SECTION 096566 - RESILIENT ATHLETIC FLOORING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
   1. Sheet vinyl flooring.

B. Related Sections:
   1. Section 096513 "Resilient Base and Accessories" for wall base and accessories installed with flooring.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: Show installation details and locations of the following:
   1. Layout, colors, widths, and dimensions of game lines and markers.
   2. Locations of floor inserts for athletic equipment installed through flooring.
   3. Seam locations for sheet flooring.

C. Samples for Initial Selection: For each type of flooring indicated.

   1. Game-Line and Marker Paint: Include charts showing available colors and glosses.

D. Samples for Verification: For each type, color, and pattern of flooring indicated, [**6-inch- (150-mm-)**] <**Insert dimension**> square Samples of same thickness and material indicated for the Work.

   1. Game-Line- and Marker-Paint Samples: Include Sample sets showing game-line- and marker-paint colors applied to flooring.
   2. Seam Samples: For each vinyl sheet flooring color and pattern required; with seam running lengthwise and in center of [**6-by-9-inch (150-by-230-mm)**] <**Insert dimensions**> Sample applied to a rigid backing and prepared by Installer for this Project.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance Data: For flooring to include in maintenance manuals.

1.5 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials, before installation begins, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Sheet Flooring: Furnish full-width rolls of not less than [**10 linear feet (3 linear m) for each 500 linear feet (150 linear m)**] <**Insert quantity**> or fraction thereof, of each type, color, and pattern of flooring installed.

1.6 QUALITY ASSURANCE

A. Sheet Vinyl Flooring Installer Qualifications: An experienced Installer who has completed sheet vinyl flooring installations using seaming methods indicated for this Project and similar in material, design, and extent to that indicated for this Project; who is acceptable to manufacturer; and whose work has resulted in installations with a record of successful in-service performance.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in original packages and containers, with seals unbroken, bearing manufacturer's labels indicating brand name and directions for storing.

B. Store materials to prevent deterioration. Store rolls upright.

1.8 FIELD CONDITIONS

A. Adhesively Applied Products:

1. Maintain temperatures during installation within range recommended in writing by manufacturer, but not less than [**70 deg F (21 deg C)**] <**Insert temperature**> or more than [**95 deg F (35 deg C)**] <**Insert temperature**>, in spaces to receive flooring 48 hours before installation, during installation, and 48 hours after installation unless longer period is recommended in writing by manufacturer.
2. After postinstallation period, maintain temperatures within range recommended in writing by manufacturer, but not less than [**55 deg F (13 deg C)**] <**Insert temperature**> or more than [**95 deg F (35 deg C)**] <**Insert temperature**>.
3. Close spaces to traffic during flooring installation.
4. Close spaces to traffic for 48 hours after flooring installation unless manufacturer recommends longer period in writing.

B. Install flooring after other finishing operations, including painting, have been completed.

1.9 COORDINATION

A. Coordinate layout and installation of flooring with floor inserts for gymnasium equipment.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. FloorScore Compliance: Resilient athletic flooring shall comply with requirements of FloorScore Standard.

B. Low-Emitting Materials: Flooring system shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

2.2 SHEET VINYL FLOORING (SVF)

A. Basis-of-Design Product: Subject to compliance with requirements, provide Gerflor Taraflex Multi-Use 5.0 or comparable product by one of the following:

1. Amarco Products.
2. Johnsonite; a Tarkett company.
3. Lonseal, Inc.
4. Robbins Sports Surfaces.
5. Sport Court; Subsidiary of Connor Sport Court International.

B. Description: Sheet vinyl flooring specifically designed for adhered athletic flooring applications with ASTM F2772 Class 2 properties.

C. Sheet Vinyl Flooring with Backing: ASTM F 1303.

1. Type (Binder Content): [**Type I, minimum binder content of 90 percent**] [**Type II, minimum binder content of 34 percent**].
2. Wear-Layer Thickness: Grade 1.
3. Overall Thickness: <**Insert dimension**>.
4. Interlayer Material: [**Foamed plastic**] [**None**].
5. Backing Class: [**Class B (nonfoamed plastic)**] [**Class C (foamed plastic)**].

D. Seaming Method: Heat welded.

E. Traffic-Surface Texture: Embossed.

F. Applied Finish: Factory-applied UV urethane.

G. Roll Size: Not less than 48 inches (1219 mm) wide by longest length that is practical to minimize splicing during installation.

H. Color and Pattern: Equivalent to Gerflor #6381 Maple design.

2.3 ACCESSORIES

A. Trowelable Leveling and Patching Compound: Latex-modified, hydraulic-cement-based formulation approved by flooring manufacturer.

B. Adhesives: Water-resistant type recommended in writing by manufacturer for substrate and conditions indicated.

1. Adhesives shall have a VOC content of [**50**] [**60**] <**Insert value**> g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
2. Adhesives shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

C. Game-Line and Marker Paint: Complete system including primer, if any, compatible with flooring and recommended in writing by flooring and paint manufacturers for use indicated.

1. VOC Content: Not more than 150 g/L when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
2. Paint shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, with Installer present, for compliance with requirements for installation tolerances, moisture content, and other conditions affecting performance of the Work.

1. Verify that finishes of substrates comply with tolerances and other requirements specified in other Sections and that substrates are free of cracks, ridges, depressions, scale, and foreign deposits that might interfere with adhesion of resilient products.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Prepare substrates according to manufacturer's written recommendations to ensure adhesion of flooring.

B. Concrete Substrates: Prepare according to ASTM F 710.

1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
2. Alkalinity Testing: Perform pH testing according to ASTM F 710. Proceed with installation only if pH readings are not less than 7.0 and not greater than 8.5.
3. Moisture Testing:

a. Perform anhydrous calcium chloride test, ASTM F 1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of [**3 lb of water/1000 sq. ft. (1.36 kg of water/92.9 sq. m)**] <**Insert rate**> in 24 hours.

1) Perform tests so that each test area does not exceed [**200 sq. ft. (18.6 sq. m)**] <**Insert area**>, and perform no fewer than two tests in each installation area and with test areas evenly spaced in installation areas.

b. Perform relative humidity test using in-situ probes, ASTM F 2170. Proceed with installation only after substrates have a maximum [**75**] <**Insert number**> percent relative humidity level measurement.

C. Remove substrate coatings and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended in writing by manufacturer. Do not use solvents.

D. Use trowelable leveling and patching compound to fill cracks, holes, and depressions in substrates.

E. Move flooring and installation materials into spaces where they will be installed at least 48 hours in advance of installation unless manufacturer recommends a longer period in writing.

1. Do not install flooring until they are same temperature as space where they are to be installed.

F. Sweep and vacuum clean substrates to be covered by flooring immediately before installation. After cleaning, examine substrates for moisture, alkaline salts, carbonation, and dust.

G. Proceed with installation only after unsatisfactory conditions have been corrected.

3.3 FLOORING INSTALLATION, GENERAL

A. Comply with manufacturer's written installation instructions.

B. Scribe, cut, and fit flooring to butt neatly and tightly to vertical surfaces, equipment anchors, floor outlets, and other interruptions of floor surface.

C. Extend flooring into toe spaces, door reveals, closets, and similar openings unless otherwise indicated.

D. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating subfloor markings on flooring. Use nonpermanent, nonstaining marking device.

3.4 SHEET FLOORING INSTALLATION

A. Unroll sheet flooring and allow it to stabilize before cutting and fitting.

B. Lay out sheet flooring as follows:

1. Maintain uniformity of flooring direction.
2. Minimize number of seams; place seams in inconspicuous and low-traffic areas, at least 6 inches (150 mm) away from parallel joints in flooring substrates.
3. Match edges of flooring for color shading at seams.
4. Locate seams per approved Shop Drawings.

C. Adhered Flooring: Adhere products to substrates using a full spread of adhesive applied to substrate to comply with adhesive and flooring manufacturers' written instructions, including those for trowel notching, adhesive mixing, and adhesive open and working times.

1. Provide completed installation without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, and other surface imperfections.

D. Vinyl Sheet Flooring Seams: Prepare and finish seams to produce surfaces flush with adjoining flooring surfaces.

1. Heat-Welded Seams: Comply with ASTM F 1516. Rout joints and use welding bead to permanently fuse sections into a seamless flooring.
2. Chemically Bonded Seams: Comply with ASTM F 693. Seal seams to prevent openings from forming between cut edges and to prevent penetration of dirt, liquids, and other substances into seams.

3.5 GAME LINES AND MARKERS

A. Mask flooring at game lines and markers, and apply paint to produce sharp edges. Where crossing, break minor game line at intersection; do not overlap lines.

B. Lay out game lines and markers to comply with rules and diagrams published by **National Federation of State High School Associations** for athletic activities indicated.

3.6 FIELD-APPLIED FINISHES

A. Apply finish after game-line and marker paint is fully cured.

B. Apply finish according to manufacturer's written instructions to produce a sealed surface that is ready for use.

C. Do not cover flooring after finishing until finish reaches full cure.

3.7 CLEANING AND PROTECTING

A. Perform the following operations immediately after completing flooring installation:

1. Remove adhesive and other blemishes from flooring surfaces.
2. Sweep and vacuum flooring thoroughly.
3. Damp-mop flooring to remove marks and soil after time period recommended in writing by manufacturer.

B. Protect flooring from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period. Use protection methods recommended in writing by manufacturer.

1. Do not move heavy and sharp objects directly over flooring. Protect flooring with plywood or hardboard panels to prevent damage from storing or moving objects over flooring.

END OF SECTION 096566