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GAMECOURT®
Sandwich System “Pad & Pour” Guide Specification – DIN System
Division 9 – Indoor Resilient Athletic Surfacing
Revised 04-09-09

PART 1 – GENERAL

1.1 *SECTION INCLUDES*

- A. Supply and installation of the GAMECOURT® DIN indoor resilient multipurpose athletic surfacing.
- B. Application of the game lines.

1.2 *SUBMITTALS*

- A. Product Data:
 - 1. Submit one (1) set of GAMECOURT® DIN “Sandwich System Guide Specifications”.
 - 2. Submit one (1) chart of top coat color options and game line paint color options.
- B. Samples:
 - 1. Submit one (1) sample of specified system.
- C. Closeout Submittals:
 - 1. Submit one (1) copy of the GAMECOURT® DIN maintenance instructions.
 - 2. Submit one (1) copy of the GAMECOURT® DIN material and installation warranties as specified.

1.3 *QUALITY ASSURANCE*

- A. Qualifications:
 - 1. The indoor resilient multipurpose athletic surfacing shall be manufactured in an ISO 9001 certified plant.
 - 2. The indoor resilient multipurpose athletic 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.
- B. Certifications:
 - 1. Installer to submit certification attesting that they are an approved installer of the GAMECOURT® DIN indoor resilient multipurpose athletic surfacing.
 - 2. GAMECOURT® DIN manufacturer to submit official ISO 9001 certification for the facility in which the indoor resilient multipurpose surfacing is manufactured.
 - 3. GAMECOURT® DIN manufacturer to submit official ISO 14001 certification for the facility in which the indoor resilient multipurpose surfacing is manufactured.

1.4 *DELIVERY, STORAGE AND HANDLING*

- A. Delivery:

1. GAMECOURT® DIN 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 under 50% relative 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.

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® DIN.
- B. 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.
- C. The general contractor shall furnish and install the concrete sub floors, depressing the slab sufficiently to accommodate the floor system. Slab depression shall be a total depth of 17MM.
- D. No concrete curing or hardening agents shall be applied to concrete sub floor.
- E. The slab shall be steel troweled and finished smooth to a tolerance of 1/8" in any 10' radius. This tolerance should be measured in accordance with ASTM E1155. The general contractor/construction manager should provide a certificate of compliance with the above recommendations. High spots shall be ground level, and low spots filled in with an approved leveling compound.
- F. Cracks, grooves, voids, cuts and joints may be filled with Ardex Portland-based patching/leveling compounds (or equal). Follow the manufacturer's limitations/recommendations. Moveable joints may have to be treated utilizing specific transitioning joint devices upon the architect's recommendations.
- G. Permanent heat, light and ventilation shall be installed and operating during and after installation.
- H. 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 for approximately 6 months or more.
- I. GAMECOURT® DIN 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® DIN floor areas. All sub-contract work which would cause damage, dirt, dust or interruption of normal installation pace will be completed. Suspension of other trades' work may be authorized providing their work will not interfere with the installation or damage the newly installed flooring.
- J. Installation will commence ONLY when the following criteria are met;
 1. The building shall be enclosed and weather tight.
 2. The temperature must be between 65-70° F., maximum humidity at 70% (50% is preferable), and HVAC must be installed and working two weeks prior to installation, during the installation and after installation.
 3. The installation area shall be closed to all traffic and activity for a period to be set by the flooring contractor.
 4. Sub floors shall 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.
 5. Vapor emission testing must be performed before the GAMECOURT® DIN material installation begins. The vapor emission levels/moisture content of the concrete slab should not be greater than 4 lbs. of vapor per 1000 square feet per 24 hours per ASTM F1869.
 6. Concrete subfloor surface pH level must be within the 7 to 8.5 range.
 7. The tolerance of the concrete slab is no more than 1/8" in any 10' radius. High spots shall be ground level, and low spots filled in with an approved leveling compound.

1.6 *WARRANTY*

- A. Moose Sports Surfaces, Ltd. (Moose) hereby warrants its GAMECOURT® DIN materials to be made to manufacturer's specifications and to be free from defects for a period of one year 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, construction joints, saw joints, expansion joints, 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™ CERTIFICATION**

- A. GAMECOURT® DIN should be able to help this facility achieve up to eight (8) points towards LEED™ certification.

LEED™ categories positively affected by the indoor resilient multipurpose athletic surfacing

-Materials & Resources	credit reference MR 2.1 & 2.2	Points Attainable 1-2
-Materials & Resources	credit reference MR 4.1 & 4.2	Points Attainable 1-2
-Materials & Resources	credit reference MR 5.1 & 5.2	Points Attainable 1-2
-Indoor Environmental Quality	credit reference EQ 4.1 & 4.2	Points Attainable 1
-Design Innovation	credit reference ID 1.1	Points Attainable 1

PART 2 – PRODUCTS

2.1 **MANUFACTURERS**

- A. The basis of the design for the indoor resilient multipurpose athletic surfacing is Moose Sports Surfaces Ltd., GameCourt® DIN. 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.

2.2 **MATERIALS**

- A. All components for GAMECOURT® DIN shall be supplied by Moose Sports Surfaces, Ltd. All polyurethane component materials shall not contain ANY lead, mercury, nor any heavy metals, PCB, or formaldehyde.
- B. Primer (if specified or necessary) shall be a one-component polyurethane (GAMECOURT® Primer).
- C. Adhesive shall be a two-component polyurethane (GAMECOURT® Adhesive).
- D. Base mat shall be a prefabricated rubber mat made of all recycled rubber granules bound with MDI polyurethane and manufactured to a constant thickness.
- E. Base mat density – 35 lbs./cu.ft. for normal applications.
- F. Base mat thickness – 14MM.
- G. Scratch Coat (mat sealer) – two-component, thixotropic polyurethane compound (GAMECOURT® Scratch Coat). A fiber webbing scrim lies between the 1st and 2nd applications of the scratch coat.
- H. Wear Coat – two-component, pigmented, self-leveling polyurethane and seamless (GAMECOURT® Wear Coat).
- I. Total wear thickness – 3.00MM throughout the floor.
- J. Pigmented color: gray (standard).
- K. Technical Information (Test reports supplied upon request):

Shock Absorption (DIN 18032/2 min. 51% – cat. 1; min. 45% – cat. 2) 14+3 (DIN certified with scrim)	51.0%
Impact Resistance at 10° C. (DIN 18032/2 min. of 8 Nm)	> 10 Nm
Standard Vertical Deformation (DIN 18032/2 max. 3.5mm – cat. 1; max. 3.0mm – cat. 2)	0.99-2.50mm
Rolling Load (DIN 18032/2 1000 N.)	1000 N
Remaining Indentation/Residual Impression (DIN 18032/2 max. 0.5mm)	0.21 - 0.37 mm
Ball Rebound (DIN 18032/2 min. 90%)	99%

Sliding Coefficient of Friction (DIN 18032/2 min. 0.4 – max. 0.6)	0.42 - 0.55
Area Deflection (DIN 18032/2 – max value 0%)	0%
Inflammability of Top Layer (DIN 51960)	Class I / Not flammable

Top Wear Layer Properties:

Tensile Strength (DIN 53504)	7.0 N/mm2
Elongation at Break (DIN 53504)	150%
Shore A Hardness	80 Shore A

- L. Top Coat (matte finish) – two-component polyurethane. Select from standard colors (GAMECOURT® Top Coat).
- M. Game Line Paint – two-component polyurethane. Select from standard colors (GAMECOURT® Line Paint).
- N. Optional Base (specify or delete) – Vinyl wall base; 4” high; select from standard colors.

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® DIN.
- B. Verify the area in which the GAMECOURT® DIN will be installed is dry and weather tight. Verify that permanent heat, light and ventilation is installed and operable.
- C. Verify all other work that could cause damage, dirt, and dust or interrupt the normal pace of GAMECOURT® DIN installation is completed or suspended.
- D. Verify there is a stable room temperature of at least 65° F.
- E. Verify there is no foreign material or objects on the subfloor and that the subfloor is clean and ready for installation.
- F. Review and document the results of the moisture test to verify the vapor emission levels/moisture content of the concrete slab is not greater than 4 lbs. of vapor per 1000 square feet per 24 hours per ASTM F1869.
- G. Verify the concrete subfloor surface PH level is within the 7 - 8.5 range.
- H. Verify that the tolerance of the concrete slab is no more than 1/8” in any 10’ radius. High spots shall be ground level, and low spots filled in with an approved leveling compound
- I. Report any above discrepancies to general contractor/construction manager prior to commencement of installation.

3.2 *PREPARATION*

- A. 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.
- B. If necessary or specified, sand the entire surface of the concrete slab.
- C. Lightly tack the floor to remove all dirt and dust.
- D. Adhere to all MSDS requirements for materials employed in the work. Protect all persons from exposure to hazardous materials.
- E. Comply with requirements of athletic flooring material supplier’s requirements.

3.3 *INSTALLATION*

- A. Primer: if specified or necessary, roller-apply GAMECOURT® Primer to concrete or asphalt (please specify substrate) at the approximate rate of .005 kgs/SF.
- B. Base Mat:
 - 1. Unroll base mat and allow it to relax. Do not cut base mat to final dimensions until laid into adhesive. Thoroughly mix the two-component polyurethane GAMECOURT® Adhesive and apply directly to the concrete sub floor with a notched trowel per manufacturer’s instructions at the approximate rate of .084 kgs/SF. Install base mat into freshly applied adhesive. Do not allow compression fit at any seams. Roll base mat with an 80-pound linoleum roller and repeat the rolling process on the entire mat 45 minutes after installation.

2. Allow adhesive to cure a minimum of 8 hours before proceeding to scratch coat.
- C. Scratch Coat:
 1. Thoroughly mix the two-component GAMECOURT® Scratch Coat.
 2. Apply 3 layers of GAMECOURT® scratch coat to base mat with a flat trowel achieving a total rate of .098 kgs/SF. Allow each layer to cure a minimum of 8 hours before proceeding to the next application. Inspect for and fill all gaps applying additional material as needed. Sand down any ridges in cured scratch coat with 80 grit sandpaper. Install a fiber webbing scrim between the 1st and 2nd applications of scratch coat.
- D. Wear Coat:
 1. Thoroughly mix two-component GAMECOURT® Wear Coat.
 2. Apply mixed material using a notched squeegee or trowel at the approximate rate of .335 kgs/SF. Two (2) pours of 1.5 MM are to be applied to achieve a total thickness of 3.0 MM. The wear coat must be applied wet-into-wet to create a seamless surface.
 3. Allow wear coat to cure 12 hours before proceeding to the next application. Manually sand any imperfections in the finished surface with 150 grit sandpaper.
- E. Finish Top Coat (Matte Finish):
 1. Thoroughly mix two-component polyurethane GAMECOURT® Top Coat.
 2. Roller application: apply mixed top coat material with a high-solvent paint roller at the approximate rate of .018 kgs/SF. Spray application: apply mixed top coat material with an airless sprayer at the approximate rate of .026 kgs/SF.
 3. Allow top coat to cure a minimum of 18 hours before applying game lines.
- F. Game Lines:
 1. Use only high quality masking tape approved by manufacturer.
 2. Manufacturer recommends using standard color line paints because they have been thoroughly tested in the lab and in field applications to meet performance standards. Standard Line Paint colors include white, black, blue, red, yellow, orange, and green.
 3. Thoroughly mix two-component GAMECOURT® Line Paint. Line Paint to be applied at the approximate rate of 160 lineal feet per 2" line per ½ kg unit. Double coat Yellow and White lines.
 4. Provide game lines as indicated on drawings.
- G. Wall Base (optional): Install vinyl base anchored to walls with base cement.

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.

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.