Action PowerChannel™

Anchored Resilient Floor System

SPORTS FLOOR SPECIFICATIONS

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PART 1 – GENERAL

1.01 DESCRIPTION

A. Related Sections: Cast-in-Place Concrete
1. The general contractor shall provide a level slab, steel troweled to a tolerance of 1/8" (3mm) in a 10'-0" (3m) radius and subject to the approval of the wood floor contractor. High spots shall be ground down and low spots shall be filled with an approved leveling compound by the general contractor to the tolerance specified above.
2. MFMA does not acknowledge the use of FF/FL numbers to measure levelness/flatness tolerances in gymnasium concrete slabs.
3. Concrete shall not use river gravel or pea gravel and have an average of 3500 psi. compressive strength after 28 days. Concrete must be cured for 60 days before installation can begin.
4. The concrete slab shall be depressed: 2-7/8" (73mm) for 25/32" (20mm) flooring.

B. Related Sections: Membrane Waterproofing
1. Concrete slabs on or below grade shall be adequately waterproofed beneath the slab and at the perimeter walls and on earth side of below grade walls by general contractor using suitable type membrane.

C. Related Sections: Thresholds

D. Related Sections: Game Standard Inserts

1.02 REFERENCES

A. MFMA – Maple Flooring Manufactures Association
B. MFMA PUR – MFMA Performance Uniformity Rating
C. DIN 18032-2 - Performance Standard
D. ASTM F2772 - Athletic Performance of Indoor Sport Systems
E. EN 14904 – European Committee of Standardization for Indoor Sports Surfaces
F. FIBA – International Basketball Federation
G. FSC – Forest Stewardship Council
H. FloorScore – Certified product by CDPH 01350

1.03 QUALITY ASSURANCE

A. Manufacturer Qualifications
1. Basis of design shall be **Action PowerChannel** as provided by Action Floor Systems, LLC. All system component parts must be supplied by Action Floor Systems, LLC.
2. Manufacturer shall be a MFMA Mill Member in good standing, an established firm experienced in the field, and have been in business a minimum of ten (10) years; Action Floor Systems, LLC or an approved equal.
3. Floor system manufacturer shall be solvent with no bankruptcy proceedings the previous seven (7) years.
4. Carbon Evaluation must be inclusive and based on all corporate facilities; offices and mills.
5. Floor system manufacturer and flooring shall be independently verified by the guidelines of the ISO 14064-1:2006 World Resource Institutes Greenhouse Gas Protocol, Scope 1, 2 and 3.
6. Floor system manufacturer and flooring shall be independently verified by the guidelines of the ISO 14040:2006 and ISO 14044:2006 Life Cycle Assessment (LCA), confirming a negative carbon footprint.
7. Floor system manufacturer and flooring shall be registered in the Collaborative for High Performance Schools (CHPS) Product Database.
8. 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.

9. Floor system manufacturer must provide a Life Cycle Assessment and an Environmental Product Declaration (EPD) in accordance with the Product Category Rule Version 2.2014.
10. Floor system manufacturer must be FloorScore Certified in accordance with CDPH 01350.

B. Floor Contractor/Installer requirements
   1. The flooring contractor must be approved by Action Floor Systems, LLC.

C. Floor System Performance Requirements.
   1. Flooring system shall be independently tested to meet or exceed the athletic performance requirements of:
      a. EN 14904 (2006)
   2. Independent performance testing laboratory shall have Scientific Body Membership in the International Association of Sports Surface Sciences (ISSS).

1.04 SUBMITTALS

A. Manufacturers product data: Submit **PowerChannel** specification sheets.
B. Samples: Submit one (1) sample of **PowerChannel**, if requested by architect.
C. Maintenance literature: Submit one (1) copy of manufactures maintenance instructions.

1.05 WORKING CONDITIONS

A. The wood flooring shall not be installed until all masonry, plastering, tile, marble and terrazzo work is completed, and overhead mechanical trades and painters have finished in wood 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 subfloor shall be determined dry by industry standard testing procedures, free of foreign materials and turned over to the Flooring Contractor broom clean. Moderate room temperature of 65 degrees (18 C) or more shall be maintained a week preceding and throughout the duration of the work. Humidity conditions within the building shall approximate the humidity conditions that will prevail when the building is occupied.
C. Permanent heat, light and ventilation shall be installed and operating during and after installation, maintaining a range of temperature and humidity compatible with the expected low and high moisture content of the flooring. The wood moisture content range is determined by the flooring contactor based on the facility's mechanical controls and geographical location.
D. Flooring must be stored in a dry, well-ventilated area, not in contact with masonry, to acclimate to building conditions and shall be installed at moisture content compatible with the normally expected environmental range of temperature and relative humidity achieved while the facility is occupied.
E. Industry standards recommend maintaining indoor relative humidity between 35 percent and 50 percent, and air temperatures between 55 degrees and 75 degrees year-round. By limiting wide swings in atmospheric conditions inside the facility, the expansion and contraction of the flooring system will be limited as the flooring is manufactured at a moisture content most compatible with this range. A 15 percent fluctuation in indoor relative humidity will not adversely affect the maple. Excessive shrinkage and/or expansion may occur with indoor relative humidity variations that exceed 15 percent. The geographical region and HVAC determine the typical range of temperature and humidity for each facility. In buildings where air conditioning is not available, the use of circulating or venting fans will help facilitate excessive shrinkage or expansion.
F. General Contractor shall lock floor area after floor is finished to allow proper cure time. If general contractor or owner requires use of gym after proper cure time, they shall protect the floor by covering with non-marring craft paper or red rosin paper with taped joints until acceptance by owner of complete gymnasium floor.

1.06 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 without the permission of the floor contractor.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Flooring

1. Flooring shall be Northern Hard Maple standard strip flooring, 25/32" x 2-1/4" (20mm x 57mm) or 1-1/2" (38mm), TGEM, MFMA grade marked & stamped as manufactured by Action Floor Systems, LLC.
2. Grades available are: Select Clear Grade (MFMA 1st), Standard Grade (MFMA 2nd&Btr), Natural Grade (MFMA 3rd) and Character Grade (MFMA 3rd&Btr).
3. Long Length Strip Flooring by Action Floor Systems, LLC (optional).
4. FSC Certified lumber (optional).
5. Expansion Ridge Technology (ERT) 1/64” milled expansion spacer (optional).

B. Subfloor

1. Vapor barrier shall be 6-mil polyethylene.
2. Sleepers shall be pre-assembled with AirTech 7/16"(11mm) natural rubber pads and loaded into the 3-1/4” x 8’ (82mm x 4.2m) PowerChannels as supplied by Action.
3. Channels shall be continuous galvanized steel.
4. Channel retainers shall be galvanized steel.
5. Channel anchoring pins shall be 1-1/4"(32mm) long hardened steel.
6. Subfloor surface panel shall be one layer of 23/32” (optional 15/32”) x 4' x 8’ (19mm x 1.2m x 2.4m) exposure 1, rated sheathing, minimum APA span rating of 48/24. Premium HPS sheathing as supplied by Action Floor Systems, LLC. or plywood as approved.

C. Fasteners

1. Subfloor fasteners shall be 1-1/2" (38mm) coated staples.
2. Flooring fasteners shall be 2" (50mm) cleats, or 15-gauge coated staples.

D. Wall Base

1. Wall base shall be 3" x 4" (76mm x 102mm) vented cove base with pre-molded corners (specify black or brown), as supplied by Action Floor Systems, LLC.

E. Protective Floor Cover (optional)

1. Action AirRide cover system with patented air blower system. System includes Phthalate-free, seamless 10’-0” wide, 20.5-ounce vinyl covers and A-frame rack.

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.

C. Slab shall be broom cleaned by the general contractor.

3.02 INSTALLATION

A. Cover concrete slab with polyethylene lapping edges 6” (150mm) and seal with adhesive or 2” (50mm) duct tape.

B. Place the Action PowerChannel sleepers end-to-end in a brick pattern at right angles to the intended direction of the finished flooring, end joints staggered a minimum of 24” (600mm). The sleepers shall be spaced 16" (400mm) on-center. PowerChannel shall be attached to concrete with steel anchoring pins, 4 per sleeper when shims are used, 3 when the slab meets specification tolerances. Allow 2" (50mm) voids at perimeter and vertical obstructions.

C. Place the sheathing in a brick pattern over sleepers with the long dimension of the sheet parallel to the direction of the PowerChannels, 1/4" (6mm) spacing on all edges and breaking joints 4' (1.2m). No sheathing joint shall fall on a sleeper joint. Attach with 1-1/2" (38mm) fasteners minimum of 12" (300mm) on-centers on each sleeper. Allow 2" (50mm) expansion void at perimeter and all vertical obstructions.

D. Machine nail strip flooring through subfloor at each sleeper crossing. End joints must be properly driven up. 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. Allow 2" (50mm) expansion voids at perimeter and all vertical obstructions.

3.03 FLOOR SANDING

A. Use coarse, medium, and fine grade sandpaper.

B. After sanding, buff entire floor using 100-grit screen 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.

3.04 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. Buff and vacuum or tack between each coat after it dries.

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.

3.05 BASE INSTALLATION

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

3.06 CLEAN UP

A. Clean up all unused materials and debris and remove from premises, properly dispose of all waste materials.

3.07 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 of the MFMA are followed. Failure to do so may void warranty.

NOTICE:
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.
Rev 6/26