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**GAMECOURT® Sandwich System  
Seamless Polyurethane “Pad & Pour” Sports Flooring Guide Specification  
Division 9 – Indoor Resilient Athletic Surfacing**

**PART 1 – GENERAL**

1.1 *SECTION INCLUDES*

- A. Supply and installation of the GAMECOURT® indoor resilient multipurpose athletic surfacing.
- B. Application of the game lines.
- C. Related work specified under other sections.
  - 1. CONCRETE MOISTURE VAPOR EMISSION AND Ph testing – section 01450
    - a) Vapor emission / moisture testing MUST be performed prior to installation of the GAMECOURT® materials. Relative Humidity (RH) tests may be performed, moisture content must be less than 92% RH when tested per ASTM F2170. Concrete subfloor surface pH level must be within the 7 to 11 range.
  - 2. CONCRETE SUBFLOORS – SECTION 03\_\_ \_\_
    - a) The general contractor shall furnish and install the concrete sub floors, depressing the slab sufficiently to accommodate the floor system. Slab depression shall be determined by the system thickness selected by the architect.
    - b) The slab shall be steel troweled and finished smooth to a tolerance of 1/8” in any 10’ radius. This tolerance can be measured in accordance with ASTM E1155. A specified (FF) of 50 and an (FL) 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.
    - c) NO concrete curing agents or hardening / parting compounds shall be applied or mixed with the concrete subfloor. If used, it may be necessary to sand, grind or shot-blast the concrete for the adhesive to bond to the concrete substrate. A bond test is also recommended.
    - d) Fill cracks, grooves, voids, depressions, and other minor imperfections. 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.
    - e) Do not install athletic flooring over new concrete until concrete has been cured and is dry. A minimum of 90 days is required. Typically, a new concrete slab will not meet the vapor emissions requirements listed below unless the slab has been installed and the area is sealed off to outside air (all windows, doors, roof, etc. are installed) for approximately 6 months or more.
    - f) Sub floors must 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. Refer to ACI 302.2R “Guidelines for Concrete Slabs that Receive Moisture-Sensitive Flooring Materials” for concrete design and construction.

- g) Concrete slab shall be fortified with continual steel reinforcement. Fiber reinforcement alone shall not be considered adequate fortification.
  - 3. MEMBRANE WATERPROOFING – SECTION 07\_\_\_\_
    - a) Concrete sub floors on or below grade shall be adequately waterproofed beneath and at the perimeter walls and on earth side of below grade walls. It is the responsibility of the architect/engineer to determine the extent of this need.
  - 4. GAME STANDARD INSERTS – SECTION 11\_\_\_\_
- 1.2 *SUBMITTALS*
- A. Product Data:
    - 1. Submit one (1) set of GAMECOURT® “Sandwich System Guide Specifications”.
    - 2. Submit one (1) top coat color options chart and one (1) game line paint color options chart.
  - B. Samples:
    - 1. Submit one (1) sample of specified system, if requested by the architect.
  - C. Closeout Submittals:
    - 1. Submit one (1) copy of the GAMECOURT® maintenance instructions.
    - 2. Submit one (1) copy of the GAMECOURT® material and installation warranties as specified.
- 1.3 *QUALITY ASSURANCE*
- A. Qualifications/Certifications
    - 1. The indoor resilient multipurpose athletic surfacing shall be manufactured in an ISO 9001 certified plant.
    - 2. The indoor resilient multipurpose surfacing shall be manufactured in an ISO 14001 certified plant.
    - 3. The indoor resilient multipurpose athletic surfacing supplier shall be an established firm experienced in the field and appointed as a distributor by the manufacturer of the indoor resilient multipurpose athletic surfacing.
    - 4. The complete installation of the flooring system shall be carried out by an experienced & certified flooring contractor approved by the supplier and the work shall be performed in accordance with the supplier’s installation instructions.
    - 5. The indoor resilient multipurpose athletic surfacing material supplier shall be WBE (Women’s Business Enterprise) certified.
    - 6. The indoor resilient multipurpose athletic surfacing materials shall be MADE IN THE USA.
  - B. Testing
    - 1. Tests shall be relative for multi-purpose use with certificates from independent testing resources to be made available upon request.
    - 2. Test results shall be no more than 5 years old and performed according to ASTM standard testing procedures.
- 1.4 *DELIVERY, STORAGE AND HANDLING*
- A. Delivery:
    - 1. GAMECOURT® 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 Moose Sport’s Surfaces, Ltd. recommendations.
  - B. Storage:
    - 1. Store the material in a secure, clean and dry location maintaining a minimum of 55° F and 85° F and under 50% relative air humidity. Ideal installation and storage conditions are the same as those which prevail when building is occupied. Store buckets upright and rolls on their side. Do not stack the rolls.
- 1.5 *PROJECT / SITE CONDITIONS*
- A. It is the responsibility of the general contractor/construction manager to maintain clean, secure, weather tight project site conditions acceptable for the installation of the GAMECOURT®
  - B. Concrete slab preparation must be completed per the requirements of athletic flooring material supplier.

- C. 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.
- D. Permanent light and electrical power shall be installed and operating prior to the installation.
- E. HVAC shall be installed and operating two weeks prior to installation, during and after installation. The temperature must be at least 65° F., maximum air humidity at 70% (50% is preferable).
- F. Prior to vapor emission / moisture testing, the HVAC must be up and running for a minimum of 72 hours (one week preferable) to condition the building.
- G. GAMECOURT® shall not be installed until all masonry, painting, plaster, tile, marble and terrazzo work is completed, and overhead mechanical trades and painters have finished in the GAMECOURT® floor areas. All sub-contract work which would cause damage, dirt, dust or interruption of normal installation will be completed prior to the installation of GAMECOURT®. Suspension of other trades’ work may be authorized providing their work will not interfere with the installation or damage the newly installed flooring.
- H. The installation area shall be closed to all traffic and activity for a period to be set by the flooring contractor.

#### 1.6 *WARRANTY*

- A. Moose Sports Surfaces, Ltd. (Moose) hereby warrants its GAMECOURT® materials to be made to manufacturer’s specifications and to be free from defects for a period of thirty (30) years commencing on the date of substantial completion. This warranty shall be given in lieu of all other warranties or guarantees, expressed or implied, including, but not limited to any warranty of merchantability or fitness for a particular purpose, and/or any other obligation on the part of Moose. The liability of Moose shall be limited to repair or replacement of materials supplied by Moose and proven to be defective in manufacture. It shall not include any other damages either direct or consequential.
- B. Warranty excludes damage caused in whole or in part by normal wear and tear, abuse, faulty construction of the building including settlement, lack of a moisture barrier for on grade or below grade construction, the failure of associated trades to adhere to specifications, separation of the concrete slab, any movement of the sub-base, moving/expansion/contraction of construction joints, saw joints, expansion joints, and other saw cuts, excessive dryness or moisture from humidity, spillage, migrations through the slab or wall, or any other source. Additionally, the warranty shall not cover accidental damage.

#### 1.7 *LEED™ CREDIT CONTRIBUTIONS*

- A. The indoor resilient athletic surfacing should be able to help this facility to achieve points towards LEED™ certification. Flooring system must be certified by FloorScore.
- B. GAMECOURT® can contribute to the LEED® rating systems as outlined below.
  - 1. Building Reuse Maintain Interior Nonstructural Elements (up to 1 point)
  - 2. Construction Waste Management (up to 2 points)
  - 3. Recycled Content (up to 2 points)
  - 4. Regional Materials (up to 2 points)
  - 5. Materials and Resources Rapidly Renewable Materials (up to 1 point)
  - 6. Indoor Environmental Air Quality Low VOC Adhesives/Sealants (up to 1 point)
  - 7. Low emitting Materials (up to 3 points)

## **PART 2 – PRODUCTS**

### 2.1 *SUPPLIER*

- A. The basis of the design for the indoor resilient multipurpose athletic surfacing is Moose Sports Surfaces Ltd., GameCourt®. All other installation accessories and related components must be either made or approved by the indoor resilient multipurpose athletic surfacing supplier. Other products may be approved as equal if deemed qualified and submitted in accordance with the General Conditions.

- B. 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**

- A. GAMECOURT® Primer (if specified or necessary) shall be a one-component polyurethane.
- B. GAMECOURT® Adhesive shall be a two-component polyurethane.
- C. Base mat shall be a prefabricated rubber mat made of all recycled rubber granules bound with MDI polyurethane and manufactured to a constant thickness.
- D. Base mat thickness – 4MM – 10MM as specified.
- E. GAMECOURT® Scratch Coat (mat sealer) – two-component, thixotropic polyurethane compound.
- F. GAMECOURT® Wear Coat – two-component, pigmented, self-leveling polyurethane and seamless.
  - 1. Total wear thickness – 2.00MM throughout the floor.
  - 2. Pigmented color: gray (standard). Custom colors are available.
- G. GAMECOURT® Water-Based Top Coat (matte finish) – two-component polyurethane. Select from standard colors.
- H. GAMECOURT® Game Line Paint – two-component polyurethane. Select from standard colors.
- I. Optional Base (specify or delete) – Vinyl wall base; 4” high; select from standard colors.
- J. Technical Information;

1. Force Reduction (ASTM F2772-11)		
	4+2	Class 1
	7+2	Class 2
	9+2	Class 2
2. Surface Finish Effect (ASTM F2772-11)		Passed
3. Ball Bounce (ASTM F2772-11)		>90%
4. Vertical Deformation (ASTM F2772-11)		Passed
5. Reaction to Fire (ASTM E648)		Class I / Radiant Panel
6. <u>Base Mat Properties</u>		
Width		59”
Length		82 lin. ft.
Weights		
	4+2	.53 lbs./sq. ft.
	7+2	.93 lbs./sq. ft.
	9+2	1.2 lbs./sq. ft.
Density (ASTM D297)		.67 g/cm3
Tensile Strength (ASTM D412) Die Cast C		88 psi
Elongation (ASTM D412) Die Cast C		48.5%
Tear Strength (ASTM D624) Die C		30 ppi

Flexibility (ASTM F147)	0-1
Compression Set B (ASTM F36)	87% @ 50 psi 91% @ 100 psi 91% @ 200 psi
Compression Set B (ASTM D395) 25% deflection @ 158° F./22 hrs	37%
(ASTM D395) 50% deflection @ 158° F./22 hrs	26%
7. <u>Top Wear Layer Properties:</u>	
Tensile Strength (ASTM D412)	1600 psi
Elongation (ASTM D412)	150%
Tear Strength (ASTM D624)	122 pli
Shore Hardness	80 (Shore A)
Or	
Tensile Strength (ASTM D 412)	3200 psi
Elongation at Break (ASTM D 412)	340%
Tear Strength (ASTM D 624)	360 pli
Shore Hardness	80 (Shore A)
8. Environmental Certification	GreenGuard Certified Plus

**PART 3 - EXECUTION**

3.1 *EXAMINATION*

- A. It is the responsibility of the general contractor/construction manager to ensure the project/site conditions are acceptable for the installation of GAMECOURT® per Section 1.1 and Section 1.5 of this specification.
- B. Floor contractor to report any discrepancies per Section 1.1 and Section 1.5 to general contractor/construction manager prior to commencement of installation.

3.2 *PREPARATION*

- A. Sand the entire surface of the concrete slab.
- B. Thoroughly sweep the concrete slab so as to remove all dirt and dust. If a sweeping compound is 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.
- D. Follow OSHA guidelines and adhere to all MSDS requirements for materials employed in the work. Protect all persons from exposure to hazardous materials.

3.3 *INSTALLATION*

- A. Primer: if specified or necessary, apply GAMECOURT® Primer to concrete or asphalt (please specify substrate).
- B. Base Mat:
  - 1. Thoroughly mix the two-component polyurethane GAMECOURT® Adhesive and per supplier's instructions.
- C. Scratch Coat:

1. Thoroughly mix the two-component GAMECOURT® Scratch Coat and apply per supplier's instructions.
- D. Wear Coat:
  1. Thoroughly mix two-component GAMECOURT® Wear Coat and apply per supplier's instructions.
- E. Finish Water-Based Top Coat (Matte Finish):
  1. Thoroughly mix two-component polyurethane GAMECOURT® Water-Based Top Coat and apply per supplier's instructions.
- F. Game Lines:
  1. Supplier recommends using standard color line paints because they have been thoroughly tested in the lab and in field applications to meet performance standards.
  2. Thoroughly mix two-component GAMECOURT® Line Paint and apply per supplier's instructions.
  3. Provide game lines as indicated on drawings.
- G. Wall Base (optional), threshold plates/transition strips (optional) applied per the requirements of the manufacturer.

### 3.4 *CLEANING*

- A. Remove all excess and waste materials from the area of work. Dispose of empty containers in accordance with federal and local statutes.
  1. Refer to GAMECOURT® Care & Maintenance Guide for complete cleaning information.

### 3.5 *PROTECTION*

- A. Cure Time -- no traffic or trades shall be allowed on the surface for a period of one (1) week following completion to allow for complete and proper cure of the finish.
- B. Cure Time – no heavy items or heavy installation (i.e. – 10 row bleachers or above) for a period of four (4) weeks following completion to allow for complete and proper cure of the wear coat layer.
- C. Other Trades -- it is the responsibility of the general contractor to protect the surface from damage by other trades before acceptance by the owner or the owner's authorized agent.
- D. After synthetic floors are installed and the game lines painted, area to be kept locked by general contractor to allow curing time for system. No other trades or personnel are allowed on floor until accepted by owner.
- E. When subjecting the GAMECOURT® floor to significant rolling loads or heavy equipment such as scissor lifts, scaffolding, four-wheel dollies, etc. and/or point loads that exceed 250 PSI we recommend the following;
  1. Provide a protective cover to prevent marring of the top coat finish. This may be accomplished with 6 mill poly, kraft paper, red rosin paper or standard protective gym covers.
  2. Provide a double layer of 5/8" (minimum) thick plywood or Masonite where equipment will travel across the floor system. Plywood may be "walked" across floor as equipment is moved to minimize number of sheets required. The upper and lower layers of the plywood must be staggered to eliminate end joints from aligning thereby reducing point loads to the system.