

**SECTION 09624 – SYNTHETIC FLOORING****PART 1 – GENERAL****1.1 DESCRIPTION**

- A. Scope
  - 1. The complete installation of synthetic bocce court.
- B. Related work specified under other sections.
  - 1. CONCRETE CURING
    - a. Concrete shall have cured a sufficient number of days as specified by the moisture control system manufacturer prior to application of selected system.
  - 2. CONCRETE MOISTURE CONTROL SYSTEM
    - a. Supplier: Systems as manufactured by Koster American Corporation is approved. Other manufacturers will be considered for approval upon submission of technical data. Only systems requiring shot blasting as part of the surface prep will be considered for approval. All surfaces to receive moisture control system shall be mechanically prepared to a ICRI Concrete Surface Profile (CSP) of 3.
  - 3. CONCRETE SUBSURFACE
    - a. The general contractor shall furnish and install the concrete subfloors.
    - b. The slab shall be steel troweled and finished with light broom finish to a tolerance of 1/8" in any 10' radius. High spots shall be ground level and low spots filled with approved leveling compound.
    - c. **No concrete curing, hardening or sealing agents shall be applied or mixed with the concrete subfloor.**
  - 4. UNDER SLAB VAPOR BARRIER
    - a. Under slab vapor barrier shall be placed directly under the concrete slab.
    - b. Vapor barrier shall have a permeance of less than 0.01 Perms [grains/(ft<sup>2</sup> – hr –inHg)] as tested in accordance with ASTM E 1745, Section 7.
    - c. Strength: ASTM E 1745 Class A.
    - d. Thickness: 15 mils minimum

**1.2 REFERENCES**

- A. ASTM (American Society for Testing & Materials)
- B. ICRI (International Concrete Repair Institute)

**1.3 SUBMITTALS**

- A. Submit BBA court specification sheets.
- B. Sample - Submit one 2" X 6" sample for structure/composition/bounce/performance evaluation. All submitted samples must have a two part bonding layer to prevent premature breakdown of system and maintain both area elasticity and dimensional stability – **2mm Solid PVC bonded to a High Density Fiberglass Reinforced layer and a clear PVC layer bonded together over minimum 5mm high density closed cell PVC to be considered only. Open or Closed cell foam with a scrim or other fiberglass or poly or other medium bonded to it with an EPDM surface is not an acceptable equal based on its “point elasticity” versus “area elasticity” and potential for premature breakdown of open or closed cell foam with no solid PVC layer.**
- C. Maintenance Literature - Upon completion of floor installation, send to owner, attendants or individuals in charge and responsible for the upkeep of the facility a Maintenance Guide. These instructions shall be followed.
- D. Current installation instructions as published by BBA.
- E. Submittals must include references from a minimum of 5 successfully completed projects using the specified system.

**1.4 QUALITY ASSURANCE**

- A. SUPPLIER: Bocce Builders of America, 1510 Second Ave., Walnut Creek, CA 94597 (925.932.4108)  
Contact: Philip Park
- B. INSTALLER:
  - 1. The complete installation of the surfacing system, as described in these specifications, shall be carried out by an experienced installer of the aforementioned system and the work shall be performed in accordance with current installation instructions.
  - 2. Qualified installers must show a minimum of 5 installations completed successfully in the system specified.
  - 2. Installer shall be liable for all matters related to the installation for a period of two (2) year after the surface has been installed and completed except for subsurface defects, water wicking or other conditions beyond the control of surface installer or manufacturer.

**1.5 DELIVERY, STORAGE AND HANDLING**

- A. Materials must be delivered in original, unopened and undamaged packaging with identification labels intact. Material shall not be delivered until all related work is finished and/or proper storage facilities can be guaranteed.

- B. Store the material protected from exposure to harmful weather conditions on a clean, dry, flat surface protected from possible damage.

## 1.6 SITE CONDITIONS

- A. Concrete shall be clean, dry and free from dirt, dust, oil, grease, paint, alkali, concrete curing agents, hardening and parting compounds, old adhesive residue or other foreign materials. The installation areas shall be closed to all traffic and activity for a period to be specified by the surface applicator.
- B. Environmental Limitations.
  - 1. Comply with BBA requirements.
  - 2. Adhere to all MSDS requirements for materials employed in the work. Protect all persons from exposure to hazardous materials at all times.
- C. After surface system is installed area is to be kept secure by owner/general contractor to allow curing time for the surface system. No other trades or personnel are allowed on the floor until the owner has accepted it.

## 1.7.1 WARRANTY

- A. BBA provides a limited warranty of two (2) years on the materials it has supplied. This warranty is expressly limited to the flooring materials (goods) supplied by BBA. This warranty does not cover surface damage caused (wholly or in part) by fire, winds, floods, moisture migration or water vapor transmission through the substrate, other unfavorable atmospheric conditions or chemical action, nor does it apply to damage caused by normal wear, misuse, abuse, negligent or intentional misconduct, aging, faulty building construction, concrete slab separation, faulty or unsuitable subsurface or site preparation or settlement of underlying soils. **If 15 mill vapor barrier and bead blast with specified Moisture Vapor Reduction system is applied, moisture migration or water vapor transmission under normal conditions will be included in this warranty for the specified warranty period.** Finished surface will have a mottled appearance by design. Colors will be universal but not completely consistent by design. Some EPDM material can separate and periodic single color small patches are normal.
- B. BBA shall not be liable for incidental or consequential losses, damages or expenses directly or indirectly arising from the sale, handling or use of the materials (goods) or from any other cause relating thereto, and their liability hereunder in any case is expressly limited to the replacement of materials (goods) not complying with this agreement or, at their election, to the repayment of, or crediting buyer with, an amount equal to the purchase price of such materials (goods), whether such claims are for breach of warranty or negligence. Any claim shall be deemed waived by buyer unless submitted to BBA in writing within 30 days from the date buyer discovered, or should have discovered, any claimed breach.

## 1.7.2 MAINTENANCE

- A. There is no specific maintenance required after this surface is installed. Recoating of surface can be achieved by applying a top coat of epdm and single component polyurethane by qualified applicators. For information regarding costs for recoating, please contact Bocce Builders of America at 1510 Second Ave., Walnut Creek, CA 94597 or call 1-925-932-4108.

## PART 2-PRODUCTS

### 2.1 MATERIALS

- A. Basic of Design: Bocce Builders of America. Only manufacturers meeting these specifications and providing a 2" X 10" sample showing a minimum 7 mill thickness combining items B, C and D as shown below and a minimum embedded resin-texture epdm layer of 1/8" will be considered based on product longevity, ability to withstand all environmental conditions and structural capacity over time. Thinner products will not be considered.
- B. Adhesive – two component polyurethane specifically formulated for outdoor applications and able to bond closed cell PVC to concrete.
- C. Force reduction layer – 5mm high density closed cell PVC.
- D. Two part bonding layer – 2mm PVC/fiberglass layer and a clear PVC layer bonded together.
- E. Embedding resin – two part polyurethane high performance castable elastomer.
  - 1. Color – Neutral
  - 2. Tensile strength, (ASTM D 412) – 707 psi
  - 3. Durometer – (ASTM D 2240) - Shore A 50
  - 4. Elongation – (ASTM D 412) - 400%
  - 5. Tear strength – (ASTM D 624) - 103 pli
- F. Texture granules – ½ mm to 1mm peroxide cured EPDM in specified color mix. Larger size epdm granuales are not acceptable.
- G. Finish layer – SPECIFICATIONS

- ASTM C 309, Type 1, Class B
- AASHTO M 148, Type 1, Class B
- Complies with all current federal, state, and local maximum allowable VOC requirements, including U.S. EPA, SCAQMD, and OTC
- Meets SCAQMD Rule 1113 - contains <100 g/L (VOC <100)
- Canada VOC Concentration Limits for Architectural Coatings Regulations

Meets Class A requirements of the ultraviolet light degradation/yellowing classification of ASTM C 1315, Section 6.4.1

The use of MDI or TDI compounds is not allowed.

H. Vinyl welding thread – 5mm

### **PART 3-EXECUTION**

#### **3.1 INSPECTION**

- A. Inspect concrete slab for proper tolerance and dryness. Concrete slab shall be broom cleaned by general contractor.
- B. Verify with general contractor and by visual inspection that no curing compounds and/or sealers have been applied to the concrete.
- C. Installer (Flooring Contractor) shall document all working conditions provided in General Specifications prior to commencement of installation.

#### **3.2 INSTALLATION**

- A. Prep concrete to receive specified moisture control system as specified by manufacturer of system. Shot Blasting of concrete surface is required. Alternatively, Sand Blasting or Acid Etching to achieve the required profile can be considered.
- B. Install specified moisture control system per manufacturer's instructions. If no moisture control system is installed, concrete must have a relative humidity of less than 85% or less than 5lbs if using the calcium chloride test. Testing will be performed and guaranteed by owner. Warranty is only applicable if moisture control system protocol is followed.
- C. After moisture control system has cured unroll force reduction/bonding layer, rough cut and allow to relax on concrete sub-surface.
- D. Expose concrete for adhesive by rolling material back or by "carpet fold" method.
- E. Apply two-part adhesive directly to concrete per manufacturer's instructions with specified notched trowel. Force reduction/bonding layer shall be fully adhered.
- F. Install bocce rolled surface into applied adhesive.
- G. Roll layers with a 100 lb segmented roller to remove entrapped air. Hold all cross seams in place with suitable weights if required.
- H. Join side and end seams of bonding layer by hot welding. Route seams to receive vinyl welding thread. Trim welding rod after hot welding.
- I. Sand entire court to provide mechanical bond of texture layer to bonding layer. Tack surface with solvent to remove dust after vacuum.
- J. Prior to applying texture layer apply a thixotropic 2 part polyurethane skim coat of embedding resin over all welded seams and outside perimeter to completely level the seam and fill edges.
- K. Texture layer
  1. Thoroughly mix the two-component embedding resin.
  2. Apply mixed material using a notched squeegee to a uniform thickness of 1.5 to 2mm. The embedding resin must be applied wet-into-wet to create a seamless surface. Broadcast applied wet surface with EPDM granules to excess before curing takes place. Allow wear coat to cure 12 hours before removing the excess EPDM granules.
  3. Cured texture to be approximately 2.5 to 3mm thick. Variation and color modeling is built into the custom bocce blend and is a trade mark of Bocce Builders of America.
- L. Finish layer
  1. Prepare surface for application of finish layer. Vacuum all excess EPDM granules.
  2. Apply finish material per manufacturer's instructions. Allow top coat to cure a minimum of 12 hours before use.
- M. Remove all excess and waste materials from the work area. Dispose of empty containers in accordance with federal and local statutes.

**END OF SECTION 09624**

**MAR 2013**

