

Bomanite Thin-Set

Suggested Guideline Specification

Notes:

1. A specifier is within his rights to issue a proprietary specification that names only one brand. If in the informed and professional judgement of the specifier, his client's needs will be best served by naming a particular brand, then he has the responsibility to limit his specification to one source. This practice is even acceptable on publicly funded projects. This principle of proprietary specification has found legal support in the case of Whitten Corp. v. Paddock Pool Builders, Inc., a Federal District Court case from Massachusetts (376 F. Supp. 125). Further support came in 1975 when the U.S. Supreme Court rejected further appeal and review.

2. This specification applies only to Bomanite Thin-Set bonded to concrete substrates. Bomanite is most often installed as a monolithic slab on grade with a thickness of 4" (10.2 cm) or greater (which is covered by separate specifications from these).

1.00 GENERAL

1.01 Description - Bomanite Thin-Set applications include:

- Renovation projects where there is an existing slab and an increase in grade of more than 1" (2.5 cm) is not possible.
- Interior flooring in new construction where there are good reasons to install a rough construction grade slab first and later a finished thin topping.
- Re-grading where changing drainage on an existing slab is needed.
- Interior and exterior renovation projects requiring resurfacing of existing or damaged concrete.

1.02 References and Standards - The licensed Bomanite contractor is normally a subcontractor and Bomanite Thin-Set is called out in a section separate from the regular concrete work in Division 9. Depending on the project, Bomanite Thin-Set may also be included in Divisions 2 or 3. The contractor for this work shall be the following Bomanite licensed contractor, who has been trained and equipped by Bomanite Corporation:

Name of Bomanite contractor _____

Address _____

Telephone _____

Fax _____

1.03 Definitions - Bomanite Thin-Set, a system that employs the use of a hybrid polymer bond coating and the use of a modified polymer cement mixture.

1.04 Scope - All work in this section shall be designated Bomanite Thin-Set in the plans. The work shall include all labor, material, equipment and transportation required to install Bomanite Thin-Set. The contractor for this work shall be licensed, tooled and trained by Bomanite Corporation to utilize the materials and processes specified as Bomanite Thin-Set. The contractor shall be required to provide a foreman or supervisor who has done at least three Bomanite Thin-Set installations.

Bomanite Thin-Set shall be bonded to an existing structurally sound substrate (installation of substrate not included in this specification). The substrate shall be structurally sound at the surface, free of substantial cracking and/or movement and shall have minimum compressive strength of 3000 psi (21 MPa); 4000 psi (28 MPa) in freezing areas where applicable. New substrates shall be properly cured for a minimum of 28 days.

Work provided by the Bomanite contractor shall include:

- Provide materials: Bomanite Bond Coat Liquid, Integrally Colored Bomanite Thin-Set, Bomanite Chemical Stain (optional), Bomanite sealer and grout (optional).
- Provide Bomanite/Bomacron imprinting tools.
- Application of Bomanite Con-Shield as required.
- Prepare surface of substrate for bond coat.
- Apply Bomanite Bond Coat Liquid.
- Blend Bomanite Thin-Set Topping Mix following manufacturer's recommendations.
- Place Bomanite Thin-Set Topping Mix at desired thickness.

- Apply Bomanite Release Agent.
- Apply Bomanite/Bomacron imprinting tools.
- Apply Bomanite Chemical Stain (optional).
- Apply Bomanite water-based or solvent-based sealer.
- Grout joints (optional).
- Perform final clean up.

1.05 Quality Assurance

- All work shall be installed by a licensed Bomanite contractor who shall provide a foreman or supervisor who has experience with and knowledge of special processes used to install Bomanite Thin-Set. Evidence that the Bomanite contractor is qualified to complete the project as specified herein shall be submitted to, and subject to approval of, the architect/designer.
- The licensed Bomanite contractor shall provide a job-site sample (100 square feet or 9.3 square meters minimum) to be approved by the architect prior to the start of the construction. Said sample shall be the standard for the balance of the work installed, and shall be protected against damage until final approval from the architect. The cost for the construction and protection of the referee sample shall be borne by the owner/agent and shall be part of the contractor's bid.

2.00 PRODUCTS AND MATERIALS

2.01 Bomanite Bond Coat Liquid

Bomanite Bond Coat Liquid: A hybrid polymer coating system specially formulated to ensure permanent adhesion of Bomanite Thin-Set Topping Mixes.

2.02 Bomanite Thin-Set Topping Mix

The Bomanite Thin-Set Topping Mix shall be mixed thoroughly using a bucket, drill motor and manufacturer's approved mixing paddle, or in a standard cement mortar mixer in strict accordance following manufacturer's guidelines. Mixing water shall be fresh, clean and potable. The use of non-chloride accelerators shall be permitted when necessary.

2.03 Coloring Method

- Bomanite Thin-Set shall be colored integrally and the color selected from the Bomanite Color Hardener/Release Agent Color Chart (or in special cases custom blended for a specific project). Color shall be blended using either of the following methods:
 - Bomanite Thin-Set Color Packs blended with a Base (uncolored) Bomanite Thin-Set Topping Mix in strict accordance following manufacturer's guidelines.
 - Pre-blended Bomanite Thin-Set bag mixes provided by Bomanite and mixed in strict accordance following manufacturer's guidelines.
- Bomanite Release Agent: Specially formulated for installation of the Bomacron process to produce clean tooling release and give a colored, antiquing effect to the surface. The color(s) shall be: _____
- Bomanite Chemical Stain (optional): The concrete shall be colored with Bomanite Chemical Stain. The color(s) shall be: _____
- Bomanite Sealer: Water-based or solvent-based Bomanite sealer depending on application.
- Grout: A mixture of sand, cement and water (and optionally, color pigments).

3.00 EXECUTION

3.01 Substrate/Substrate Preparation

- Substrate shall be prepared by removing any dirt, oil, soap or grease using a caustic soda or Trisodium Phosphate wash and then rinsed thoroughly with clean water. Any loose or unstable coatings shall be removed from the substrate chemically or mechanically prior to cleaning.
- Interior Concrete: Concrete shall be tested for vapor emission levels in accordance with ASTM D 4263. If vapor emission levels

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exceed 5 lbs., Bomanite Con-Shield shall be applied according to manufacturer's recommendations.

- c. Exterior Concrete: Concrete cannot be effectively tested for vapor emission levels outdoors. If moisture problems are suspected, apply Bomanite Con-Shield following manufacturer's recommendations. Concrete subject to freeze/thaw conditions shall be treated with Bomanite Con-Shield according to manufacturer's recommendations.
- d. Concrete shall have a pH range between 8-9. If pH levels fall below or above this range, contact Technical Services at Bomanite Corporation.
- e. If the substrate is powdery or soft, floor shall also be treated with Bomanite Con-Shield to harden/stabilize and ensure proper adhesion of the Bomanite Bond Coat Liquid. Floor shall be clean and free of moisture prior to application of the Bomanite Bond Coat Liquid.
- f. Substrate shall have a minimum surface temperature of 40 °F (5 °C) throughout placement and cure of Bond Coat and until the topping mix has reached a 24-hour cure.
- g. Bomanite Bond Coat Liquid shall be applied to a dry, prepared substrate using a manufacturer's approved squeegee. The Bomanite Bond Coat Liquid shall be mixed and applied following manufacturer's recommendations.
- h. Optional: Repair cracks as identified by contractor/client using Bomanite Crack Repair Kit.

3.02 Installation Procedures

- a. After the bond coat is dry, a precolored mix or color pack added to white or gray Bomanite Thin-Set Topping Mix shall be placed and screeded to the proper grade using concrete tools to smooth the surface.
- b. An initial scrub coat of Thin-Set Topping Mix shall be applied, then immediately covered to the desired thickness.
- c. Thin-Set topping mix shall be placed at a minimum of 3/8" to accommodate most imprinting tools. When deeper-bladed tools are required, thickness shall increase accordingly.
- d. While topping is still in the plastic stage of set, Bomanite/Bomacron imprinting tools shall be applied to make the desired patterned and/or textured surface. Bomanite Release Agent shall be applied to the surface prior to the use of Bomacron tools.
- e. Bomanite sealer shall then be applied uniformly in accordance with manufacturer's recommendations.
- f. After 48-hour curing period, the impressions may be grouted. A slurry of grout shall be spread over the surface with a squeegee, and the surplus grout shall be removed.
- g. When grouted, the surface shall be cleaned using sponges to remove the wet grout, then residual dust removed using a fine brush.
- h. From date of installation of Bomanite Thin-Set, slab temperature shall be maintained at a minimum of 40 °F (5 °C) for the first 15 days and a minimum of 33 °F (1 °C) for the second 15 days. There shall be no deviation from this most important temperature requirement.
- i. Sealing with water-based Bomanite Hydrocoat or solvent-based Bomanite I-18 shall be done after a two-day minimum hydration period or until all blotchiness from moisture is gone.

3.03 Protection and Maintenance

Newly completed surfaces should be protected from water until sealed by the Bomanite contractor. Water left on the surface before sealing could result in a white film. This will not affect the adhesion or durability and can be cleaned prior to sealing.

Maintenance will vary depending on a number of factors including volume and intensity of traffic, UV exposure, geographic location and weather conditions. For instance, interior applications will require a different routine maintenance program than exterior products. Residential applications typically require less cleaning and maintenance than commercial and municipal projects. In large interior commercial applications, a qualified floor maintenance contractor is recommended for routine cleaning. Exterior Bomanite Thin-Set surfaces should be resealed annually depending on traffic, especially in freeze-thaw locations. Routine cleaning and maintenance of interior floors shall be done in accordance with job requirements.

All Bomanite Thin-Set installations should be professionally cleaned and resealed periodically by your local Bomanite contractor or a qualified floor maintenance contractor in order to maintain a top-quality appearance. In general, expect the need for professional maintenance to occur every 12-24 months. Protective maintenance coats of sealer shall be applied periodically

to assure the desired level of gloss is maintained. Contact your local Bomanite contractor for the proper maintenance program in your area.

LIMITATIONS

Bomanite Thin-Set is a thin cementitious system that tenaciously bonds to any stable concrete substrate. As such, it is subject to the structural limitations of the substrate and its subgrade. If the substrate has cracks or cracks later due to temperature changes and/or ground movement, then these cracks may transfer through the Bomanite Thin-Set. Therefore, Bomanite Thin-Set should not be installed over a substrate that has excessive cracking and evidence of movement. If Bomanite Thin-Set is to be installed under cold weather conditions, the slab temperature must be kept safely above freezing during the first 30 days. Temporary heat should be provided if needed. Bomanite Thin-Set should never be installed unless these temperature conditions can be maintained. In freeze-thaw areas, weak or improperly air-entrained concrete will result in an unstable surface and poor adhesion.

Avoid placement of Bomanite Thin-Set when the following weather conditions are present:

- a. Excessive heat/wind conditions – encourages shrinkage cracking.
- b. Surfaces below 40 degrees Fahrenheit (5 degrees Celsius) during installation or the first 15 days of curing – Bomanite Thin-Set improperly adheres to substrate.
- c. Surfaces below 33 degrees Fahrenheit (1 degree Celsius) in the second 15 days of curing – inadequate strength or bond of Bomanite Thin-Set.

Bomanite Thin-Set, on its own, will not bridge control joints in the substrate without cracking in that vicinity. Therefore, a similar control joint should be located in the Bomanite Thin-Set exactly over the one in the substrate. Control joints and cracks in the existing substrate are expected to transfer through the surface of the topping. Use Bomanite Crack Repair Kit according to manufacturer's recommendations to bridge the joints and/or cracks prior to installation of the Bomanite Thin-Set Topping. The Bomanite Thin-Set system will bond tenaciously to foreign materials that are bonded to the substrate, but the ultimate bond strength is dependent on the bond strength of the foreign material. Bomanite Thin-Set will not properly adhere to the following:

- a. Freshly placed concrete that has not fully cured.
- b. Salt-contaminated surfaces due to deicing salts or the presence of calcium chloride.
- c. Surfaces with excessive vapor emission levels or high pH.

CODES AND CERTIFICATION

All materials manufactured by Bomanite Corporation are warranted to be of uniform quality within manufacturing tolerances. Since control is not exercised over their use, no warranty, expressed or implied, is made as to the effects of such use. Bomanite Corporation's obligation under this warranty shall be limited to refunding the purchase price of that portion of material proven to be defective. Please contact your local Bomanite contractor for available warranties on workmanship. Bomanite Corporation makes no warranty, expressed or implied, as to the quality of the workmanship by local Bomanite contractors.

Bomanite 
International Society
OVER 225 CONTRACTORS WORLDWIDE

The Bomanite International Society of licensed contractors is a worldwide network of specially trained and equipped professionals. Through constant exchange of new ideas, re-education and development programs, members of the Bomanite International Society continue to increase already high standards of quality and service. The activities of the Bomanite International Society are coordinated by Bomanite Corporation. The Corporation also provides services and technical assistance to its member licensees, and to architects, designers and engineers specifying Bomanite products. For more information, including a list of members of the Bomanite International Society, contact:

Bomanite Corporation
P.O. Box 599
Madera, CA 93639-0599
Tel: (559) 673-2411
Fax: (559) 673-8246
Web site: www.bomanite.com

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Printed USA 2.5M1004