

SECTION 09624 - SYNTHETIC ATHLETIC FLOORING

PART 1 - GENERAL

1.1 DESCRIPTION:

A. Scope

The complete installation of a prefabricated multipurpose sheet rubber sports surface including adhesive and game line striping as manufactured by Connor Sports Flooring

B. Related work specified under other sections.

1. CONCRETE SUBFLOORS.....SECTION 03300
 - a. Slab Depression: Equal to thickness of selected flooring (6, 8,10,12,13 or 14mm).
 - b. Concrete Finish: Shall be steel troweled, dense and finished smooth, not polished.
 - c. Slab Tolerance: A tolerance of 1/8" (3mm) in 10' (3m) radius shall be maintained throughout. Floor Flatness and Floor Levelness (FF and FL) numbers are not recognized.
 - d. No concrete curing, hardening or sealing agents shall be applied to the concrete subfloor.
2. MEMBRANE WATERPROOFING.....SECTION 07100
 - a. Concrete subfloors on or below grade shall be adequately waterproofed, beneath, at perimeter walls, and on earth side of below grade walls.
 - b. Type and extent of membrane shall be determined by the Project Engineer and installed by the General Contractor.
3. THRESHOLDS.....SECTION 08700
4. GAME STANDARDS.....SECTION 11500

1.2 REFERENCES:

American Society for Testing & Materials

1. ASTM D 2047: Standard Test Method for Static Coefficient of Friction of Floor Surfaces
2. ASTM D 2240: Standard Test Method for Rubber Property—Durometer Hardness
3. ASTM D 5116: Standard Guide for Small-Scale Environmental Chamber Determinations of Organic Emissions from Indoor Materials/Products
4. ASTM E 648: Standard Test Method for Critical Radial Flux of Floor-Covering Systems Using a Radiant Heat Energy Source
5. ASTM E 662: Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials
6. ASTM F 970: Standard Test Method for Static Load Limit
7. ASTM F 1869: Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Sub-floor Using Anhydrous Calcium Chloride

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8. *ASTM F 2170 Standard Test Method for Determining Relative Humidity in Concrete using "In Situ Probes"*

1.3 SUBMITTALS:

A. Manufacturers Product Information

1. *Submit (1) copy of I.A.A.F. Certification of surface to be installed.*
2. *Submit (3) copies of Connor TruSport System Specification Sheets or as requested.*

B. Samples

Submit (1) set of samples showing colors and texture of the TruSport surface or as requested.

C. Shop Drawings

Submit (1) set of shop drawings reflecting seam placement and layout.

D. Maintenance Literature

Submit (3) copies of Connors TruSport maintenance instructions.

1.4 QUALITY ASSURANCE:

A. Manufacturer

1. *Manufacturer shall be an established firm with a minimum of 10 years in business specializing in manufacturing prefabricated sheet rubber for athletic surfaces.*
2. *Manufacturer shall be ISO 9001 & ISO 14001 certified.*

B. Flooring Contractor:

1. *The complete installation of the flooring system shall be performed only by an experienced flooring contractor with a minimum three years of experience installing athletic surfaces and approved by the manufacturer.*
2. *All work will be performed in accordance with the most recent printed installation instructions of the manufacturer.*

1.5 DELIVERY, STORAGE AND HANDLING:

Materials must be delivered in manufacturer's original, unopened and undamaged packaging with identification labels intact.

1. *The general contractor shall provide an area where stored materials can be maintained at 65 to 80 degrees F (18.3 to 26.7 degrees C).*
2. *Store material upright in a secured area protected from exposure to harmful weather conditions on a clean, dry, flat surface protected from possible damage.*

1.6 SITE CONDITIONS:

The prefabricated rubber sheet flooring specified herein shall not be installed until all trades including but not limited to, masonry, painting, plaster, tile, marble, terrazzo, carpentry, overhead mechanical trades', goals, scoreboard, electrical, and painters have finished in the installation area.

1. *The area will be closed and secured from all foot traffic and trades for duration of the installation and curing period.*

2. *The building shall be enclosed, weather-tight, with permanent windows and lockable doors.*
3. *Permanent heat, light and ventilation shall be installed and operating prior to, during and after installation.*
4. *Subfloors shall be broom clean, dry and free from dirt, dust, oil, grease, paint, and alkali, concrete curing agents, hardening and parting compounds, old adhesive residue or other foreign materials.*
5. *Moderate room temperature of 65 to 80 degrees F (18.3 to 26.7 degrees C) shall be maintained for a week prior to, during and for 72 hours after installation.*
6. *Concrete tolerance of 1/8 inch (3mm) in ten foot (3m) shall be maintained throughout. High spots shall be ground level and low spots filled with a Portland base compound such as Ardex Feather Finish. No concrete curing, hardening or sealing agents shall be applied to concrete.*
7. *Concrete must dry for a minimum of 30 days and slab moisture levels shall not exceed 5 lbs. per 1000 (2.27 kg per 304.8 m) in accordance to ASTM F1869 Anhydrous Calcium Chloride and/or "Determining Relative Humidity in Concrete with In-Situ Probes" not to exceed 85% respecting ASTM F2170. HVAC must be operational and with a constant temperature for 7 days prior to testing.*
8. *The installation area shall be closed to all traffic and activity during installation and for seven days following to allow drying/curing.*
9. *After completion, area to be kept locked by general contractor. No other trades or personnel to be allowed on floor until accepted by owner.*

1.7 WARRANTY:

- A. *Connor Sports Flooring provides a limited warranty of one (1) year on materials. (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, flood, other unfavorable atmospheric conditions or chemical action, nor does it apply to damage caused by ordinary wear, misuse, failure to follow recommended maintenance instructions, abuse, negligent or intentional misconduct, aging, faulty building construction, concrete slab separation or movement, moisture migration either through slab or any other source, faulty or unsuitable subsurface or site preparation, settlement of the building walls or faulty or unprofessional installation of Connor flooring systems.*
- B. *The foregoing warranty is in lieu of and excludes all other warranties not expressly set forth herein, whether express or implied, including, but not limited to any implied warranties of merchantability or fitness. Connor Sports Flooring and its contractors shall not be liable for incidental or consequential losses, damages or expenses, directly or indirectly arising from the sale, handling or use of the goods, or from any other cause relating thereto, and their liability hereunder in any case is expressly limited to the replacement of 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 goods, whether such claims are for breach of warranty or negligence.*

PART 2 – PRODUCTS

2.1 MANUFACTURER:

Basis for design is TruSport as manufactured by Connor Sports Flooring.

2.2 MATERIALS:

- A. *Athletic surface must be certified by I.A.A.F. (International Association of Athletic Federation).*

B. Material shall be prefabricated sheet rubber athletic flooring manufactured with a particular closed cell structure, based on special isoprenic rubbers, mineral fillers, and stabilizing agents. .

10. Only vulcanized, dual durometer sheet rubber with each layer having independent physical properties and biomechanical attributes will be accepted.
2. Flooring must be highly resistant to UV and atmospheric agents.
3. The Shore Hardness of the top layer surface will be greater than that of bottom layer with differentiated elasticity between the two.
4. The surface layer shall be free recycled rubber granules and free of any different color fillers.
5. Flooring surface shall be manufactured to maintain performance criteria, as stated by manufacturer, without defects, damage, or failure.
6. Thickness shall be ____ (choose one, 6, 8, 10, 12, 13, or 14mm)
7. Color shall be ____ (Select from standard, custom colors available at additional charge)
8. Finish: Multipurpose Embossing
9. Material shall be provided in rolls only.

C. Adhesive

Two-component polyurethane as supplied by Connor.

D. Game Line Paint

Two-component polyurethane. Select from standard colors.

2.3 PHYSICAL PROPERTIES:

Physical Properties	Standard	Specification
Hardness Shore A	ASTM D 2240	55/40 (±5)
Compression Set	ASTM D395	90
Resilience by Vertical Rebound	IASTM D2632	68
Tensile Properties: Strength	ASTM D 412-98	≥ 1.25 Mpa
Elongation at break	ASTM D 412-98	≥ 200%
Coefficient to Friction	ASTM D 1894	>0.6 wet
Resistance to Fungi	ASTM G 21	Non-growth
Spike resistance		Light Traffic Only
Critical Radiant Flux	ASTM E 648	0.59 W/cm2 (Class 1)
Optical Density of Smoke	ASTM E 662	<450, Class I
Color Stability		Good

Chemical Resistance		Good
UV Resistance		Good
V.O.C. Compliance	ASTM D5116	YES
Static Load Limit	ASTM F960	0.003 in. (.07mm)
Light Reflection		Average
ITF Classification (tennis)		CATEGORY 5- FAST

PART 3 - EXECUTION

3.1 INSPECTION:

- A.** Inspect concrete slab for proper tolerance of 1/8 inch (3mm) in ten foot.
- B.** Report discrepancies to general contractor for correction.
- C.** High spots shall be ground level and low spots filled with a Portland base compound such as Ardex Feather Finish.
- D.** Perform moisture testing of the slab, results will not exceed 5 lbs. per 1000 (2.27 kg per 304.8 m) in accordance to ASTM F1869 Anhydrous Calcium Chloride and/or "Determining Relative Humidity in Concrete with In-Situ Probes" not to exceed 85% respecting ASTM F2170. Report results to the general contractor.
 - 1. HVAC must be operational and with a constant temperature for 7 days prior to testing.
 - 2. Allow further drying time if moisture tolerances are exceeded.
- E.** Ensure all requirements from section 1.6 SITE CONDITIONS are completed and satisfied.
- F.** All work required to put the concrete slab in an acceptable condition and provide correct working conditions for a successful installation is the responsibility of the General Contractor or Construction Manager.

3.2 INSTALLATION:

- A.** Install athletic flooring in accordance with current manufacturer's installation instructions
 - 1. Disc sand concrete in preparation to receive flooring material.
 - 2. Unroll flooring and allow relaxing overnight while maintaining a constant room temperature.
 - 3. Thoroughly mix two-component polyurethane adhesive per manufacturer's instructions and apply directly to concrete subfloor.
 - 3. Install flooring into freshly applied adhesive, scribing and fitting neatly at walls, around columns and around door frames. Use matching urethane caulk at tight fit locations.
 - 4. Roll material in multiple directions with a 100-pound (45.4 kg) roller to remove entrapped air.
 - 5. Clean any adhesive that migrates between seams with recommended product.
 - 6. Hold and weight all seams in place with cinder bricks. Leave weight in place for a minimum of 12 hours.
- B.** Game Lines
 - 1. Use only high quality masking tape approved by Connor.

2. *Carefully layout and mask game lines as indicated on drawings.*
 3. *Prime area to receive paint per manufacturer's instruction.*
 4. *Thoroughly mix two-component game line paint.*
 5. *Apply paint by spray method*
- C.** *Wall Base (optional)*
- Install vinyl base anchored to walls with base cement.*
- D.** *Cleanup*
1. *Collect and remove all bricks (weights)*
 2. *Remove all excess and waste materials from the area of work. Leave area clear from installation debris and empty containers.*

END OF SECTION 09624