permanganate	R*	R*	R*
10% potassium permanganate	R*	R*	R*
Chloroform	R	NR	NR
3% formic acid	R	R	R
5% citric acid	R	R	R
Sodium hypochlorite	R	R	R
45% potassium hydroxide	R	R	R
Mineral water	R	R	R
Methanol	R	NR	NR
10% ethanol	R	R	R
96% ethanol	R	R	R
Isopropanol	R	R	R
Methyl ethyl ketone	R	NR	NR
Methylene chloride	R	NR	NR
Toluene	R	NR	NR
Xylene	R	R	NR

* Materials will stain if left exposed.

APPROXIMATE COVERAGES* – For small kit (yield of 0.2 U.S. gal. [0,76 L] when mixed with Part C). Coverages in sq. ft. (m²)

Tile Size	Grout Joint Width			
	1/16" (1,5 mm)	1/8" (3 mm)	1/4" (6 mm)	3/8" (10 mm)
1" x 1" x 1/4" (25 x 25 x 6 mm)	11 (1,02)	6 (0,56)	4 (0,37)	3 (0,28)
2" x 2" x 1/4" (50 x 50 x 6 mm)	22 (2,04)	11 (1,02)	6 (0,56)	4 (0,37)
4-1/4" x 4-1/4" x 1/4" (108 x 108 x 6 mm)	45 (4,18)	23 (2,14)	12 (1,11)	8 (0,74)
4" x 8" x 1/2" (100 x 200 x 12 mm)	28 (2,60)	14 (1,30)	7 (0,65)	5 (0,46)
6" x 6" x 1/2" (150 x 150 x 12 mm)	31 (2,88)	16 (1,49)	8 (0,74)	6 (0,56)
8" x 8" x 3/8" (200 x 200 x 10 mm)	55 (5,11)	28 (2,60)	14 (1,30)	10 (0,93)
12" x 12" x 1/2" (300 x 300 x 12 mm)	62 (5,76)	31 (2,88)	16 (1,49)	11 (1,02)
16" x 16" x 3/8" (406 x 406 x 10 mm)	110 (10,2)	55 (5,11)	28 (2,60)	19 (1,77)
24" x 24" x 3/8" (610 x 610 x 10 mm)	165 (15,3)	83 (7,71)	42 (3,90)	28 (2,60)

* Tile dimensions are width/length/thickness. Coverages shown are for estimating purposes only. Actual job-site coverages may vary according to tile size and thickness, exact joint width, job conditions and grouting methods. For more precise coverages or for coverages not shown here, contact NAA's Technical Services Department.

NA 4500

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.



North American
ADHESIVES®

MAPEI® Corporation
1144 East Newport Center Drive
Deerfield Beach, FL 33442
Customer Service and
Technical Services: 1-800-637-7753
www.na-adhesives.com

PR 5389 4500D_A08vp
© 2008 MAPEI Corporation. All Rights Reserved.
Printed in the USA.