



ALL-WOOD ENERGY RESPONSE SYSTEM (ERS)

The All-Wood ERS and ERS-R1 are DIN-compliant, state-of-the art resilient sport flooring systems that maximize the comfort, safety and performance characteristics today's athletes demand -- from beginners to the most advanced professionals.

The All-Wood ERS System exceeds the recommendations of the Otto Graf Institute's DIN 18032, Part II Safety and Performance Standard. ERS floors exhibit a higher Impact Force Reduction Factor (shock absorption) than required by the standard and meet the minimum deformation (deflection) requirements at point-of-impact. The ERS System offers a high level of returned energy to the athlete -- combined with the system's shock absorption properties, this helps reduce injuries and fatigue.

The ERS-R1 System includes extra restraint in the form of metal clips, which help stabilize the entire floor system. Both systems are manufactured from materials with proven longevity and wide use in the construction industry, which keeps costs low and helps make the ERS systems the most economical of their type available today.

PART 1-GENERAL

1.1 DESCRIPTION

- A. This document specifies a wood strip gymnasium floor system consisting, in general, of maple flooring and system-specific components, 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. The concrete slab depression shall be 1 7/8" (48mm).
 2. Concrete subfloor 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 systems.
- 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 flooring system shall not be delivered or installed until all masonry, plastering, tile work and all overhead mechanical trades are completed 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 a relative humidity range of 35% to 50%.

1.4 WARRANTY

- A. Horner Flooring Company hereby warrants the ALL-WOOD ENERGY RESPONSE 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. Subfloor shall be Horner ERS Board, as manufactured for Horner Flooring Company.
- C. Horner ERS Cushion shall be 1/4" x 3" (6mm x 76mm) crosslinked, closed cell polyethylene foam strip, as manufactured for Horner Flooring Company.
- D. Vapor retarder shall be 6 mil polyethylene.
- E. Fasteners

1. Subfloor fasteners shall be 1" (25mm) nails or staples.
 2. ERS-R1 clips shall be 18 gauge (1.3mm) galvanized steel.
 3. Clip anchors shall be 5/16" (8mm) head diameter, .145" (4mm) shank diameter, 1¼" (32mm) long steel drivepins.
 4. Flooring fasteners shall be 2" (51mm) barbed nails or 15 gauge (1.8mm) coated staples.
OPTION: If Horner Long Life™ is specified, use 2" (51mm) 15 gauge (1.8mm) staples only.
- F. Wall base shall be 3" x 4" (76mm x 102mm) Vent Cove heavy duty vinyl base with premolded outside corners, supplied by Horner Flooring Company. Specify color: black or brown.
- G. Finish materials shall be as specified, 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).
- B. Install Horner ERS cushion strips across the short dimension of the area to receive flooring. Place the strips 12" (305mm) o.c.
- C. Subfloor
1. ERS System -- Install first layer (bottom) of Horner ERS Board 9" (229mm) o.c. at a 45° angle to the long dimension of the room. The strip ends shall be butted, leaving 1/8" (3mm) space between the butted ends. Allow a 2" (51mm) expansion void at floor perimeter and all vertical obstructions.
 2. ERS-R1 System -- Install as above. Attach the R1 clips to the concrete with 5/16" (8mm) head diameter, .145" (4mm) shank diameter steel drivepins. The pins shall be driven into the concrete a minimum of 1" (25mm) with the aid of an air-driven or low velocity powder-activated tool. Attach the clips 36" (914mm) o.c. on both sides of the ERS Board and stagger placement so that clips do not fall directly across from each other.
 3. Install second layer of Horner ERS Board 5" (127mm) o.c. at a 90° angle to the bottom layer. Staple or nail layers together at each intersection. Strip ends shall be butted, leaving a 1/8" (3mm) space between the butted ends. Adjust so that butted ends fall over a bottom-layer strip. Allow a 2" (51mm) expansion void at the perimeter and all vertical obstructions.
- D. Install finish flooring parallel with main playing court by power nailing or stapling approximately 10" (254mm) 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

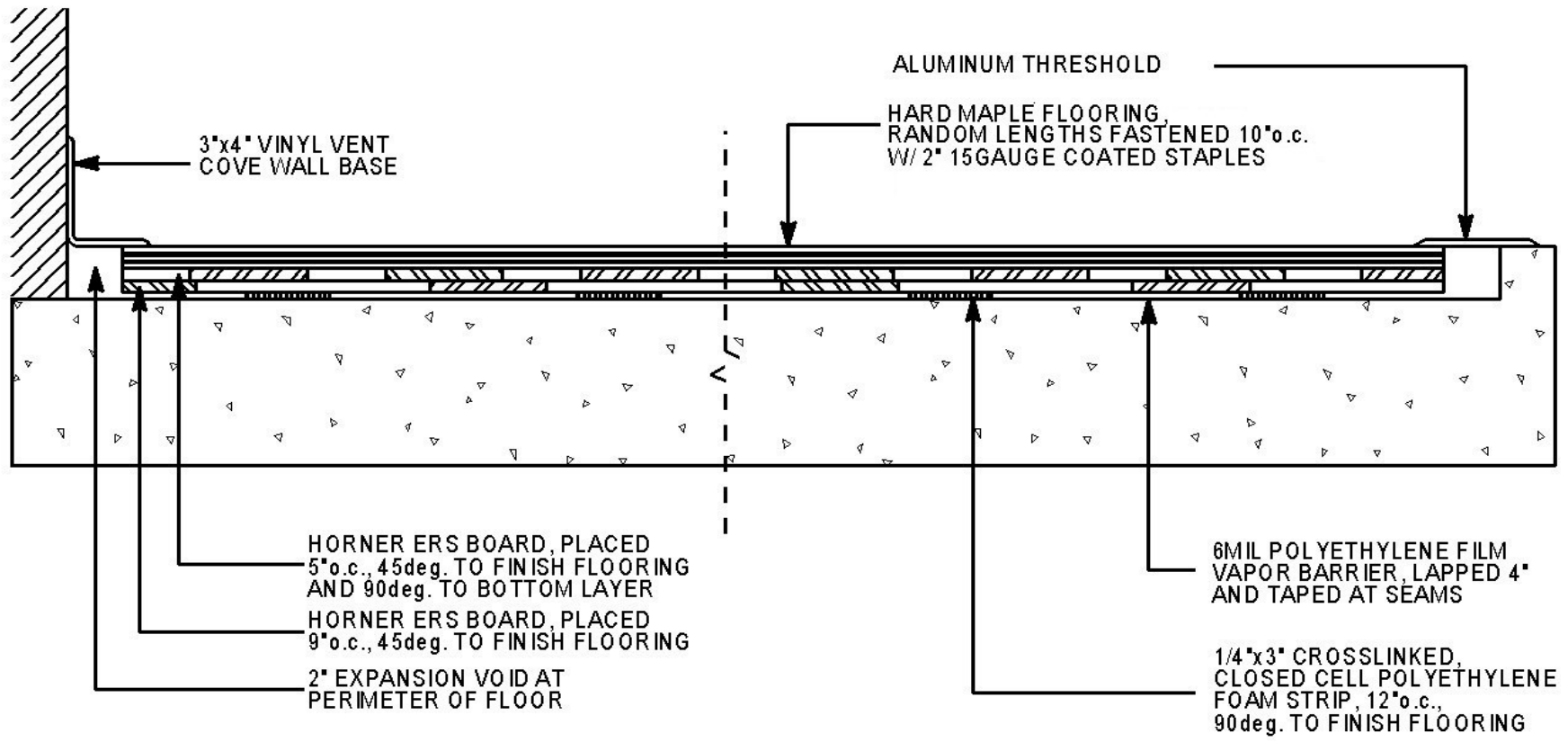
- A. Inspect entire area of floor to insure that surface is acceptable for finishing, completely free from sanding dust and perfectly clean.
- B. Apply seal and finish per manufacturer's instructions.
- C. Buff and clean floor between each coat.
- D. Paint game lines as shown on drawings, between seal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

3.5 BASE INSTALLATION

- A. Install maple or vinyl Vent Cove base along the perimeter walls. Mitre all inside corners and maple outside corners; use premolded outside corners with vinyl base. Attach vinyl cove base to walls.

3.6 MAINTENANCE

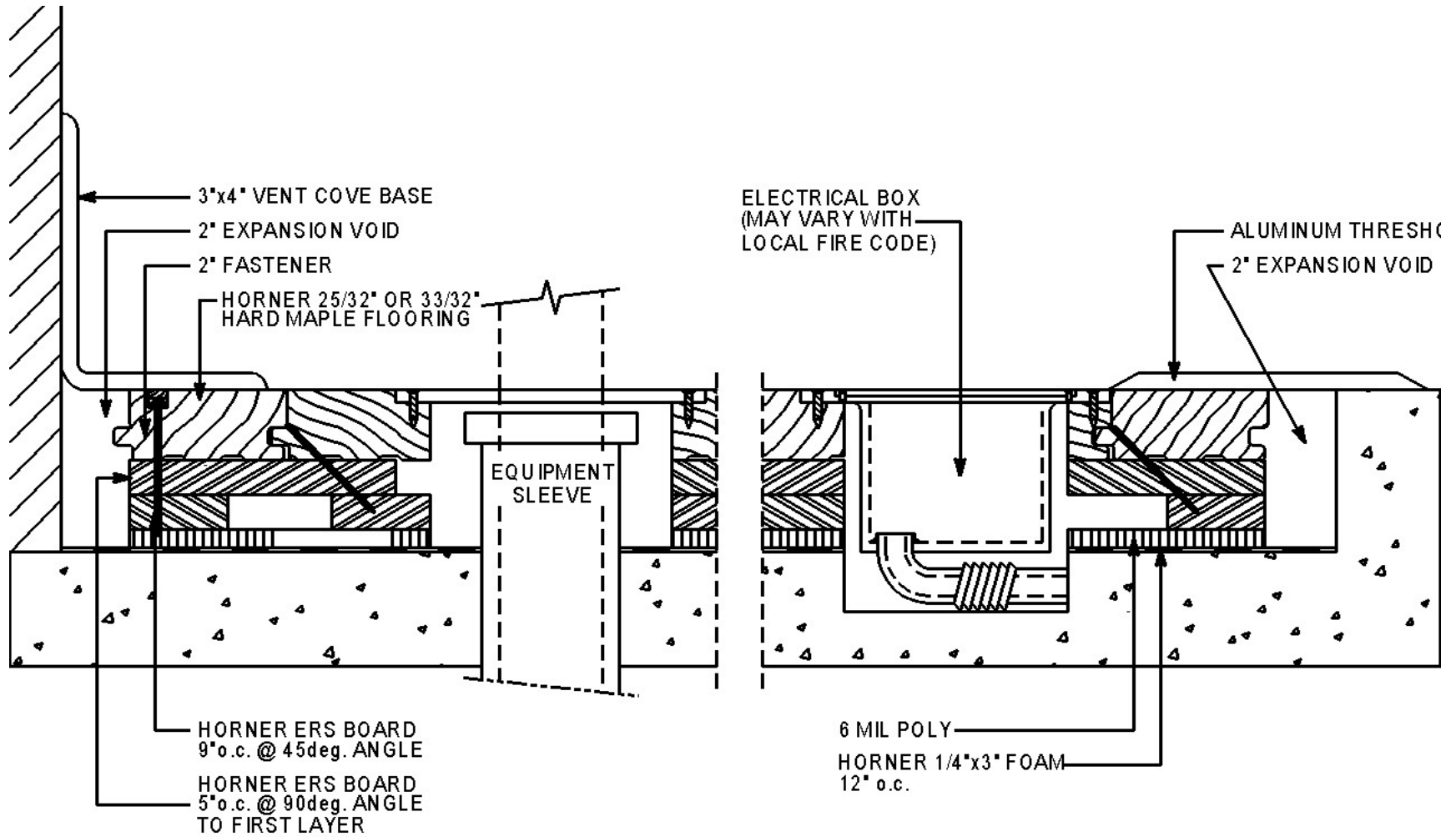
- A. Upon completion of floor, the owner, attendants or individuals in charge and responsible for the upkeep of the building are to see that the care and maintenance instructions of the Horner or MFMA Care Card are followed.



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

Slab Depression
 Concrete depression shall be 1 7/8" (48mm)

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