SECTION 09645
ARCHITECTURAL SPECIFICATIONS FOR INDOOR RESILIENT ATHLETIC SURFACING

PART 1 – GENERAL

1.1 *SECTION INCLUDES*

A. Supply and installation of the indoor resilient multipurpose surfacing
B. Application of the game lines
C. References for the correct construction and preparation of concrete slabs to receive resilient flooring.

1.2 *SUBMITTALS*

A. Product Data:
Manufacturer's promotional brochures, specifications and installation instructions
B. Samples:
1. Submit for selection and approval three (3) sets of the indoor resilient multipurpose surfacing, manufacturer's brochures, samples or sample boards of all of the available colors, textures and styles.
2. Submit color samples of all the available game line paint colors for selection and approval.
C. Closeout Submittals:
1. Submit three (3) copies of the indoor resilient multipurpose surfacing and manufacturer's maintenance instructions.
2. Submit three (3) copies of the material and installation warranties as specified.

1.3 *QUALITY ASSURANCE*

A. Qualifications:
1. The indoor resilient multipurpose surfacing shall have been actively marketed for a minimum of five (5) years.
2. The indoor resilient multipurpose surfacing shall be manufactured in an ISO 9001 certified plant.
3. The indoor resilient multipurpose surfacing supplier shall be an established firm experienced in the field and appointed as a distributor by the manufacturer of the indoor resilient multipurpose surfacing.
4. The installer of the indoor resilient multipurpose surfacing shall have a minimum of five (5) years experience in the field installing indoor resilient multipurpose surfacing and have worked on at least five (5) projects of similar size, type and complexity.
B. Certifications:
1. Installer to submit the indoor resilient athletic surfacing manufacturer's or distributor's certification attesting that they are an approved installer of the indoor resilient multipurpose surfacing.
C. Testing:
Tests shall be relative for multi-purpose use with certificates from independent testing resources to be made available upon request. Test results shall be no more than 5 years old and performed according to ASTM and/or EN standard testing procedures.

1.4 *DELIVERY, STORAGE AND HANDLING*

A. Delivery:
Material shall not be delivered until all related work is in place and finished and/or proper storage facilities and conditions can be provided and guaranteed stable according to FieldTurf USA, Inc. recommendations.

B. Storage:
Store the material in a secure, clean and dry location. Maintain temperature between 55° and 85° Fahrenheit. Store the indoor resilient athletic surfacing on a clean flat surface. Do not stack rolls.

1.5 *PROJECT/SITE CONDITIONS*

A. It is the responsibility of the general contractor/construction manager to maintain project/site conditions acceptable for the installation of the indoor resilient multipurpose flooring.

B. The area in which the indoor resilient multipurpose surfacing will be installed shall be dry and weather tight. Permanent heat, light and ventilation shall be installed and operable.

C. All other trades shall have completed their work prior to the installation of the resilient athletic flooring. The general contractor or Construction Manager shall maintain a secure and clean working environment before, during and after the installation. Suspension of other trades' work may be authorized providing their work will not damage the new flooring.

D. Maintain a stable room temperature of at least 65°F for a minimum of one (1) week prior to, during and thereafter installation.

E. An effective low-permeance vapor barrier is placed directly beneath the concrete subfloor. For "on" or "below grade" installations, it is recommended to provide a permanent vapor barrier resistant to long term hydrostatic pressure/moisture exposure. Protrusions should be sealed to prevent moisture migration into the slab. Moisture should not be allowed to enter the slab after the completed construction.

F. Concrete subfloor surface pH level within the 7 to 9 range dependent upon installation type.

G. Concrete subfloor should be no greater than 1/8" within a 10 ft diameter. This tolerance can be measured in accordance with ASTM E1155. A specified (F_F) of 50 and an (F_L) of 30 should reach this degree of floor flatness and floor level. There is no numerical correlation between F numbers and the deviation from the straight edge, however the above specified numbers should achieve a flat floor with minimal deviation in the slab. Reference ACI 117 and ACI 302.1R. The general contractor should provide a certificate of compliance with the above recommendations.

H. Concrete subfloor must be clean and free of all foreign materials or objects including, but not limited to, curing compounds and sealers.

I. Fill cracks, grooves, voids, depressions, and other minor imperfections with Ardex (or equal) cement-based patching/leveling compounds. Follow the manufacturer's directions. Moveable joints must be treated utilizing specific transitioning joint devices depending upon the architect's recommendations.

Follow current ASTM F710 guidelines for the preparation of concrete slabs to receive resilient flooring.

J. Refer to ACI 302.2R "Guidelines for Concrete Slabs that Receive Moisture-Sensitive Flooring Materials" for concrete design and construction.

K. Concrete slab shall be fortified with continual steel reinforcement. Fiber reinforcement alone shall not be considered adequate fortification.

1.6 *WARRANTY*

A. Materials:
The indoor resilient athletic surfacing shall be covered by the manufacturer against product defects for 5 years.

B. Installation:
The installation of the indoor resilient multipurpose surfacing shall be covered against poor workmanship and faulty installation by a two (2) year written, limited warranty provided by the contractor performing/overseeing the installation.

1.7 *ADDITIONAL MATERIALS*

Furnish to the owner additional materials containing a total of at least 1% of each different color or design of the indoor resilient athletic surfacing used on the project.

1.8 *LEED™ CERTIFICATION*

The indoor resilient athletic surfacing should be able to help this facility to achieve points towards *LEED™ certification.*

LEED categories positively affected by the indoor resilient athletic surfacing:

Product Type			Rubber
Building Reuse Maintain Interior Nonstructural Elements	**MR 1.2**	Renovation	1
Construction Waste Management	**MR 2**	Renovation	2
Construction Waste Management Materials Reuse	**MR 3**	Renovation	2
	5 % - 1 point		
	10% - 2 points		
Recycled Content	**MR 4**	New/Renovation	2
	20% - 2 points		
Regional Materials	**MR5**	New/Renovation	2
Indoor Environmental Air Quality Low VOC Adhesives/Sealants	**IEQ 4.1**	New/Renovation	1
Low-emitting Materials Paints and Coatings	**IEQ 4.2**	New/Renovation	1

PART 2 - PRODUCTS

2.1 *MANUFACTURERS*

The basis of the design for the indoor resilient multipurpose surfacing is **Dropzone, Dropzone Speckle, and/or Dropzone Interlocking** as provided by FieldTurf USA, Inc. All other installation accessories and related components must be either made or approved by the indoor resilient athletic surfacing manufacturer. Other products may be approved as equal if deemed qualified and submitted in accordance with the General Conditions. Test reports confirming compliance from an Independent Sports Laboratory must be provided along with samples, technical data, installation, maintenance, and warranty prior to acceptance as an alternative product.

2.2 *MATERIALS*.

Dropzone, Dropzone Speckle, and/or Dropzone Interlocking 8mm recycled non-laminated rubber flooring.

1. Physical properties of the indoor resilient athletic surfacing shall conform to the following minimums:

Width	…….	Roll Width 4ft – Tile 2ft x 2ft
Length	…….	Specify length (min. 15 ft)
Total Thickness	…….	8 mm
Weight	…….	1.92 lbs/sq.ft.
Tensile Strength	ASTM D412	200 minimum
Static Load	ASTM F970	1000 p.s.i (modified test)
Coefficient of Friction	ASTM 2047	>.9
Chemical Resistance	ASTM F925	Excellent
Ambient Noise Reduction	ASTM C423	.10
Impact Sound Insulation	ASTM E492	.45 minimum
Thermal Conductivity	ASTM C518	Approximate .406
Sound Transmission	ASTM 413	.45 minimum

1. Color: As available from the indoor resilient athletic surfacing manufacturer's standard range.
2. Adhesive: As approved by the indoor resilient athletic surfacing manufacturer.

PART 3 - EXECUTION

3.1 *EXAMINATION*

A. It is the responsibility of the general contractor/construction manager to ensure that project/site conditions are acceptable for the installation of the indoor resilient athletic flooring.
B. Verify that the area in which the indoor resilient athletic surfacing will be installed is dry and weather tight. Verify that permanent heat, light and ventilation is installed and operable.

C. Verify that all other work that could cause damage, dirt and dust or interrupt the normal pace of the indoor resilient athletic flooring installation is completed or suspended.
D. Verify that there is a stable room temperature of at least 65◦F.
E. Verify that there are no foreign materials or objects on the subfloor and that the subfloor is clean and ready for installation.
F. *Direct Full Spread Adhering to Concrete Subfloor* : moisture content less than 98 % RH when tested per ASTM F2170. Use only manufacturer recommended Multi-Poxy adhesive.
G. If both tests are performed, use the highest value. Do not average the results of the tests. Report all field test results in writing to the General Contractor, Architect, and End User prior to installation.
H. Verify that the concrete subfloor surface pH level is within the 7 - 9 range.
I. Document the results indicating the slab is within manufacturer's tolerances for slab deviation.

3.2 *PREPARATION OF SURFACES*

A. Sand the entire surface of the concrete slab.
B. Sweep the concrete slab so as to remove all dirt and dust. If a sweeping compound is to be used it must be a sweeping compound that does not contain oil or other items that may inhibit the adhesive bond.
C. Slab must be dust free. In the event that dust impairs adhesive bond, priming the slab prior to application of adhesive may be necessary. Follow installation guidelines.

3.3 *OPTIONS FOR MOISTURE MITIGATION*

A. For projects with moisture conditions higher than the specified tolerances, **TARKOLAY** may be used for conditions that do not 98% per ASTM F2170. Use only approved adhesive as directed by the manufacturer. Tarkolay is available for roll goods only.

3.4 *INSTALLATION*

A. The installation area shall be closed to all traffic and activity for a period to be set by the indoor resilient athletic surfacing installer. The indoor resilient athletic surfacing installation shall not begin until the installer is familiar with the existing conditions.
B. All necessary precautions should be taken to minimize noise, smell, dust, the use of hazardous materials and any other items that may inconvenience others.
C. Install the indoor resilient athletic surfacing in strict accordance with the indoor resilient athletic surfacing manufacturer's written instructions.
D. Install the indoor resilient athletic surfacing minimizing cross seams. Provide a seam diagram during the submittal process for approval prior to installation.
E. Install appropriate threshold plates or transition strips where necessary.

3.5 *CLEANING*

A. Remove all unused materials, tools, and equipment and dispose of any debris properly. Clean the indoor resilient athletic surfacing in accordance with the manufacturer's instructions.

3.6 *PROTECTION*

If required, protect the indoor resilient athletic surfacing from damage using coverings approved by the manufacturer until acceptance of work by the customer or their authorized representative.

3.6 RELATED STANDARDS AND GUIDELINES

A. ASTM F2170 "Standard Test Method for Determining Relative Humidity In Concrete Floor Slabs Using In-Situ Probes"
B. ASTM F710 "Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring"
C. ACI 302.2R-06 "Guideline for Concrete Slabs that Receive Moisture-Sensitive Flooring Materials"

END OF SECTION