



# ALL-WOOD FR SYSTEM

The Horner All-Wood FR System is a true all wood sports flooring system, specially designed to provide a level of impact force reduction that exceeds the stringent DIN 18032, Part 2 performance requirements. With its superb shock absorption characteristics, this system not only reduces leg fatigue, providing a safe system, it exhibits outstanding playing characteristics.

The unique criss-cross subfloor design minimizes the systems reaction to changes in moisture conditions. This is in conjunction with a cushion that buffers the effect of minor slab irregularities provides the industry with one of the most uniform sports floors available.

Horner has traditionally directed its research and development programs toward improving and fine tuning sports flooring systems that have been time proven. The Horner All-Wood FR System exemplifies this commitment and is one of the safest and most functional systems on the market today. The FR-I version also incorporates specially designed restraints to increase floor stability.

## PART 1-GENERAL

### 1.1 DESCRIPTION

- A. This document specifies a wood strip gymnasium floor system consisting, in general, of wood subflooring, maple flooring, vapor barrier, resilient underlayment, sanding, sealers, finishes, game lines, and wall base
- B. The general contractor shall provide a concrete slab, smooth troweled and level to a tolerance of 1/8" (3mm) in 10'0" (3m) radius, subject to the approval of the wood flooring contractor. LABOR AND MATERIALS NECESSARY TO PUT THE CONCRETE SLAB IN ACCEPTABLE CONDITION (HIGH AREAS GROUND DOWN AND LOW AREAS FILLED WITH APPROVED LEVELING COMPOUNDS) SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
  1. Concrete slab depression shall be:
    - a. 2 3/8" (60mm) for 25/32" (20mm) thick flooring.
    - b. 2 5/8" (67mm) for 33/32" (26mm) thick flooring.
  2. Concrete subfloors shall have an adequate vapor retarder beneath and at the perimeter of the slab.

### 1.2 QUALITY ASSURANCE

- A. Supplier Qualifications
  1. Supplier of wood flooring shall be Horner Flooring Company.
- B. Installer Qualifications
  1. Flooring contractor shall be a firm experienced in installing maple flooring.
- C. Flooring shall be stored on the premises a minimum of seven (7) days before installation commences, or as required for acclimation. Final determination as to acclimation will be made by the flooring contractor.
- D. All flooring bundles should be broken and loosely piled to acclimate the flooring to moisture conditions in the building.

### 1.3 WORKING CONDITIONS

- A. The floor system shall not be delivered or installed until all masonry, plastering, tile work and all overhead mechanical trades are complete and building is enclosed and weathertight.
- B. Permanent heat, light and ventilation shall be installed and operating during and after installation, maintaining a temperature range of 55° F (13°C) to 75° F (24°C) and relative humidity range of 35% to 50%.

### 1.4 WARRANTY

- A. Horner Flooring Company hereby warrants the ALL-WOOD FR SYSTEM flooring materials to be free from manufacturing defects for a period of one year from the date of substantial completion of the floor

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. Flooring shall be Horner 25/32" (20mm) or 33/32" (26mm) thick x 2 1/4" (57mm) or 1 1/2" (38mm) wide First, Second and Better, Third and Better or Third Grade, continuous tongue and groove and end- matched MFMA Northern Hard Maple, grade marked and stamped as manufactured by Horner Flooring Company.  
OPTION: Horner Long Life™ flooring if so specified.
- B. Vapor retarder shall be 6 mil polyethylene.
- C. Subfloor shall be Horner 1" x 6" (25mm x 152mm) (nominal) Second and Better Gym Grade Hemlock, No 2 Spruce, Fir, or Pine S2S to 1" x 6" (25mm x 152mm) (nominal) x RL.
- D. Horner Foam: 1/4" x 3" (6mm x 76mm) multi-cellular, closed cell plastic foam Density: 2.0. PCF .
- E. Underlayment tape shall be 2" (51mm) duct tape.
- F. Fasteners
  1. Subfloor fasteners shall be 15 gauge (1.8mm) 1 1/4" (32mm) staples.
  2. Flooring fasteners shall be 15 gauge (1.8mm) 2" (51mm) staples.

OPTION: If Horner Long Life™ is specified, use 2" (51mm) 15 gauge (1.8mm) staples only.

3. 1" x 6" (25mm x 152mm) (nominal) subfloor shall be retained with Horner restraints, if so specified
- G. Wall Base shall be 3" x 4" (76mm x 102mm) Vent Cove heavy duty molded, vented vinyl cove base with pre-molded outside corners supplied by Horner Flooring Company. Specify color: black or brown.
- H. Finish materials shall be as specified by architect selected from the latest listing provided by the MFMA and shall be applied according to manufacturer's instructions.

## **PART 3-EXECUTION**

### **3.1 INSPECTION**

- A. Inspect concrete slab for proper tolerance and dryness and report any discrepancies to the general contractor for correction.
- B. The concrete slab shall be cleaned of all debris so flooring contractor will have adequate access to work surface.
- C. All work required to put the concrete slab in an acceptable condition shall be the responsibility of the general contractor.

### **3.2 INSTALLATION**

- A. Cover concrete with 6 mil polyethylene, sealing, and lapping joints a minimum of 4" (102mm) with 2" (51mm) duct tape.
- B. Install Horner closed-cell polyethylene foam strips, 12" (305mm) o.c., and perpendicular to length direction of finish flooring.
- C. Install bottom layer of 1" x 6" (25mm x 152mm) (nominal) subfloor 12" (305mm) o.c. at 45° to length direction of finish flooring. Provide 2" (51mm) expansion voids at perimeter and all vertical obstructions.
- D. Install top layer of 1" x 6" (25mm x 152mm) (nominal) subfloor 8" (203mm) o.c. at 45° to length direction of finish flooring and perpendicular to first subfloor layer. This layer shall be secured to the first layer with 1 ¼" (32mm) staples at each intersection. Provide 2" (51mm) expansion voids at perimeter and all vertical obstructions.
- E. Install finish flooring parallel with main playing court by power nailing or stapling approximately 12" (305mm) o.c.
  1. Space Joints between flooring strips to allow for intermediate expansion, as designated by the installer and in accordance with humidity conditions in the region.
  2. Provide 2" (51mm) expansion voids at the perimeter and at all vertical obstructions.

### **3.3 FLOOR SANDING**

- A. Machine sand with coarse, medium and fine paper to a smooth, even and uniform surface.
- B. Remove sanding dust from entire surface by tack or vacuum.
- C. Refer to MFMA sanding and finishing guide for procedures.

### **3.4 FINISHING**

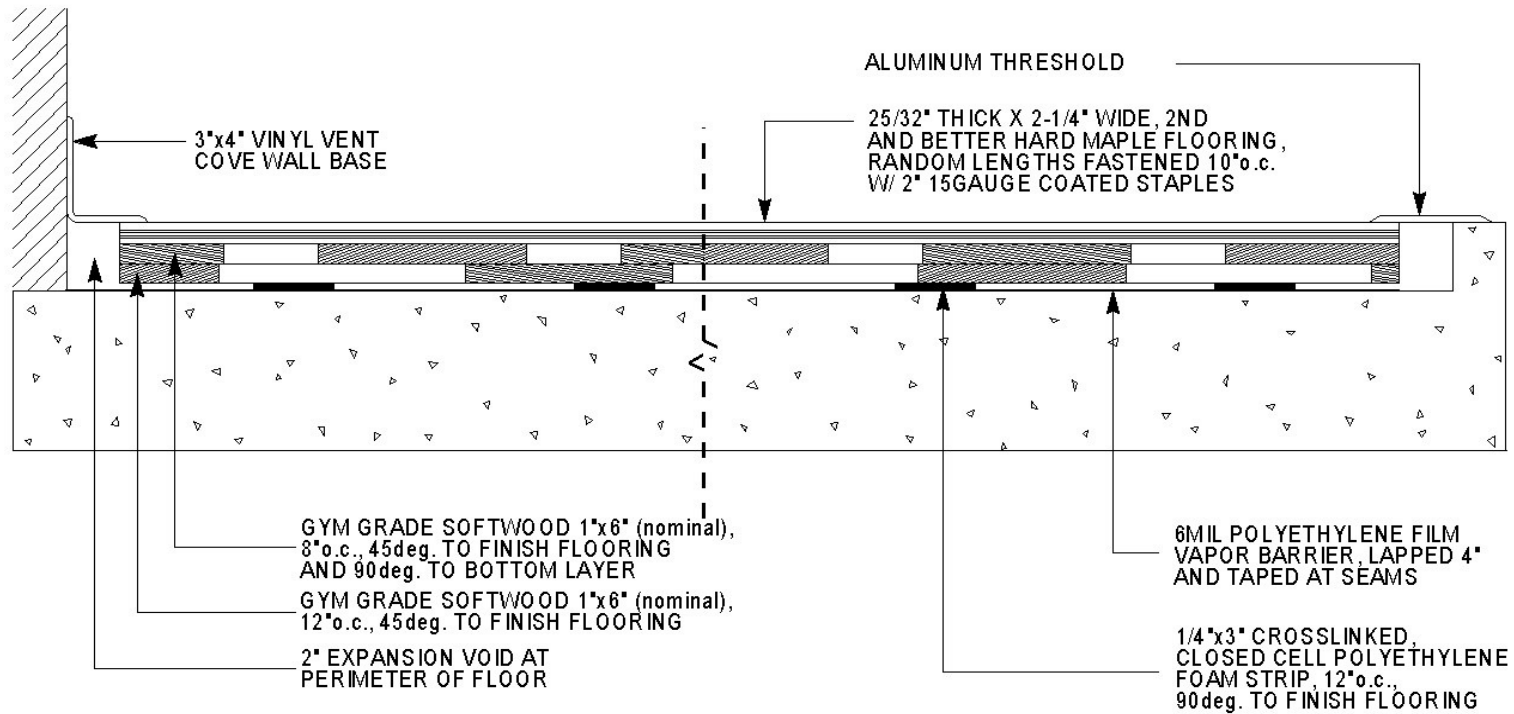
- A. Inspect entire area of floor to insure that surface is acceptable for finishing, completely free from sanding dust and perfectly clean.
- B. Apply approved urethane seal and finish per manufacturer's instructions.
  1. Apply two (2) coats of seal and two (2) coats of finish.
- C. Buff and clean floor between each coat.
- D. Paint game lines as shown on drawings, between seal and first coat of finish.
- E. Game line paint shall be compatible with finish.

### **3.5 BASE INSTALLATION**

- A. Install Vent Cove base, mitering inside corners, and anchoring to walls with base cement or screws and anchors.

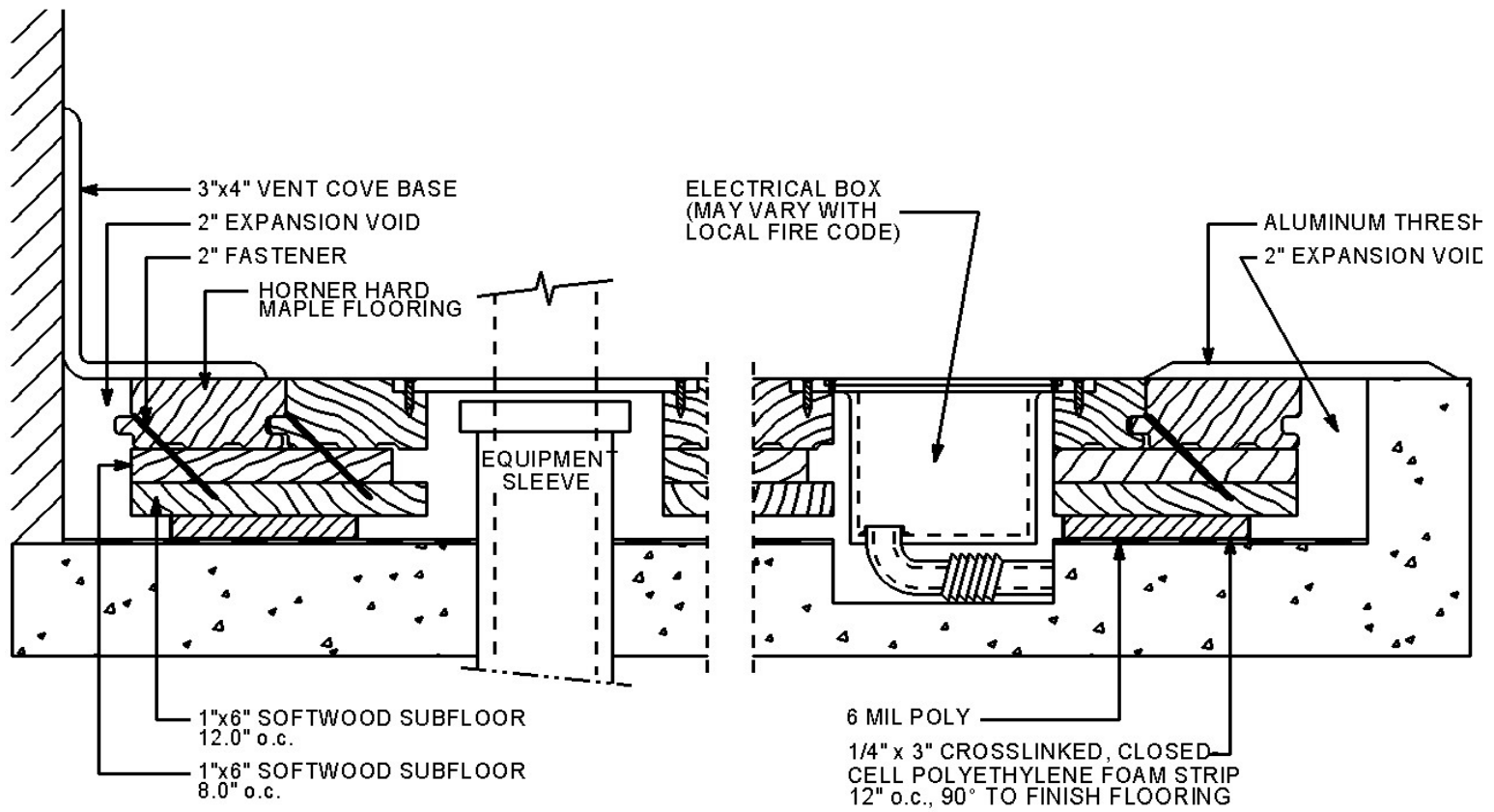
### **3.6 MAINTENANCE**

- A. Upon completion of floor installation, the owner, attendants or individuals in charge and responsible for the upkeep of the building are to see that the care and maintenance instructions of the Horner or MFMA Care Card are followed.



\* SUBFLOOR LAYERS ARE NAILED TOGETHER AT INTERSECTIONS W/ 1-1/4" STAPLES, AND ARE SPACED 1/4" AT BUTTED ENDS

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