



North American
ADHESIVES®

NA 3690

Magna Lite™ Pro

**Contractor-Grade, Lightweight Tile Mortar
with Polymer for Large and Heavy Tile**



PRODUCT DESCRIPTION

NA 3690 Magna Lite Pro is a contractor-grade, lightweight, thin-set mortar that can also be used for large and heavy tile and non-sag applications. It glides on smooth and easy, and it provides twice the coverage of a standard thin-set mortar per pound/kg. NA 3690 Magna Lite Pro meets or exceeds industry standards including ANSI A118.4TE, A118.11 and A138.1 bond strength requirements, and is ISO 13007 classified C1TES1.

FEATURES AND BENEFITS

- Non-sag and nonslump formula for large and heavy tile/stone
- 25-lb. (11.3-kg) bag of NA 3690 Magna Lite Pro provides the same coverage as a 50-lb. (22.7-kg) bag of a standard polymer-modified mortar
- Polymer-enriched for enhanced bond performance
- Smooth and creamy consistency
- With more than 20% recycled content, may contribute to LEED points
- For thicker bond coats from 3/32" to 1/2" (2.5 to 12 mm)

USES

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

SUBSTRATE REQUIREMENTS

All substrates should be structurally sound, stable, dry, clean, and free of any substance or condition that may reduce or prevent proper adhesion. See North American Adhesives' "Surface Preparation for Tile and Stone Installations" document in the Document Library section at

www.na-adhesives.com.

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.

SUITABLE SUBSTRATES

- Concrete (cured at least 28 days)
- Masonry cement block, brick, cement mortar beds and leveling coats
- Cement backer units (CBUs) – see manufacturer's installation guidelines
- Gypsum wallboard – interior walls in dry areas only (priming may be required)
- Plywood underlayments that are a Group 1 exterior-grade plywood CC-plugged or better, conforming to APA classification and U.S. Product Standard PS 1-95 or a "SELECT" or (SEL-TF) CANPLY classified exterior-grade plywood conforming to CSA-0121 standard for Douglas fir for direct-bond applications (interior, residential and light commercial floors and countertops in dry conditions only)

NA 3690

Magna Lite™ Pro

- Properly prepared vinyl composition tile (VCT) and cutback residue (interior only)
- Properly prepared existing ceramic and porcelain tile, quarry tile and pavers (interior only)
- Membranes such as those for waterproofing, crack isolation and sound reduction (limited to thin-set installations only when using weak stone)

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

LIMITATIONS

- Install only at temperatures between 40°F and 95°F (4°C and 35°C).
- Do not use for moisture-sensitive stone (green marble; some limestone and granite), agglomerate tiles or resin-backed tiles. Instead, use suitable epoxy or urethane adhesives. See the respective Technical Data Sheet for more information.
- Do not use over dimensionally unstable substrates such as hardwood flooring, oriented strand board (OSB), substrates containing asbestos, or metal. See the "Suitable Substrates" section.
- To use *NA 3690 Magna Lite Pro* directly over gypsum-based patching or leveling substrates, apply a suitable primer before use.
- Installations of tile over nonporous surfaces (waterproofing membranes, sheet membranes, existing tile, etc.) may require extended setting/curing times.
- Do not use for installations subject to prolonged water immersion, such as pools and spas.
- *NA 3690 Magna Lite Pro* is not recommended for areas subject to severe freeze/thaw conditions. For best performance, use a liquid latex additive mortar system such as *NA 3100 Floor Set™* or *NA 3120 Dual Set™* mixed with *NA 3000 Mortar Additive*.
- For light-colored and translucent natural stone, a white mortar is recommended.

MIXING

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

For thin-set applications:

- 1a. Into a clean mixing container, pour about 5.5 U.S. qts. (5.20 L) of clean potable water. Gradually add 25 lbs. (11.3 kg) of powder while slowly

mixing for at least 1 minute. Adjust the consistency with water, adding up to 1 additional U.S. qt. (0.95 L) as needed. Do not overwater. Mix again for 2 minutes.

For large-and-heavy-tile and non-sag applications for walls and floors:

- 1b. Into a clean mixing container, pour about 5 U.S. qts. (4.73 L) of clean potable water. Gradually add 25 lbs. (11.3 kg) of powder while slowly mixing for at least 1 minute. Adjust the consistency with water, adding up to 1 additional U.S. qt. (0.95 L) as needed. Do not overwater. Mix again for 2 minutes.
2. Use a low-speed mixing drill (at about 300 rpm), with an angled cross-blade mixer or double-box mixer. Mix thoroughly until the mixture becomes a smooth, homogenous, lump-free paste. Avoid prolonged mixing.
3. Let the mixture stand ("slake") for 5 minutes.
4. Remix for 1 minute.
5. If the mixture becomes thick or stiff, remix it without adding more liquid or powder.

APPLICATION

1. Read all installation instructions thoroughly before installation.
2. 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 to meet these requirements. (Refer to ANSI A108.5 specifications and TCNA Handbook guidelines.)
3. With pressure, apply a coat by using the trowel's flat side to key mortar into the substrate.
4. Apply additional mortar, combing it in a single direction parallel to the tile's shortest dimension with the trowel's notched side.
5. Spread only as much mortar as can be tiled before the product skins over. Open time can vary with jobsite conditions.
6. 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.
7. Remove any 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).

NA 3690

Magna Lite™ Pro

MOVEMENT JOINTS

- Provide for expansion and control joints as specified per TCNA method EJ171 or TTMAC Specification Guide 09 30 00 Detail 301MJ. Do not cover expansion joints with mortar or tile.

CLEANUP

- Clean tools and tile while the mortar is fresh using only water.

PROTECTION

- Protect from traffic for 72 hours. Protect from heavy traffic for 7 days.
- Protect the installation from rain for 72 hours and from freezing for 21 days.
- Large-format tile may require a longer time to fully set before tiles are grouted

Product Characteristics	
at 73°F (23°C) and 50% relative humidity	
Colors	Gray; white
Packaging	Bag: Gray, 25 lbs. (11.3 kg) Bag: White, 25 lbs. (11.3 kg)
Product composition	Powder
Shelf life	1 year in original, unopened packaging
Open time*	30 minutes
Pot life*	> 2 hours
Time before grouting*	24 hours
VOCs (Rule #1168 of California's SCAQMD)	0 g per L

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

ISO 13007 Classification	
Classification Code	Classification Requirement
C1 (cementitious, standard adhesion)	≥ 72.5 psi (0.5 MPa) after standard aging, heat aging, water immersion and freeze/thaw cycles
T (slip resistance)	≤ 0.019" (0.5 mm)
E (extended open time)	≥ 72.5 psi (0.5 MPa) after 30 minutes
S1 (normal deformation of mortar)	≥ 0.1" (2.5 mm)

ANSI Specification		
Test Method	Specification Standard	Test Results
ANSI A118.4E – extended open time	≥ 75 psi (0.52 MPa) at 30 minutes	Pass
ANSI A118.4 – shear strength, impervious ceramic (porcelain) mosaics	> 200 psi (1.38 MPa) at 28 days	235 to 300 psi (1.62 to 2.07 MPa)
ANSI A118.4 – shear strength, glazed wall tile	> 300 psi (2.07 MPa) at 7 days	300 to 410 psi (2.07 to 2.83 MPa)
ANSI A118.4 – shear strength, quarry tile to quarry tile	> 150 psi (1.03 MPa) at 28 days	295 to 360 psi (2.03 to 2.48 MPa)
ANSI A118.4H – mortar for large and heavy tile	ASTM C627 Robinson Floor Test, lippage change < 1/64" (0.4 mm)	Pass
ANSI A118.4T – sag on vertical surfaces	≤ 0.02" (0.5 mm) at 20 minutes	Pass
ANSI A118.11 – shear strength, quarry tile to plywood	> 150 psi (1.03 MPa) at 28 days	Pass

Approximate Coverage** per 25 lbs. (11.3 kg)	
Typical Trowel	Coverage
1/4" x 1/4" x 1/4" (6 x 6 x 6 mm)	75 to 90 sq. ft. (6.97 to 8.36 m ²)
1/4" x 3/8" x 1/4" (6 x 10 x 6 mm)	55 to 65 sq. ft. (5.11 to 6.04 m ²)
1/2" x 1/2" x 1/2" (12 x 12 x 12 mm)	38 to 45 sq. ft. (3.53 to 4.18 m ²)
3/4" x 9/16" x 3/8" (19 x 14 x 10 mm)	25 to 30 sq. ft. (2.32 to 2.79 m ²)

** Coverage shown is for estimating purposes only. Actual coverage depends on substrate profile and porosity, equipment used, thickness applied, temperature and humidity.



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Refer to the Safety Data Sheet for specific data related to health and safety as well as product handling.
For the most current product data and warranty information, visit www.na-adhesives.com.

For information on sustainability and transparency, as well as product certification programs,
contact Technical Services at 1-800-637-7753.

MKT: 20-2972

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.**