

SECTION 09624 – SYNTHETIC ATHLETIC FLOORING

PART 1 – GENERAL

1.1 DESCRIPTION

- A. Scope
 - 1. The complete installation of synthetic sports surfacing system including striping.
- B. Related work specified under other sections.
 - 1. CONCRETE MOISTURE VAPOR EMISSION AND pH TESTING - SECTION 01450
 - a. Moisture vapor emission and pH of concrete shall be tested. Moisture vapor emissions must not exceed three (3) pounds per 1000 square feet per 24 hours as verified using Calcium Chloride test ASTM F 1869-04. Concrete pH level should be in the range between 7 and 8.5.
 - 2. CONCRETE SUBFLOORS - SECTION 03____
 - a. The general contractor shall furnish and install the concrete subfloors, depressing the slab sufficiently to accommodate the floor system.
 - b. The slab shall be steel troweled and finished smooth to a tolerance of 1/8" in any 10' radius. Floor flatness and floor levelness (FF and FL) numbers are not recognized. 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.**
 - 3. MEMBRANE WATERPROOFING - SECTION 07____
 - a. Concrete subfloors on or below grade shall be installed over a suitable moisture retardant membrane. Water vapor membrane shall comply with ASTM E 1745-97 (2004).
 - 4. GAME STANDARD INSERTS - SECTION 11____

1.2 REFERENCES

- A. ASTM (American Society for Testing & Materials)
 - 1. ASTM D-2047
 - 2. ASTM D 2240-04
 - 3. ASTM E-648
 - 4. ASTM E 1745-97 (2004).
 - 5. ASTM F-970
 - 6. ASTM F-1303-99
 - 7. ASTM F 1869-04
- B. DIN (Deutsche Norm)
 - 1. DIN 4102
 - 2. DIN 18032
 - 3. DIN 52612
- C. Other Standards
 - 1. EN 434
 - 2. NF P 90 203
 - 3. NF P 90102
 - 4. NF P90-104
 - 5. NF EN 12235

1.3 SUBMITTALS

- A. Submit Connor SportGrain Max specification sheets.
- B. Sample - Submit one sample of specified system showing wood pattern and color.
- C. Maintenance Literature - Upon completion of floor installation, send to owner, attendants or individuals in charge and responsible for the upkeep of the building a Connor Synthetic Care & Maintenance Guide. These instructions shall be followed. Any variations, deviations or substitutions shall be submitted to Connor for approval.
- D. Current installation instructions as published by Connor.
- E. Approval – Installer to be approved by Connor. Submit verification indicating installer (Floor Contractor) is approved to install proposed sport flooring system.

1.4 QUALITY ASSURANCE

- A. Manufacturer: shall be Connor®.
- B. INSTALLER:
 - 1. The complete installation of the flooring system, as described in these specifications, shall be carried out by an experienced installer (Flooring Contractor), and the work shall be performed in accordance with current Connor installation instructions.
 - 2. Installer (Flooring Contractor) shall be liable for all matters related to the installation for a period of one year after the floor has been installed and completed.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Materials must be delivered in Connor’s 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. Store sports flooring rolls on their side. *Do not stack rolls of material.*
- C. Storage conditions shall be 60°F to 80°F.

1.6 SITE CONDITIONS

- A. Synthetic materials specified herein shall not be installed until all masonry, painting, plaster, tile, marble and terrazzo etc. work is completed, and overhead mechanical trades and painters have finished in the synthetic floor areas. The building shall be enclosed and weather tight.
- B. Permanent heat, light and ventilation shall be installed and operating during and after installation. Subfloors 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. Moderate room temperature between 65°F and 80°F, and relative humidity under 50% shall be maintained for one week prior to, during, and for 72 hours after installation.
- C. The installation areas shall be closed to all traffic and activity for a period to be specified by the flooring contractor.
- D. Moisture vapor transmission of the concrete slab shall not exceed 3 lbs/1,000 ft² in 24 hours per ASTM F-1869 Anhydrous Calcium Chloride Test.
- E. Environmental Limitations.
 - 1. Comply with Connor’s requirements.
 - 2. Adhere to all MSDS requirements for materials employed in the work. Protect all persons from exposure to hazardous materials at all times.
- F. After synthetic floors are installed and the game lines painted, the area is to be kept locked by the general contractor to allow curing time for the flooring system. No other trades or personnel are allowed on the floor until the owner has accepted it.

1.7 WARRANTY

- A. Connor provides a limited warranty of fifteen (15) years on the materials it has supplied. (A copy of the full warranty, with its Terms and Exclusions, is available from the authorized Connor Dealer.) This warranty is expressly limited to the flooring materials (goods) supplied by Connor. This warranty does not cover floor damage caused (wholly or in part) by fire, winds, floods, moisture migration or water vapor transmission through the substrate, failure of vapor barrier, 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, settlement of the building walls or faulty or unprofessional installation of Connor flooring systems. The presence of moisture between the sport flooring and subfloor shall be considered proof of subfloor failure or faulty design or construction.
- B. Connor 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 Connor in writing within 30 days from the date buyer discovered, or should have discovered, any claimed breach.

PART 2-PRODUCTS

2.1 MATERIALS

- A. Connor SportGrain Max - Prefabricated sport surface 2.1MM (1/64”) with maple flooring design and smooth embossed surface as supplied by Connor. Printing of maple wood design shall closely replicate standard maple strip flooring in size (approximately 2-1/4” face width), color, board length, and grain appearance. The maple design shall be protected by a clear layer of pure PVC (Polyvinyl Chloride) and top coated with a factory applied polyurethane finish. Intermediate layers of calendared PVC and non-woven fiberglass provide balance and stability. Flooring will contain anti-fungal treatment.
System shall consist of: 5 mm recycled rubber HD basemat adhered with a two part urethane adhesive supplied by Connor; two coats of urethane scratch coat supplied by Connor; 2.1 mm vinyl sport surface adhered with a two part urethane adhesive as supplied by Connor.

Areas that are under the bleachers when the bleachers are in the closed position shall utilize the Connor wood support system to add additional sport surface support. The system shall consist of a 3/8” wood base that will not be visible from the front of the bleachers when the bleachers are in the closed position.

- 1 Color – SportGrain Max is available in maple design.
- 2 Physical Properties
 - a. Vinyl Classification (ASTM F-1303-99).....Type 1/ Grade 1
 - b. Standard Roll Length.....20.5 m (67.25 ft.)
 - c. Standard Roll Width.....1.8 m (5’-11”)
- 3 Vinyl welding thread – Matching vinyl supplied by Connor.

- 4 Adhesive – Two-component polyurethane supplied by Connor
- 5 Game Line Paint - Two-component polyurethane supplied by Connor. Select from six (6) standard colors (white, black, red, yellow, green, and blue).
- 6 Optional Base (*specify or delete*) – Vinyl wall base 4” high; select from standard
- 7 Optional Moisture Barrier (*specify or delete*) – 1mm PVC Connor Lay slip sheet

PART 3-EXECUTION

3.1 INSPECTION

- A. Inspect concrete slab for proper tolerance and dryness. Test moisture vapor transmission of concrete flooring by means of a Calcium Chloride Test. A minimum number of three (3) tests shall be performed and strictly adhered to per ASTM F-1869-98. Maximum vapor level of 3lb/1000 ft². Report any discrepancies to the general contractor.
- B. Concrete slab shall be broom cleaned by general contractor.
- C. Verify with general contractor and by visual inspection that no curing compounds and/or sealers have been applied to the concrete.
- D. 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 flooring material per the installation instructions.
 1. Basemat - Unroll basemat and allow it to relax. Do not cut basemat to final dimensions until laid into adhesive. Thoroughly mix the two-component polyurethane adhesive and apply directly to the concrete subfloor with a notched trowel per manufacturer's instructions. Install basemat into freshly applied adhesive. Do not allow compression fit at any seams. Roll basemat with a 100 pound roller and repeat the rolling process on the entire mat 45 minutes after installation. Allow adhesive to cure before proceeding to scratch coat.
 2. Scratch Coat - Thoroughly mix two-component scratch coat. Apply two layers of scratch coat to basemat with a flat trowel. Allow each layer to cure a minimum of 8 hours before proceeding to the next application. Inspect for and fill all gaps applying additional material as needed. Sand down any ridges in cured scratch coat with 80 grit sandpaper.
 3. 2mm vinyl – Unroll flooring and allow it to relax. Thoroughly mix two-component polyurethane adhesive and apply directly to sealed basemat with notched trowel per manufacturer's instructions. Install vinyl into freshly applied adhesive. Roll vinyl with a 100 pound roller and repeat the rolling process on the entire surface 45 minutes after installation.
- B. Join side and end seams by hot welding. Route seams to receive vinyl welding thread. Use vinyl welding thread as supplied by Connor. Refer to installation instructions for complete preparation and installation recommendations.
- C. Game Lines
 1. Use only high quality masking tape approved by Connor.
 2. Follow installation instructions for preparation and application of game line paint.
 3. Provide game lines as indicated on drawings.
- D. Wall Base (*Optional*) – Install vinyl base anchored to walls with base cement.
- E. 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

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