



# *Action Herculan ME 4+2<sup>TM</sup>*

## Synthetic Floor System

### SPORTS FLOOR SPECIFICATIONS

**PART 1 - GENERAL****1.01 DESCRIPTION**

A mixed elastic multipurpose floor system comprised of a rubber base mat laid in adhesive and a two-component polyurethane surface that is field applied in a seamless monolithic application supported by a plywood subfloor system featuring Action AirTech II Natural Rubber AirThrust pads. Total system profile height 1-5/8" (41mm).

**1.02 QUALITY ASSURANCE**

- A. All system component parts must be supplied by Action Floor Systems, LLC of Mercer WI.
- B. The flooring contractor must be approved by Action Floor Systems, LLC of Mercer WI.
- C. 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.
- D. FloorScore – Indoor Air Quality Certified to SCS-EC10.3-2014 v3.0  
Conforms to the CDPH/EHLB Standard Method v1.1-2010 (California Section 01350), effective January 1, 2012, for the school classroom and private office parameters when modeled as Flooring. Registration # SCS-FS-04375.
- E. Accredited "Ecospecifier" product for achievement of Green Building Rating Tool Credits.

**1.03 WORKING CONDITIONS**

- A. Synthetic materials specified herein 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 synthetic floor area. The building must be reasonably dry; all openings must be closed in; permanent heating and air conditioning installed and working before, during, and after installation.
- B. The general contractor / owner shall provide an area where the stored materials can be maintained at a minimum of 65 degrees and under 80% relative humidity. Ideal installation and storage conditions are the same as those that will prevail when the building is occupied.
- C. Others will provide a concrete sub floor to the flooring contractor finished, steel troweled, and level to 1/8" in any ten-foot radius. High spots shall be ground level and low spots filled with an approved leveling compound. No concrete curing or hardening agents shall be applied to the concrete sub floor. The concrete shall be clean, flat, dry, and free from dirt, dust, oil, grease, paint, alkali, and concrete curing agents, hardening and parting compounds, old adhesive residue, or other foreign materials.
- D. Flooring installation shall not begin until all sub-contract work that would cause damage, dirt, dust, or interruption of normal installation. The installation area shall be closed to all traffic and activity for a period to be set by the flooring contractor.
- E. **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.
- F. Protect the work during and after the installation process, until acceptance by the owner or agents.

#### 1.04 WARRANTY

- A. **MATERIALS WARRANTY**: Action Floor Systems, LLC, warrants that the flooring materials it shipped for installation at (the “Project”) will be free from defects for a period of 1 year. The sole and exclusive remedy under this materials warranty shall be the replacement of defective materials by Action Floor Systems, LLC, and repair of any damages to flooring resulting directly from defective materials.
- B. **INSTALLATION WARRANTY**: The flooring installer “Installer” warrants that the installation of the flooring at the Project will be free from defects in workmanship and in any materials originating with flooring installer (such as, for example, subflooring) for the Warranties Period. The sole and exclusive remedy under this installation warranty shall be repair of damages to floor resulting directly from defective installation, or defective materials originating with Installer, and replacement of any materials resulting from defective installation.
- C. 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 precautions to provide adequate ventilation during hot, humid weather. This warranty also excludes damage to floors due to ordinary wear and tear, faulty construction of the building (other than the flooring contractor), separation of the concrete slab underlying the floor, settlement of the walls, or use of unapproved cleaners or sealers on the floor.

### PART 2 - PRODUCTS

#### 2.01 MATERIALS

- A. All polyurethane components shall be supplied by Action Floor Systems, LLC.
- B. HERCULAN BASE MAT ADHESIVE (UN 700), two-component polyurethane, shall bond rubber base mat to concrete, asphalt, or wood. It shall be applied at a rate of approximately .2/lbs / cubic foot minimum.
- C. HERCULAN BASE MAT
  1. 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.
  2. Standard base mat thickness shall be 10mm.
- D. HERCULAN SCRATCH COAT (EG 120), two-component, thixotropic polyurethane compound applied at a rate of 0.18 lbs. / cubic foot.
- E. HERCULAN TROWEL COAT (SX 500) two-component, pigmented, self-leveling polyurethane compound applied monolithically over the base mat to a 2mm thickness. Color to be manufacturer’s standard color.

- F. HERCULAN WEAR COAT (PU 150 W) two-component polyurethane applied at a rate of 0.03lbs. / square foot. Colors to be selected from manufacturer's standard color chart.
- G. Game line paint shall be HERCULAN two-component polyurethane.
- H. Optional base (specify or delete). Vinyl wall base; 4" high, select from standard colors.
- I. Tested per EN and DIN. No single point best results are acceptable.
- J. Technical Information Technical Information

Force Reduction (EN 14808)	58%
Ball Rebound (EN 12235, DIN 18032)	>90%
Vertical Deformation (EN 14904)	2.3mm
Surface Hardness (DIN 53505, ASTM D-2240)	Shore A=80 +/-
Impact Resistance (EN 1517-1999, DIN 18032)	11Nm
Tensile Strength (EN ISO 527-1, DIN 53455)	8 MPa
Elongation at Break (EN ISO 527-1, DIN 53455)	150-160%
Tear Strength (DIN 53515)	25 N/mm
Resistance to Rolling Load (1,500N) EN 1517	<0.5mm
Resistance to Indentation EN 1516	<0.5mm
Friction EN 13036-4	80-110
Flammability (DIN 51960)	Class 1 (not flammable)

K. VOC Emission Requirements, grams per liter

1. Adhesive	0	Grams per Liter
2. Sealer	0	Grams per Liter
3. Polyurethane	0	Grams per Liter
4. Color Coating Urethane Paint	28	Grams per Liter
5. Line Paint	28	Grams per Liter

L. Floor Score: Measured Concentration of Total Volatile Organic Compounds (TVOC): Less than/equal to 0.5 mg/m3 (in compliance with CDPH/EHLB Standard Method v1.1-2010).

L. Subfloor

- 1. Vapor barrier shall be 6-mil polyethylene.
- 2. Pads; Actions AirThrust AirTech II 7/16" (11mm) Natural Rubber pads.
- 3. Panels shall be 15/32" x 4' x 8' (12mm x 1.2M x 2.4m) HPS, exposure 1, rated sheathing, minimum APA span rating of 32/16.
- 4. Subfloor fasteners shall be 1" (25mm) 16-gauge coated staples.
- 5. Construction adhesive between layers of plywood applied is a "Box-X" pattern.
- 6. 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.

## PART 3 - EXECUTION

### 3.01 INSPECTION

- A. Inspect concrete slab of proper tolerance and dryness, reporting in writing any discrepancies to the general contractor.
- B. All work required to put the concrete slab in acceptable condition shall be the responsibility of the general contractor.
- C. The slab shall be broom cleaned by the general contractor.

### 3.02 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 sheathing (with the pads attached) at a 45-degree angle to the long wall of the facility. Lay the second layer of sheathing 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 sheathing shall coincide with a joint in the first layer.
- D. Surface shall be clean and free of sealers, dirt, oil, paint, and any material that, in the opinion of the flooring installer, will adversely affect the HERCULAN material bonding to the surface or the overall installation (refer to 1.03 Working Conditions).
- E. Mix the two-component polyurethane adhesive and apply directly to the concrete sub floor at the specified rate with the specified notched trowel.
- F. Immediately unroll pre-relaxed mat into freshly applied adhesive.
- G. Roll base mat with heavy flat roller.
- H. 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 sown ridges, and fill voids as needed.
- I. 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.
- J. Thoroughly mix two-component polyurethane wear coat. Apply wear coat material with a high solvent resistant paint roller at the specified rate, or by airless spray application. Allow wear coat to cure before applying game lines.
- K. 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.
- L. If wall base is specified, install vinyl base to walls by using the proper cement.

### 3.03 CLEAN UP

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

### 3.04 AINTENANCE

- A. New floor initial maintenance.
  - 1. IMPORTANT Allow new floor or newly recoated floor to cure at least 96 hours.
  - 2. Sweep floor thoroughly. Do not use sweeping compounds.
  - 3. Mix Action Floor Systems, LLC approved cleaner with clean water to achieve desired water-to-cleaner ratio.
  - 4. Using a new mop, damp mop the entire floor with cleaner/water mix.
  - 5. Allow solution to dry on floor prior to use.

- B. Upon completion of floor installation, the owners, attendants or individuals in charge and responsible for the upkeep of the building are to see that all care maintenance are followed in accordance with Action Floor Systems, LLC guidelines. Failure to follow care and maintenance guidelines may void warranty.

IT IS THE POLICY OF ACTION FLOOR SYSTEMS, LLC. TO CONTINUALLY 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.

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