

## SECTION 096766 - FLUID-APPLIED 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. Polyurethane flooring fluid-applied over base mats.

- B. Related Sections:

- 1. Section 096513 "Resilient Base and Accessories" for wall base and accessories installed with fluid-applied athletic flooring.

## 1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Show installation details for flooring including layout, colors, widths, and dimensions of game lines and markers and locations of athletic equipment floor inserts.
- C. Samples for Initial Selection: Manufacturer's color charts showing colors and glosses available for flooring and game-line and marker paints.
- D. Samples for Verification: For each color, gloss, and texture of flooring required, 12 inches (305 mm) square, applied to a rigid backing. Include sample sets showing the game-line and marker paint colors applied to the flooring.

## 1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified Installer.

## 1.5 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For fluid-applied athletic flooring to include in maintenance manuals.

## 1.6 QUALITY ASSURANCE

- A. Installer Qualifications: An Installer (Applicator) who is approved, trained, or certified by fluid-applied athletic flooring manufacturer.

## 1.7 FIELD CONDITIONS

- A. Environmental Limitations: Comply with flooring manufacturer's written instructions for substrate temperature, ambient temperature, humidity, ventilation, and other conditions affecting flooring application.
  - 1. Do not apply flooring until spaces are enclosed and weatherproof; wet work in spaces is complete and dry; and overhead work, including installing mechanical systems, lighting, and athletic equipment, is complete.
  - 2. Maintain temperatures during installation within range recommended in writing by manufacturer, but not less than 70 deg F (21 deg C) or more than 95 deg F (35 deg C), 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.
  - 3. After installation period, maintain temperatures within range recommended in writing by manufacturer, but not less than 55 deg F (13 deg C) or more than 95 deg F (35 deg C).
  - 4. Close spaces to traffic during flooring installation.

## 1.8 COORDINATION

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

## PART 2 - PRODUCTS

### 2.1 FLOORING APPLIED OVER BASE MATS

- A. Basis of Design: Action Floor Systems, LLC; Herculan MF 9 + 2. Subject to compliance with requirements, other acceptable manufacturers are:
  - 1. Aacer Flooring, LLC; MP Sport.
  - 2. Abacus Sports Installations Ltd.; Padenpor.
  - 3. Beynon Sports Surfaces, Inc.; PolyTurf Plus Pad & Pour.
  - 4. Robbins, Inc.; Pulastic Classic 110.
  - 5. Sport Court, Subsidiary of Connor Sport Court International; ElastiPlus.
  - 6. Surface America Incorporated; ElastoFloor Roll-Pour.
  - 7. Champion Flooring; Monoflex.
  - 8. SPEC Athletic Inc.; Polysport 9 + 2
- B. Description: Fluid-applied athletic flooring system consisting of resilient base mat adhered to substrate, base mat sealer, and fluid-applied polyurethane body and top coats.
- C. Performance:

1. Low-Emitting Materials: Products shall comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
  - a. Base Mat Adhesive: VOC content of not more than 60 g/L.
  - b. Base Mat Sealer: VOC content of not more than 200 g/L.
  - c. Body and Topcoats: VOC content of not more than 100 g/L.

D. Materials:

1. Base Mat: Manufacturer's standard base mats of granulated recycled rubber in polyurethane binder.
  - a. Thickness: 11/32 inch (9 mm).
2. Base-Mat Adhesive: Manufacturer's standard two-component polyurethane.
3. Base-Mat Sealer: Manufacturer's standard two-component polyurethane compound formulated for sealing base mat.
4. Body Coat(s): Two-component, self-leveling, pigmented, polyurethane containing no rubber fillers and no mercury.
5. Topcoat (Finish Coat): Manufacturer's standard pigmented polyurethane.

E. Finishes:

1. Color: As selected by Architect from manufacturer's full range.
2. Surface Texture: Manufacturer's standard.

## 2.2 ACCESSORIES

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

## 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.
  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.
  2. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Concrete Substrates: Prepare substrates according to manufacturer's written instructions to ensure adhesion of flooring.
  - 1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners. Remove contaminants using mechanical means.
  - 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) in 24 hours.
      - 1) Perform tests so that each test area does not exceed 200 sq. ft. (18.6 sq. m), and perform not less than 2 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 percent relative humidity level measurement.
- B. Remove substrate coatings and other substances that are incompatible with flooring and adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended in writing by manufacturer. Do not use solvents.
- C. Use trowelable leveling and patching compound to fill cracks, holes, and depressions in substrates.
- D. Treat nonmoving substrate cracks and control joints to prevent cracks from telegraphing (reflecting) through flooring according to manufacturer's written instructions.
- E. Protect substrate voids and joints to prevent flooring resins from flowing into or leaking through them.
- F. 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 it is same temperature as space where it is to be installed.
- G. Sweep and vacuum clean substrates to be covered by flooring immediately before installation. After cleaning, examine substrates for moisture, alkaline salts, carbonation, and dust.
- H. Proceed with installation only after unsatisfactory conditions have been corrected.
- I. Protect walls, floor openings, athletic equipment inserts, electrical openings, door frames, and other obstructions during installation. Cover floor and wall areas at mixing stations.

### 3.3 FLOORING INSTALLATION, GENERAL

- A. General: Mix and apply flooring components according to manufacturer's written instructions.
  - 1. At substrate expansion, isolation, and other moving joints, install continuous joint of same width through flooring.

### 3.4 INSTALLATION OF FLOORING APPLIED OVER BASE MATS

- A. Adhesively apply resilient base mats to substrate according to manufacturer's written instructions.
  - 1. Do not compress mats when fitting into place. Leave gap of width recommended in writing by manufacturer at butted base-mat sheets, walls, floor openings, athletic equipment inserts, electrical openings, door frames, and other obstructions.
  - 2. Roll base mats to set them into adhesive and eliminate air pockets.
  - 3. Repair ridges at seams, loose areas, and air pockets according to manufacturer's written instructions.
- B. Apply seal coat to base mats before applying body coat(s).
- C. Smooth ridges and high spots in seal coat before applying body coat(s).
- D. Apply body coat(s) and topcoat to produce a uniform surface and finish.

### 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 PROTECTION

- A. Close spaces to traffic for seven days after flooring installation unless manufacturer recommends longer period in writing.
- 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 096766

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