

SECTION 09642-Wood Gymnasium Flooring

PART 1 – GENERAL

1.1. DESCRIPTION

A. Related work specified under other sections.

1. CONCRETE SUBFLOORS – SECTION 03____

- a. Slab depression is:
 - 3-1/8" (80mm) for 25/32" (20mm) flooring
 - 3-3/8" (86mm) for 33/32" (26mm) flooring
- b. The general contractor shall furnish and install the concrete subfloor depressing the slab sufficiently to accommodate the floor system. The slab shall be steel troweled smooth to a tolerance of 1/8" (3mm) in any 10' (3m) radius by the general contractor. High spots shall be ground level, and low spots filled in with approved leveling compound by the general contractor to the full approval of the flooring contractor.
- c. Floor Flatness and Floor Levelness (FF and FL) numbers are not recognized.
- d. Compressive Strength: Concrete shall be a minimum of 3,000 psi (21 MPa) and a maximum of 4000 psi (28MPa) compressive strength after 28 days. Concrete shall be free of washed river gravel, pea gravel, flint or hardener additives. No lightweight concrete.
- e. The concrete substrate shall be deemed fully cured by industry standards. Field test moisture content of concrete using Relative Humidity (RH) testing. Relative humidity levels for non-glue down systems need to be at 85% or lower and the relative humidity for glue down systems should be at 75% or lower. A RH reading above 85% means that not only can the floor **not** be installed but the materials i.e. plywood, sleepers, strip flooring cannot be brought to the job site. One of the three following tests can be used as **pre-tests only** and should not be used to determine if the concrete slab has reached acceptable levels for installation. Polyethylene Film Test, Phenolphthalein test or the Calcium Chloride test. These tests should be taken in several locations and an average taken to determine accuracy, in addition to clearly identifying any and all problem areas. A moisture content reading higher than 5% means the concrete is not ready for installation.

2. MEMBRANE WATERPROOFING-SECTION 07____

- a. Concrete subfloors 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.
- b. Sand-Poly-Sand slab construction is not an acceptable construction.

3. THRESHOLDS – SECTION 08____

4. SLEEVES AND STANDARD INSERTS – SECTION 11____

1.2. REFERENCES

- A. **DIN** – Performance Standard 18032 Part 2
- B. **EN** – Performance Standard 14904 World Standard
- C. **MFMA PUR** - Performance Uniformity Requirements

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- D. FSC** – Forest Stewardship Council™
- E. FIBA** - International Basketball Association
- F. LEED** – Leadership in Energy and Environmental Design
- G. MFMA** – Maple Flooring Manufacturers Association

1.3. QUALITY ASSURANCE

A. Manufacturer

1. Manufacturer of resilient flooring shall be a firm specializing in manufacturing products specified in this section.
2. Basis of design shall be “AacerCush I Plus Anchored” sports floor system as provided by **Aacer Flooring. (877) 582-1181, www.Aacerflooring.com.**
3. Materials other than those listed must be approved 10 days prior by written addendum. Materials from non-approved manufacturers will not be accepted.

B. Installer

1. The installation of the floor system described in these specifications shall be completed by a firm familiar with the requirements of the system specified and fully experienced in procedures required for installing athletic flooring manufactured by Aacer Flooring.
2. Installer shall be liable for all matters related to installation for a period of one year after the floor has been substantially installed and completed.
3. Installer must have Aacer installation accreditation.
 - a. Optional: MFMA accreditation.(Specify or Delete)

C. Performance Testing

1. Flooring system shall have been independently tested to the International Standards: DIN 18032, Part 2, EN 14904 or MFMA PUR.
2. FIBA International Standards
3. Independent DIN testing laboratory must be recognized by the MFMA and test to all the required standards of the DIN testing methodologies.
4. Independent DIN testing laboratory shall have Scientific Body Membership in the International Association of Sports Surface Sciences (ISSS).

1.4. SUBMITTALS

- A. Specification** - Submit Aacer Flooring specification sheets and shop drawings as required.
- B. Sample** - Submit required number of samples of the specified system as requested by the owner/architect.
- C. Maintenance Guidelines** - Upon completion of floor, send the Aacer Floor Maintenance Guide to the owner. This guide will explain the proper HVAC and building maintenance requirements as well as floor cleaning and servicing guidelines to assure proper floor performance and longevity.

1.5. WORKING CONDITIONS

- A.** The wood flooring and its components specified herein shall not be delivered or installed until all wet trades and overhead work is completed. This includes all masonry, painting, plaster, tile, marble, and terrazzo, as well as all overhead mechanical trades. The building shall be fully enclosed and weather tight and all permanent windows and doorways shall be installed.

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- B.** The concrete substrate shall be determined fully cured by industry standards and materials shall not be stored at the installation location unless the in-slab relative humidity level for the concrete slab is 85% or lower before installation. The concrete slab shall be free of all foreign materials and broom cleaned by the General Contractor when turned over to the floor installer.
- C.** Permanent HVAC units for the building shall have been operating a minimum of one week prior to the floor installation start up.
- D.** During and after installation, the H.V.A.C. system should be complete, operational, and conditioning air to be within specifications **(55/75 degrees Fahrenheit (13-27 degrees Celsius) with relative humidity between 35/50 percent)** or to conditions expected following installation and during occupancy.
- E.** Flooring must be stored on site in a dry, well-ventilated area while acclimating to site conditions. Moisture content of wood shall be consistent with the ambient conditions of the building as it will be maintained when occupied.

1.6. WARRANTY AND DISCLAIMER

- A.** Aacer Flooring of Peshtigo, WI hereby warrants the materials it has supplied to be free from manufacturing defects for a period of one year. This warranty is in lieu of and excludes all other warranties expressed or implied including any implied warranties of merchant ability or fitness for a particular purpose. Guarantee shall not cover damage caused in whole or in part by casualty, ordinary wear and tear, abuse, use for which material is not designed, faulty construction of the building, settlement of the building walls, failure of the other contractors to adhere to specifications, separation of the concrete slab and excessive dryness or excessive moisture from humidity, spillage, migration through the slab or wall, or any other source.
- B.** During the warranty period, the floor shall not be recoated without the approval of the flooring contractor.
- C.** The jobsite documentation forms by the flooring contractor shall become a part of the warranty and both the owner and flooring contractor shall retain record of said forms as a permanent reference for any abrogation.
- D.** Flooring contractor warrants the install of the floor systems to be free from defects in materials and workmanship for a period of one year.
- E.** Notification of claim shall be made within 30 days of discovery.
- F.** In the event of breach of any warranty, the liability of Aacer Flooring shall be limited to repairing or replacing **AacerCush I Plus Anchored** material and system components supplied by Aacer Flooring and proven to be defective in manufacture, and shall not include any other damages, either direct or consequential.
- G.** It is the policy of Aacer Flooring to continuously improve its line of products. Therefore, Aacer Flooring reserves the right to change, modify, or discontinue systems, specifications and accessories of all products at any time without notice or obligation to purchaser.

PART 2 PRODUCTS

2.1. MATERIALS

- A. Vapor Barrier** – 6 mil polyethylene

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B. Resilient Pads-

1. AacerCush 3/8" (10mm) pad, extruded, black 60 durometer
2. Optional Pads (Specify or Delete)
 - a. Aacer 3/4" (19mm), EPDM TriPower Pads:
 - i. Blue 50 durometer
 - ii. Black 60 durometer
 - iii. Red 70 durometer
 - b. Aacer Performance pad 3/4" (19mm), extruded, black 60 durometer
 - c. Aacer Eco pad 7/16" (11mm), recycled rubber, black 60 durometer
 - d. Aacer TriPower pad 1/2" (12mm), EPDM, black 50 durometer
 - e. AacerCush 5/8" (16mm) pad
 - f. 1/4" (6mm) Performance Foam
 - g. 1/2" (12mm) Performance Foam

C. Subfloor –

1. AacerCush Sleepers that have been factory drilled and assembled with pads.
2. 15/32" (12mm) APA rated plywood or manufacturer's approved sheathing, Exposure 1.
 - a. Optional (Specify or Delete)
 - i. 3/4" (19mm) APA rated plywood or manufacturer's approved sheathing, Exposure 1.
3. FSC® Certified (Specify or Delete) Subfloor must be certified by the Forest Stewardship Council™

D. Flooring –

1. 25/32" (20mm) x 2-1/4" (57mm) 2nd and Better grade northern Hard Maple flooring, TGEM, MFMA grade marked and stamped as manufactured by Aacer Flooring.
2. Optional Sizes and Grades (Specify or Delete)
 - a. 25/32" (20mm) x 1-1/2" (38mm) ; 33/32" (26mm) x 2-1/4" (57mm), 33/32" x 1-1/2"
 - b. 1st grade, 3rd grade, 3rd and better grade
3. FSC® Certified (Specify or Delete) Maple must be certified by the Forest Stewardship Council™
4. Expansion Bead (Specify or Delete) Flooring shall include 1/64" (0.4mm) Expansion Bead.

E. Fasteners –

1. Flooring – 1-3/4" (44mm) or 2" (51mm) barbed cleats or staples.
2. Subfloor – 1" (25mm) coated staples or equivalent.
3. Sleeper Anchors – 2-1/2" (64mm) modified steel drive pins when using 3/8" AacerCush pads. The pin must have a 1" (25mm) minimum penetration into concrete and longer pins may be required for other pad thicknesses.

F. Finish Materials – Any seal and finish approved by the MFMA

G. Game Lines – Compatible with finish and as specified by layout design

H. Wall Base - Heavy duty, molded, vented cove base with pre-molded outside corners.

PART 3 - EXECUTION

3.1. PRE-INSTALLATION INSPECTION

- A. Floor installer shall verify slab tolerance of concrete and report any corrections to general contractor.
- B. Room shall be broom cleaned and free of any foreign debris.
- C. Floor installer shall document site and working conditions prior to and during installation. This documentation shall become a part of any warranty and may or may not affect fulfillment of any warranty.

3.2. INSTALLATION

A. SUBFLOOR –

- 1. Cover entire slab with 6 mil polyethylene, sealing and lapping joints a minimum of 6”.
- 2. Install Aacer sleepers across the short dimension of the room. Properly anchor the sleepers with the Concrete anchors, 3 per sleeper. Lay end-to-end 12” OC. Break butt joints ¼” and end joints 24” in adjoining rows.
- 3. Install plywood panels parallel to or at 45 degree angle to sleepers. Lay in a brick pattern, spacing all edges 1/4" and staggering joints 4’.
- 4. Install solid blocking at doorways, under bleachers in the stacked position, and below portable goals.
- 5. Provide 1-1/2” (44mm) to 2” (51mm) expansion voids at perimeter and all vertical obstructions.

B. MAPLE FLOORING

- 1. Install Aacer maple flooring parallel with the long dimension of room. Flooring shall be power nailed or stapled approximately 12” O.C. with all end joints properly driven tight.
- 2. Expansion joints may be required between flooring strips intermittently throughout the floor. Requirements will be determined by site and geographical conditions.
- 3. Provide 1-1/2” (44mm) to 2” (51mm) expansion void at all walls and permanent obstructions.

3.3. FINISHING

A. FLOOR SANDING

- 1. Machine sand entire floor with multiple grit papers to a smooth and uniform surface, free from edger marks and drum drops.
- 2. Remove all sanding dust and lint from entire surface by vacuum and/or tack.

B. FINISHING AND GAME LINES

- 1. Inspect entire floor to be sure surface is ready to accept seal and finish. Floor should be free from dust and debris.
- 2. Apply (2) coats of approved seal and (2) coats of approved finish per manufacturer’s label instructions.
- 3. Floor shall be buffed, cleaned and tacked between coats.
- 4. Apply game lines and logos as indicated by drawings between seal and finish coats. Paint shall be compatible with finish.

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C. BASE INSTALLATION

1. Install vent cove base with cove base adhesive and/or mechanical attachment to wall. Use pre-molded outside corners and mitered inside corners.

3.4. CLEANUP

A. CLEANUP

1. Remove excess debris and waste material from the work area.
2. General Contractor shall lock floor area after floor is finished to allow proper curing time. If general contractor or owner requires use of gym before proper curing time, they shall protect the floor by covering with non-marring Kraft paper.

END OF SECTION 09642

AacerCush I Plus Anchored Spec sheet

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Revision level A

**Construction options are available to modify this system to the project design and budget.
Contact your Regional Sales Manager (1-877-582-1181) or the local Aacer Flooring Authorized Dealer
for more information.**