

SANDSCAPE TEXTURE™ by **Bomanite**

Sandscape Texture Guideline Specification

SECTION 033000

CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this section.

1.2 SUMMARY

- A. Work specified in this section includes all labor, materials, equipment and services necessary to complete the proprietary Bomanite Sandscape Texture System including sub-base, formwork, reinforcement, concrete, jointing and surface treatments.
- B. Related Sections include the following:
 - 1. Division 1 Section “Product Requirements” for submittals and substitutions.
 - 2. Division 3 Section “Cast-in-Place Concrete” for concrete slabs.
 - 3. Division 3 Section “Joint Sealers” Installation of caulking

1.3 SUBMITTALS

- A. Product Requirements:
 - 1. Provide submittal information within 35 calendar days after the contractor has received the owner's notice to proceed.
- B. Product Data:
 - 1. Submit Bomanite specifications, test data and other data required for each type of manufactured material and product indicated.
 - 2. Submit Bomanite Technical Bulletins listing product name, descriptive data, curing time and application requirements.
 - 3. Submit Bomanite Material Safety Data Sheet (MSDS) and other safety requirements.

- C. Field quality-control test and inspection reports.
 - 1. Documentation by the concrete contractor or General Contractor of the sub-grade compaction results prior to concrete placement.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: The contractor for this work shall be a Bomanite Exposed Aggregate Systems Licensed Contractor and Certified Applicator approved by The Bomanite Company (559) 673-2411.
 - 1. Provide letter of certification from The Bomanite Company stating that installer is a certified applicator of special concrete finishes and is familiar with proper procedures/installation requirements of the manufacturer.
 - 2. Use an authorized Bomanite Licensed Contractor and adequate number of skilled workmen who are thoroughly trained and experienced in the necessary craft.
 - 3. Applicator shall be familiar with the specified requirements and the methods needed for proper performance of work of this section.
 - 4. Applicator shall be familiar with the previously approved mock-ups that demonstrated standard of workmanship.
 - 5. Authorized Bomanite Exposed Aggregate Systems installers limited to the following:
 - a. www.bomanite.com/locate/
- B. Manufacturer Qualifications: A firm experienced in the support and training of a national installer network and manufacturing products required/listed to complete the work.
 - 1. The Bomanite Company 303-369-1115 – no equal
- C. Source Limitations:
 - 1. Concrete: Obtain each type or class of cementitious material of the same brand from same manufacturer's plant, obtain aggregate from one source, and obtain admixtures through one source from a single manufacturer.
 - 2. Sand: Obtain sand determined suitable for the Bomanite SandScape Texture process be it colored or natural from same manufacturer's plant to meet samples and mock-ups.
- D. Mock-ups:
 - 1. Apply finish to mock-ups constructed by Bomanite Licensed Installer, using each type of finish to demonstrate finished appearance and standard of workmanship.
 - a. Mock-up shall include entire system, including sub-base, reinforcement, dowel type and placement, control joints, expansion/isolation joints and surface treatments.
 - b. Notify Architect seven days in advance of dates and time when mock-ups will be constructed.
 - c. Obtain from Architect approval of mock-ups before starting construction.

- d. If the Architect determines that the mock-ups do not meet requirements, General Contractor will demolish and remove them from the site and arrange to assemble more until approved.
- e. Maintain mock-ups during construction in an undisturbed condition as a standard for judging the completed work.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials in original packages and containers, with seals unbroken, bearing Bomanite or Bomanite approved labels indicating brand name and directions for storage, mixing with other components and application.
- B. Store materials to comply with Bomanite written instructions to prevent deterioration from moisture or other detrimental effects.
- C. Dispense special concrete finish material from Bomanite factory numbered and sealed containers. Maintain record of container numbers.

1.6 PROJECT CONDITIONS

- A. Environmental Limitations:
 - 1. Comply with Bomanite written instructions for ambient temperature and other conditions affecting installation performance.
 - 2. Concrete must be cured a minimum of 14 days or as directed by the manufacturer before trafficking of Bomanite SandScape Texture can begin.

1.7 PERFORMANCE REQUIREMENTS

- A. The product is required to bear daily foot and vehicular traffic without loss of exposed sand aggregates.
- B. The product is required to have more uniform aggregate exposure than that of sand blasted concrete.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce products, the following requirements apply to product selection:
 - 1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering materials decorative in nature required to be incorporated into the work include, and are limited to, manufacturer listed.
 - a. The Bomanite Company (303) 369-1115 www.bomanite.com

2.2 MATERIALS

- A. Bomanite Surface Deactivator: Water-based reactive compound designed to retard the set of fresh concrete at the surface and holds in the mix water to achieve improved concrete properties.
- B. Bomanite Integral Color: Concentrated dry powder iron oxide pigments designed to color concrete to meet samples and mock-ups. As noted in finishes schedule on drawings.

- C. Bomanite Con-Shield: A topically applied Lithium Silicate hardening compound designed to improve the surface density of the SandScape product.
- D. Bomanite UltraSeal or Bomanite HydroLock: Topically applied sealers designed to improve stain resistance and enhance the SandScape appearance (Bomanite Licensed Contractor to select appropriate sealer prior to mock-ups based on the environment the SandScape Texture installation is being used in).
- E. No substitutions or alternates to the above will be accepted.

2.3 CONCRETE

- A. Portland cement: shall conform to ASTM C 150, Type I, II or V.
- B. Aggregates: shall conform to ASTM C 33 and be optimized with minimal gap grading and the largest top sized aggregate feasible.
- C. Water: Mixing water shall be fresh, clean and potable.
- D. Air Entrainment: Conforming to ASTM C260. In freeze-thaw areas, air entrainment shall be provided.
- E. Water-Reducing Admixtures: Water-reducing admixtures and/or super-plasticizers are permitted and shall conform to ASTM C 494.
- F. Pozzolans: Fly Ash shall conform to ASTM C618 – type F

2.4 REINFORCING

- A. Reinforcing Steel: Conforming to ASTM A615, clean and free of rust, dirt, grease or oils.
- B. Tie Wire: 16-gauge plain cold-drawn steel conforming to ASTM A82, clean, and free of rust, dirt, grease or oils.
- C. Supports for Reinforcement:
 - 1. Provide supports for reinforcement including bolsters, chairs, spacers and other devices for spacing, supporting and fastening reinforcing bars in place.
- D. Polypropylene Fiber Reinforcement: 100% virgin multifilament polypropylene fibers, complying with ASTM C 1116 - Type III.

2.5 ISOLATION JOINT MATERIALS

- A. Refer to Section 07900 – Joint Sealers for isolation joint construction.

2.6 CONSTRUCTION JOINT DOWELS

- A. Construct construction joints in areas as required- diamond dowels are required to provide load transference at all construction joints
- B. Dowel schedule to match rebar schedule and at a minimum spacing of 24”o.c.
- C. Diamond dowels are the only acceptable dowels. Contact PNA at (800) 542-0214 or www.pna-inc.com/products/diamond_dowel/ for distributors.

2.7 EXPANSION JOINT MATERIALS

- A. Provide expansion joints as required- diamond dowels are required to provide load transference at all expansion joints.
- B. Expansion joints are to be concealed type ¼” wide with a sawed cut placed directly over the expansion joint.

PART 3 – EXECUTION

3.1 SUB-GRADE

- A. Sub-grade to meet requirements of project’s soils report. Sub-grade for vehicle traffic shall be in accordance with local concrete street specifications. (NOTE: Because of the wide variety of soil types, weather and anticipated loading, it is not possible to recommend one specific sub-grade design. For most applications, except for very heavy loads, native soil having a minimum “R” Value of 30 and a compaction of 95% will provide a suitable sub-grade.)
- B. A minimum of 2” of well draining road base or no fines crushed stone or crushed recycled concrete is required over the prepared sub-grade to provide the correct base for SandScape Texture due to uniformity of hydration requirements.
- C. Ensure that utilities, including irrigation lines are buried and compacted below bottom of road base.
- D. Keep road base damp prior to placing concrete.
- E. Consult General Contractor, Structural Engineer, Architect and Concrete Contractor prior to installation of concrete slab to ensure complete understanding of substrate preparation, reinforcement, penetrations, mix design, placing and finishing requirements, elevations, etc.

3.2 FORMING

- A. Be responsible for design and engineering of form work as well as its construction.
- B. Ensure that work conforms to recommended practice for concrete form work (ACI 347), latest edition.
- C. Ensure that form lumber is new #2 or better grade wood or plastic coated plywood for vertical faces.
- D. Allow forms to remain in place long enough restrain the concrete during set and for a minimum of 12 hours after pour.

3.3 CONCRETE MIX SPECIFIC TO SANDSCAPE TEXTURE REQUIREMENTS

- A. Requirements:
 - 1. Slump: 3 to 5 inch slump. Obtain approval from Owner’s Authorized Representative if slump is outside these parameters.
 - 2. Minimum PSI Rating at 28 days: 4,000.
 - 3. Cement quantity per yard of mix:
 - a. Minimum: 6 sacks.
 - b. Maximum: 7 sacks.
 - 4. Water/cement ratio: Maximum .6.
 - 5. Aggregates: Use maximum 1” top size aggregate.
 - 6. Admixtures:
 - a. Air entrainment: As determined required by aggregate size and environment.
 - b. Water Reducing: Mid range water reducers recommended.

7. Fly ash: Use in all applications as required up to 25% of total cement content.
8. Accelerators: Do not use accelerators.

3.4 SANDSCAPE TEXTURE INSTALLATION

- A. Sandscape Texture is a proprietary paving product. Installation of Sandscape Texture must be performed by a licensed Bomanite Exposed Aggregate Systems Licensed Contractor only.
- B. Contact Bomanite 303-369-1115 for an installer in project area or www.bomanite.com/locate/.

3.5 JOINTING

- A. Construction and Contraction Joints:
 1. Sawcut construction and contraction joints in locations indicated on drawings.
 2. Perform jointing with a circular saw – walk behind saws are not acceptable unless of the early entry type to maintain required straightness standards.
 3. Joint Width: Per drawings and approved samples. Do not exceed 1/4-inch in width.
 4. Sawcut joints in a straight line with no overcutting. Use a hand tool to sawcut up to vertical edges such as walls, steps, curbs and columns.
- B. Isolation Joint Caulking:
 1. Install isolation joint caulking to be installed under Section 07900 – Joint Sealers.

3.6 CURING

- A. After initial Sandscape Texture exposure, wet cure the slab for a minimum of 24 hours by means of fogging, sheet or spraying.

3.7 SEALING

- A. Treat Sandscape Texture surface once cured with Bomanite Con-Shield as per manufacturer's instructions. (Optional- dependant on final use. Recommended for commercial applications requiring additional resistance to salt or other surface contaminants.)
- B. After Bomanite Con-Shield has reacted fully, Bomanite UltraSeal or Bomanite HydroLock is applied as per manufacturer's instructions.

3.8 PROTECTION

- A. General: Protect finished work from traffic until fully cured in accordance with manufacturer's recommendations.

END OF SECTION 033000



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