

# Sports Floor Specifications

## Ultimate Combination™

High Performance  
Resilient Floor System



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## **Action Ultimate Combination High Performance Resilient Floor System**

### **SYSTEM DESCRIPTION:**

Combination maple and urethane floor system featuring Actions' premium maple flooring in combination with Actions' high performance Herculon synthetic floor system consisting of granular rubber mat, two-component urethane, and pigmented two-component waterborne color coat. All supported by a plywood subfloor system featuring Action AirTech II Natural Rubber AirThrust pads.

### **PART 1 – GENERAL**

#### 1.01 DESCRIPTION

- A. The information herein details a low profile cushioned system comprised of two layers of plywood crossed, glued, and mechanically fastened together, with Actions' exclusive AirThrust Natural Rubber pad system, 25/32" (20mm) maple flooring, and Actions' high performance Herculon 7+2 urethane floor over the above subfloor system.
- B. The general contractor shall provide a level, steel troweled slab to a tolerance of + or - 1/8" (3mm) in a 10'0" (3m) radius and subject to the approval of the wood floor contractor. Moisture barriers must be adequate for conditions. The concrete slab is to be depressed 1-7/16" (36mm) and the thickness of the urethane (urethane + granular rubber mat) flooring specified.

#### 1.02 QUALITY ASSURANCE

- A. All system component parts must be supplied by Action Floor Systems, LLC.
- B. The flooring contractor must be approved by Action Floor Systems, LLC.
- C. Flooring materials must be allowed to acclimate to building conditions on the jobsite in a dry, well-ventilated area, not in contact with masonry, and shall be installed at moisture content.
- D. Flooring system shall be independently verified to meet or exceed the SCORES criteria for environmental design and athletic performance.  
Sustainable Construction Of Renewable Engineered Surfaces.

### 1.03 WORKING CONDITIONS

- A. The flooring system shall not be installed until all masonry, plastering, tile, marble and terrazzo work is completed, and overhead mechanical trades and painters have finished in floor area. The building must be reasonably dry; all openings must be closed in; permanent heating and air conditioning installed and operating.
- B. The concrete slab shall be dry, free of foreign materials, and turned over to the flooring contractor broom clean. Moderate room temperature of 65 F (18 C) degrees or more shall be maintained a week preceding and throughout the duration of the work. Humidity conditions within the building shall approximate humidity conditions, which will prevail when the building is occupied. Care should be taken to maintain humidity within the range of 35% to 50%.
- C. Environmental Limitations
  - 1. Comply with requirements of athletic flooring material suppliers.
  - 2. Adhere to all MSDS requirements for materials. Protect all persons from exposure to hazardous materials.
  - 3. LEED - Leadership in Energy and Environmental Design, Comply with EQ 4.1 and EQ 4.2 principals. Utilize high postindustrial recycled content resilient base mat.

### 1.04 Warranty

- A. Action Floor Systems, LLC. Warrants the material it ships to be free from defects in materials and workmanship for a period of one year and the flooring installer warrants the installation of the flooring to be free of defects in materials and workmanship for a period of one year. The exclusive remedy under this warranty shall be replacement of defective material supplied by Action Floor Systems, LLC, or correction of defective installation by the flooring installer. All implied warranties of merchantability or fitness for intended use are limited to the period of this warranty. This warranty excludes consequential damages.
- B. This warranty does not cover damage caused by fire winds, floods, chemicals or other abuse, or by failure of other contractors to adhere to specifications, or neglect of reasonable precaution to provide adequate ventilation during hot and humid weather. This warranty also excludes damage due to excessive dryness or excessive moisture from humidity, spillage, migration through the slab or wall or any other source. This warranty also excludes damage to floors due to ordinary wear and tear, faulty construction of the building, (other than the flooring installation), separation of the concrete slab underlying the floor, settlement of the walls, or use of water on the floor.
- C. During the warranty period, the floor cannot be coated – sealed - without the permission of the floor contractor.

## **PART 2 – PRODUCTS**

### 2.01 MATERIALS

- A. Subfloor
1. Vapor barrier shall be 6-mil polyethylene.
  2. Pads; Actions AirThrust AirTech II 7/16" (11mm) Natural Rubber  
Options: AirTech 5/8" (16mm), AirTech 3/4" (19mm).
  3. Panels shall be 15/32" x 4' x 8' (12mm x 1.2M x 2.4m) 4ply CD face  
exposure 1 rated plywood.
  4. Additional 3/8" (10mm) underlayment plywood at synthetic areas.
  5. Subfloor fasteners shall be 1" (25mm) 16-gauge coated staples.
  6. Construction adhesive between layers of plywood applied is a "Box-X"  
pattern.
  5. Wall base shall be 4" x 3" (102mm x 76mm) vented cove base with pre-  
molded corners (specify black or brown), as supplied by Action Floor  
Systems, LLC.

### **All Maple and Components shall be supplied by Action Floor Systems, LLC**

- A. Flooring
1. Flooring shall be hard maple standard strip flooring; 25/32" x 2-1/4"  
(20mm x 57mm) (Option; 25/32" x 1-1/2" (20mm x 38mm)).
  2. Grades available MFMA Grade marked and stamped; First, Second &  
Better, Third Grade, and Third & Better Grade.
  3. Option; Long Length Finger Jointed (FJ).
  4. Edge Grain (Second & Better Grade)
  5. FSC (Forest Stewardship Council) Certified Maple Flooring.

### **All polyurethane components shall be supplied by Action Floor Systems, LLC.**

- B. Two-Component Urethane Flooring 7 & 2 System (9mm)
1. HERCULAN BASE MAT ADHESIVE (UN 700), two-component  
polyurethane, shall bond rubber base mat to plywood. It shall be applied at  
a rate of approximately .2/lbs / cubic foot minimum.
  2. HERCULAN BASE MAT, Base mat shall be prefabricated rubber  
mat made of all recycled rubber granules bound with MDI polyurethane  
and a constant thickness. The base mat shall have a density of 45-lbs. /  
cubic foot minimum mat thickness shall be furnished per  
architectural specification requirements.

3. HERCULAN SCRATCH COAT (EG 120), two-component, thixotropic polyurethane compound applied at a rate of 0.18 lbs. / cubic foot.
4. HERCULAN TROWEL COAT (SX 400) two-component, pigmented, self-leveling polyurethane compound applied monolithically over the base mat to a 2mm thickness. Color to be manufacturer's standard color.
5. HERCULAN WEAR COAT (PU 150) two-component polyurethane applied at a rate of 0.03lbs. / square foot. Colors to be selected from manufacturer's standard color chart.
6. Game line paint shall be HERCULAN two-component polyurethane.

B. VOC Emission Requirements, grams per liter

|    |                              |    |                 |
|----|------------------------------|----|-----------------|
| 1. | Adhesive                     | 0  | Grams per Liter |
| 2. | Sealer                       | 10 | Grams per Liter |
| 3. | Polyurethane                 | 60 | Grams per Liter |
| 4. | Color Coating Urethane Paint | 75 | Grams per Liter |
| 5. | Line Paint                   | 75 | Grams per Liter |

**PART 3 – EXECUTION**

3.01 INSPECTION

- A. Inspect concrete slab for proper tolerance and dryness reporting any discrepancies in writing to the general contractor.
- B. All work to put the concrete slab in acceptable condition shall be the responsibility of the general contractor.

3.02 SUB-FLOOR INSTALLATION

- A. Cover concrete slab with poly lapping edges 6" (150mm) and sealing edges.
- B. AirTech pads shall be attached to the underside of the first layer of plywood 12" o.c. (300mm) 32 pads per 4' x 8' (1.2m x 2.4m) sheet.
- C. Place the first layer of plywood (with the pads attached) at a 45-degree angle to the long wall of the facility. Lay the second layer of plywood at the opposite 45-degree angle (90 degrees to the first layer). Apply construction adhesive in a box "x" pattern on the plywood, sheets must be nailed or stapled together with 1" fasteners starting from the center of the sheet working outward. At perimeter of sheet, fasten approximately 2" (50mm) from edge of sheets 4" (102mm) across and 6" o on centers (300mm). Allow 1/4" (6mm) between panels at sides and ends and a 2" (50mm) expansion void at walls and vertical obstructions. No joint in the second layer of plywood shall coincide with a joint in the first layer. Allow 1/4" (6mm) between panels at sides and edges, and a 2" (50mm) expansion void at walls and vertical obstructions on both sheets of plywood.

- D. At Areas where Herculan is to be installed lay 3/8" (10mm) plywood underlayment perpendicular to the long dimension of the room. Apply construction adhesive in a box "x" pattern to the bottom of the plywood underlayment. The underlayment sheets must be nailed or stapled to the subfloor with 1-1/4" (32mm) fasteners starting from the center of the sheet working outward. At perimeter of sheet, fasten approximately 2" (50mm) from edge of sheets 4" (102mm) across and 6" (300mm) on centers. Allow 1/4" (6mm) between panels at sides and ends and a 2" (50mm) expansion void at walls and vertical obstructions. No joint in the plywood underlayment shall coincide with a joint in the previous layers.

### 3.03 MAPLE INSTALLATION

- A. Machine nail strip flooring into second layer of plywood parallel to the long dimension of the area. Provide adequate expansion at regular intervals across the floor during installation as dictated by the average humidity conditions of the area according to the recommendations of the local Action Floor Systems, LLC flooring contractor. Provide 2" (50mm) expansion voids at perimeters and all vertical obstructions. Install vent cove base over perimeter voids and metal thresholds at doorways.

### 3.04 URETHANE INSTALLATION

- A. Mix the two-component polyurethane adhesive and apply directly to the concrete subfloor at the specified rate with the specified notched trowel. Immediately unroll pre-relaxed mat into freshly applied adhesive. Roll base mat with heavy flat roller.
- B. Thoroughly mix two-component scratch coat. Apply two coats of scratch coat to rubber base mat with a flat steel trowel. Allow each coat to cure before proceeding to the next application. After second coat has cured, inspect base mat for ridges and voids. Sand down ridges, and fill voids as needed.
- C. Thoroughly mix two-component trowel coat. Apply mixed material using recommended notched trowel, or notched squeegee to a thickness of 2mm. Materials must be applied continuously to create a seamless surface. Allow topcoat to cure before proceeding to next step. Repair any imperfections in the finished surface. Clean floor with a vacuum, broom, or dry dust mop. Tack clean prior to proceeding.

- D. Thoroughly mix two-component polyurethane wear coat. Apply wear coat material with a high solvent resistant paint roller at the specified rate. Allow wear coat to cure before applying game lines.
- E. Using the highest quality masking tape, tape the floor. Thoroughly mix the two-component game line paint, and paint between the tape. Remove all tape prior to the paint curing.

### 3.05 FLOOR SANDING

- A. Use coarse, medium and fine grade sandpaper.
- B. After sanding with drum sander, buff entire floor using 100 grit screenback or equal grit sandpaper, with a heavy-duty buffing machine.
- C. Vacuum or tack floor before first coat of finish.
- D. Floor shall present a smooth surface without drum stop marks, gouges, streaks or shiners.

### 3.06 FINISHING

- A. Inspect entire area of floor to ensure that the surface is acceptable for finishing, completely free from sanding dust and perfectly clean.
- B. Apply seal and finish per manufacturer's instructions.
- C. Screenback or steel wool, vacuum and tack between each coat after it is dry.
- D. Apply game lines accurately after the seal coat, after buffing and vacuuming. Lay out in accordance with drawings. For game lines, use current rules of association having jurisdiction. Lines shall be straight with sharp edges in colors selected by the architect. Game line paint shall be compatible with finish.

### 3.07 BASE INSTALLATION

- A. Affix rubber base to wall with recommended adhesive or screws. Miter all corners carefully. Use premolded outside corners. Install aluminum thresholds as required, anchoring firmly in concrete floor beyond limits of flooring.

### 3.08 CLEAN UP

- A. Clean up all unused materials and debris and remove from premises.

### 3.09 MAINTENANCE

- A. Upon completion of floor installation, the owners, attendants or individuals in charge and responsible for the upkeep of the building are to see that the care and maintenance instructions are followed. Failure to do so may void warranty.

IT IS THE POLICY OF ACTION FLOOR SYSTEMS, LLC. TO CONTINUOUSLY UPDATE AND IMPROVE OUR PRODUCT LINES. THEREFORE, WE RESERVE THE RIGHT TO CHANGE, MODIFY OR DISCONTINUE SYSTEMS, SPECIFICATIONS AND ACCESSORIES OF ALL PRODUCTS AT ANY TIME WITHOUT ANY NOTICE OR OBLIGATION TO ANY PURCHASERS.

**Contact Action Floor Systems, LLC at 1-88-746-3512 if you have any questions, require samples, or clarification of information.**

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