**DIVISION 9 Finishes - SECTION 096566 - Synthetic Athletic Flooring**

# PART 1.0- GENERAL

1.1 DESCRIPTION

A. Scope

 1. The complete installation of synthetic sports surfacing system including striping.

B. Related work specified under other sections.

 1. CONCRETE MOISTURE VAPOR EMISSION AND pH TESTING - SECTION 01450

a. Moisture vapor emission and pH of concrete shall be tested. Concrete substrates must comply with limitations of moisture and alkalinity, with Calcium Chloride MVE test per ASTM F 1869 not to exceed 5 lbs. per thousand and/or in-situ Relative Humidity (RH) per ASTM F2170 not to exceed 80%, and substrate pH readings between 7.0–9.0.

2. CONCRETE SUBFLOORS - SECTION 03\_ \_ \_

a. The general contractor shall furnish install the concrete subfloors and if so required depress the slab equal to system thickness.

b. The slab shall be steel troweled and finished smooth to a tolerance of 1/8" in any 10' radius. **Polished and/or burnished slabs will not be accepted and will require diamond grinding or shot blasting prior to installation commencing**.

c. Floor flatness and floor levelness (FF and FL) numbers are not recognized.

d. High spots shall be ground level and low spots filled with approved leveling compound.

e. **No concrete curing, hardening or sealing agents shall be applied or mixed with the concrete subfloor**.

3. MEMBRANE WATERPROOFING - SECTION 07\_ \_ \_

a. Concrete subfloors on or below grade shall be installed over a suitable moisture retardant membrane. Water vapor membrane shall comply with ASTM E 1745-97 (2004).

4. GAME STANDARD INSERTS - SECTION 11\_ \_ \_

1.2 REFERENCES

1. The following standards have been utilized:
	* 1. ASTM D 412
		2. ASTM D 624
		3. ASTM E 1745-97
		4. ASTM F 2170
		5. ASTM F 1869
		6. ASTM F 2772
		7. ASTM E 648
		8. ASTM F 386
		9. EN ISO 2813
		10. EN ISO 5470
		11. EN 1516
		12. EN 1517
		13. EN 1569
		14. DIN 53455
		15. CA 01350

1.3 SUBMITTALS

A. ICON Sports® MultiSport™ specifications.

B. One sample of the specified system, if requested by Architect.

C. ICON Sports MultiSport Maintenance Guide.

D. Current installation instructions as published by ICON Sports.

1.4 QUALITY ASSURANCE

A. Manufacturer/Supplier Qualifications:

i. A minimum of twenty (20) years active experience with indoor resilient athletic flooring

ii. Have extensive experience in manufacturing and the installation of the specified athletic flooring system.

iii. Provide detailed training and qualification for all Installation Technicians that shall be involved with installing ICON systems.

**iv. All system components are to be strictly manufactured in the U.S.A. confirmation of such shall be confirmed in writing.**

v. Formulator shall be ISO-9001 certified for quality control and will provide copy of Certification document upon request.

B. INSTALLER (Flooring Contractor):

i. The complete installation of the flooring system, as described in these specifications,

ii. Installation of ICON Systems shall be done by factory trained technicians (Flooring Contractor),and shall be performed in strict accordance with current ICON Sports MultiSport installation instructions.

iii. Installer (Flooring Contractor) shall have experience on at least five projects of similar size, type and complexity as this project.

iv. Installer (Flooring Contractor) shall be liable for all matters related to the installation for a period of one year after the floor has been accepted.

1.5 ENVIRONMENT AND INDOOR AIR QUALITY (IAQ)

1. LEED™ Documentation:

i. MR Credits: For products having recycled content, indicate percentage by weight of post-consumer and pre-consumer recycled content.

1. IEQ Credits: For adhesives and flooring, including a statement of VOC content.
2. Indoor Air Quality Certification (IAQ):

i. Flooring products must be FloorScore® Certified.

ii. FloorScore® certification proves compliance with the volatile organic compound emissions criteria of the California Section 01350 standard.

1. FloorScore® certification certifies compliance 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. FloorScore® documentation shall include certificate number.

1.6 DELIVERY, STORAGE AND HANDLING

* 1. Materials must be delivered in ICON Sports original, unopened and undamaged packaging with identification labels intact.
	2. Store material in a secured, enclosed, Climate Controlled area protected from exposure to harmful weather conditions and on a clean, dry, flat surface. Do not stack pallets.
	3. Storage conditions shall be 60°F to 85°F with 80% or less ambient RH.

1.7 SITE CONDITIONS

A. Installation of synthetic materials shall not commence until **all** other finishes and overhead mechanical trades have completed their work in the areas to receive the MultiSport System including but not limited to painting and basketball goals.

B. Area to receive the Athletic Flooring shall be completely closed to all trades and foot traffic until completion of work and acceptance by owner.

C. Permanent windows, lockable doors, heat, lights, and ventilation must be installed and operating during and after installation.

D. Subfloors shall be clean, dry, and free from dirt, dust, oil, grease, paint, old adhesive residue, or any other foreign materials.

E. Moderate room temperature of 60° F to 80° F with 80% or less ambient Relative Humidity shall be maintained for one week prior to, during and 72 hours after installation.

1. Flooring installation shall not begin until moisture vapor emissions, pH level, and levelness of concrete subfloors have been met. The installation area shall be closed to all traffic and activity for a period to be set by the flooring contractor.

G. Adhere to all SDS requirements.

H. After the synthetic floors are completed, the area will be closed to all trades and foot traffic for 7 days to allow curing.

1.8 WARRANTY

1. ICON Sports provides a limited warranty of one (1) year on the materials it has supplied. (A copy of the full warranty, with its Terms and Exclusions, is available from the authorized ICON Sports Dealer. This warranty is expressly limited to the flooring materials (goods) supplied by ICON Sports. This warranty does not cover floor damage caused (wholly or in part) by fire, winds, floods, moisture, or other unfavorable atmospheric conditions or chemical action, nor does it apply to damage caused by ordinary wear, misuse, abuse, negligent or intentional misconduct, aging, faulty building construction, concrete slab separation, faulty or unsuitable subsurface or site preparation, settlement of the building walls, not maintaining floor per ICON Sports printed maintenance instructions, moisture migration from any source, including but not limited to from above, from perimeter, and/or from below floor, or unprofessional installation of ICON Sports flooring systems.
2. ICON Sports shall not be liable for incidental or consequential losses, damages or expenses directly or indirectly arising from the sale, handling or use of the materials (goods) or from any other cause relating thereto, and their liability hereunder in any case is expressly limited to the replacement of materials (goods) not complying with this agreement or, at their election, to the repayment of, or crediting buyer with, an amount equal to the purchase price of such materials (goods), whether such claims are for breach of warranty or negligence

# PART 2.0 - PRODUCTS

2.1 MATERIALS (ICON MultiSport™)

1. All flooring components shall be non-hazardous, and shall not contain ANY lead, mercury, heavy metals, PCB, or formaldehyde, and shall be supplied by Icon Sport Surfaces.
2. Physical Properties
	* 1. Surface Hardness 81 Shore A +/-
		2. System Type Point Elastic ASTM F 2772
		3. Gloss 3% to 7% EN ISO 2813
		4. Nominal Thickness 6mm, 8mm, 9mm, 11mm ASTM F 386
		5. Shock absorption

4+2 12 % ASTM F 2772

6+2 16 % ASTM F 2772

 7+2 20 % ASTM F 2772

 9+2 28 % ASTM F 2772

* + 1. Vertical Deformation Pass-All Thicknesses ASTM F 2772
		2. Coefficient of Friction 86 ASTM F 2772
		3. Ball rebound 98% ASTM F 2772
		4. Abrasion Resistance ,26 grams EN ISO 5470-1
		5. Impact resistance Pass- All Thicknesses EN 1517
		6. Resistance to Indentation Pass- All Thicknesses EN 1516
		7. Resistance to rolling loads 1500 N EN 1569
		8. Flammability Class 1 ASTM E 648
		9. Indoor Air Quality 3rd Party Certified CA 01350
		10. **Tensile strength 2267 psi**  DIN 53455
		11. **Elongation at break 700%** DIN 53455
		12. **Tear strength 410 pli** DIN 53455
1. MultiSport™ Basemat Adhesive – Two-component polyurethane. NO SOLVENT CONTENT.
2. MultiSport™ Basemat (Shock-pad) – Specially formulated prefabricated resilient basemat Composed of recycled rubber and foam granules bound with MDI polyurethane and a consistent thickness.
	1. Basemat standard thickness – 7mm
		1. Optional thicknesses

4mm, 6mm, 9mm

E. MultiSport™ Seal Coat – Two-component, thixotropic polyurethane compound.

F. MultiSport™ Wear Coat – Two-component, pigmented, seamless self-leveling polyurethane.

1. Total thickness – 2 mm average throughout the floor.

G. MultiSport™ Topcoat (matte finish) – Three-component waterborne urethane.

1. Select from standard colors.

H. MultiSport™ Game Line Paint – Three-component water-based urethane.

1. Select from standard colors.

I. Optional Base ***(specify or delete)*** – Vinyl/Rubber wall base 4” high. Select from standard colors.

# PART 3.0 – EXECUTION

3.1 INSPECTION

1. Prior to inspection the area to receive MultiSport shall be free from all construction materials and the concrete slab shall be broom cleaned by the general contractor.
2. Concrete flatness and levelness: no deviations in excess of 1/8” when checked with a 10-foot straightedge. Report any discrepancies to the general contractor.
3. It shall be the responsibility of the General Contractor to grind high spots and fill low spots with an approved Portland Based Patching Compound to bring the slab within tolerance.
4. Do not start installation until moisture test results are within requirements

C. Installer (Flooring Contractor) shall document all working conditions and report any discrepancies to the General Contractor.

3.2 INSTALLATION

1. Prepare the concrete to receive the flooring material in accordance with the MultiPlay installation instructions.
2. MultiSport Basemat
3. Unroll basemat, fold, and adhere to substrate or unroll directly into spread adhesive. **Do not cut the base mat to final dimensions until it is laid into the adhesive.**
4. Thoroughly mix the two-component polyurethane adhesive and apply it directly to the concrete substrate with a V-notched 3/32” X 3/32” X 3/32” trowel.
5. Install the base mat into the freshly applied adhesive. **Do not allow a compression fit at any seam.** Seams shall touch but not be compressed.
6. Roll the base mat with a 100 lb segmented roller and repeat the rolling process approximately 45 minutes after adhering.
7. MultiSport Seal Coats
8. Thoroughly mix the two-component Seal Coat per ICON’s written instructions.
9. Apply Seal Coat to basemat and allow to dry before proceeding.
10. Apply second urethane seal coat and allow to dry.
11. Inspect surface for irregularities: sand ridges and fill holidays

D. MultiSport Wear Coat

1. Thoroughly mix the two-component Wear Coat per ICON’s instructions.
2. Apply the mixed wear coat material using a notched squeegee in one continuous layer.
3. Apply wearcoat wet-into-wet to create a seamless surface.
4. Allow Wear Coat to cure approximately 12 hours before proceeding
5. Sand flush and level any imperfections in the poured surface.

E. Topcoat

1. Thoroughly mix the three-component waterborne urethane Topcoat.

**i. Prior to applying topcoat turn off HVAC and restrict all air movement**

ii. Apply the mixed pigmented coating with multiple paint rollers at 1200 square feet per unit. Allow Topcoat to dry before applying game lines (typically overnight).

*a. Optional application - Apply the topcoat with an airless sprayer unit and pole gun at 225 to 250 square feet per gallon.*

F. Game Lines

1. Use only high-quality automotive masking tape approved by ICON.
2. Layout and tape game lines and mask logo’s as indicated on drawings.
3. 
4. Apply MultiSport Gameline paint and Immediately pull tape

G. Wall Base ***(optional)*** - Install rubber/vinyl base.

H. Remove all excess and waste materials from the work area. Dispose of empty containers in accordance with federal and local statutes.

**END OF SECTION 096566**