

Job Site Conditions

Before start of project, the steps outlined below must be taken to protect you the flooring contractor and to ensure a quality project.

- 1) The wood flooring and all of its components shall not be delivered or installed until all overhead and wet trades are complete. This includes but is not limited to electrical, masonry, painting, plaster, tile, marble, and terrazzo.
- 2) The building shall be fully enclosed and weather tight. Permanent windows and doors shall be installed; the H.V.A.C. system should be complete, operational, and conditioning air to be within specifications (55/75 degrees with humidity between 35/ 50 percent) or to conditions expected following installation and during occupancy.
- 3) Flooring contractor shall verify slab tolerance (+/- 1/8" in 10' radius) and report to owner, general contractor, or architect in writing, any and all discrepancies. All high spots will need to be ground and low spots filled with approved leveling compound by the concrete contractor to meet the approval of flooring contractor.
- 4) Flooring contractor shall document working conditions on site both prior to and during installation. This document shall become part of any warranty, and may affect fulfillment of said warranty. To include but not limited to ambient temperature, humidity, and moisture content of strip flooring. These readings should be taken a minimum of twice a day at several locations each time and more often when site conditions warrant.
- 5) 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.
- 6) Flooring must be stored on site in a dry, well-ventilated area not in direct contact with the concrete while acclimating to site conditions. Moisture content of wood shall be consistent with the ambient conditions of the building, as they will be maintained when occupied.

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- 7) Concrete slab depressions shall be consistent with total height of sub floor and strip wood floor combined. Any and all discrepancies will be addressed prior to material being delivered.

NOTE: THIS MANUAL PROVIDES A FUNDAMENTAL REFERENCE GUIDE FOR THE INSTALLATION OF THE AACER DOUBLE PLYWOOD FLOOR SYSTEM. WHILE AACER SPORTS FLOORING BELIEVES THAT FOLLOWING THESE INSTRUCTIONS WILL RESULT IN THE BEST INSTALLATION, IT MAKES NO WARRANTY OR REPRESENTATION OF ANY NATURE, TYPE, OR DESCRIPTION EXPRESSED, IMPLIED, OR PROVIDED BY LAW RESPECTING THE INSTALLATION PROCESS OR THE RESULTS ACHIEVED. ALTHOUGH VALUABLE INFORMATION IS PROVIDED IN THIS GUIDE, IT IS NOT INTENDED AS SUBSTITUTE FOR ON SITE TRAINING BY QUALIFIED AND EXPERIENCED PERSONNEL. ALL SPECIFICATIONS MUST BE FOLLOWED.

AacerFlex™ Installation Tools Required

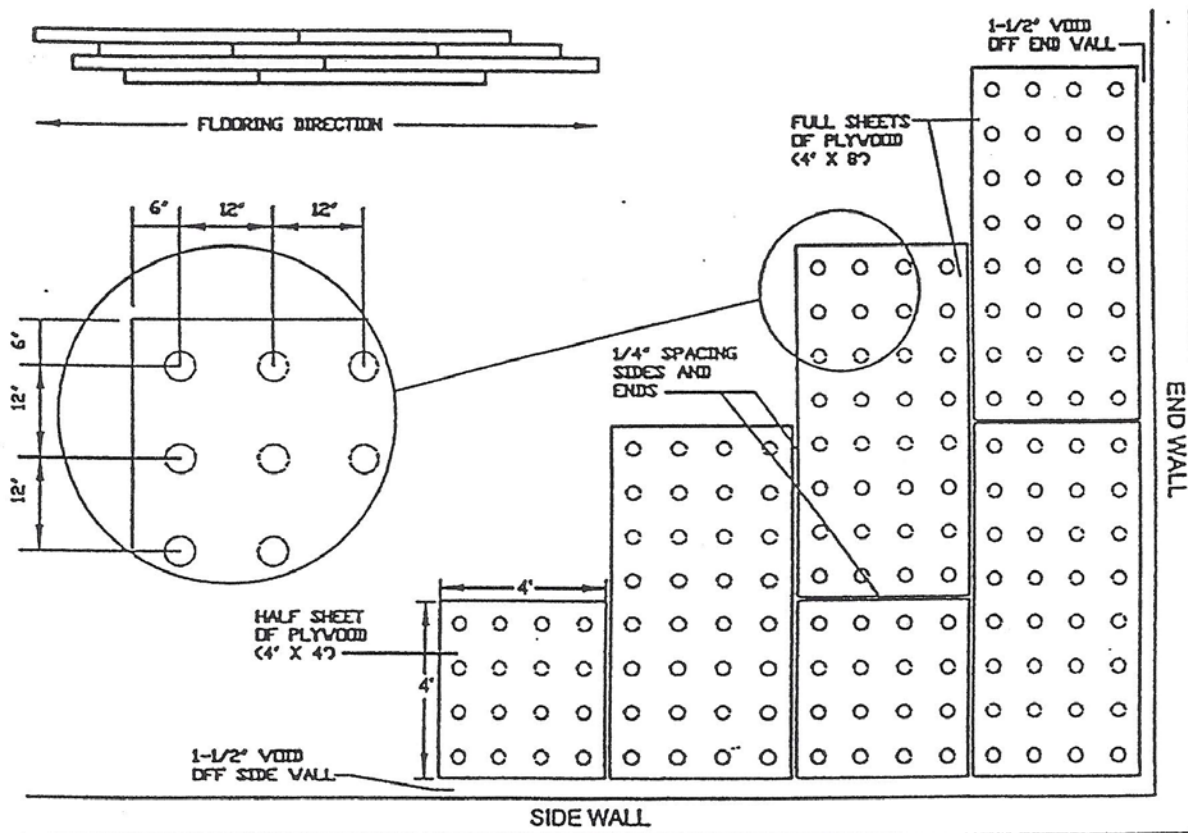
- 10 or 12' metal straight edge (for checking flatness)
- Marking paint (to mark areas to fill low areas)
- Dolly (for moving material)
- Shim material for floor
- Chalk line
- Visqueen
- Duct tape or adhesive
- Chop saw
- Table saw
- Jigsaw
- Air compressor & hoses
- Extension cords
- Pneumatic stapler & staples (for stapling sub floor)
- Pneumatic nailer & nails (for nailing strip floor)
- Hand drive coated finish nails 6d or 8d (for nailing strip floor)
- General carpentry tools
- Moisture meter (for checking sub floor and strip flooring)
- Expansion spacers
- Wide, fine bristle broom
- Sanding and finishing equipment
- Skill Saw
- 1.5-1.8mm Weed Eater Line
- 1" x 6" Pine --- 50' to 100' (starter block)
- Humidity meter

AacerFlex™ Series Installation Instructions

- 1) Two to three weeks prior to materials being delivered to the project, the foreman should visit the site and verify conditions. This would include making a 5' grid and checking slab tolerances using a 10' straight edge, moving it perpendicular to the plotted grid in both directions to identify all areas requiring correction. (Note: The use of a transit or laser alone does not include measurements between the grid points.) If conditions are not satisfactory the general contractor should be informed to make appropriate corrections. Concrete moisture test should be taken at several spots in work area to determine average moisture content. Verify jobsite is on schedule and all requirements are going to be or have been met, this would include but is not limited to the building being fully enclosed, H.V.A.C. system working and conditioning air to manufacturers specifications, overhead trades complete, wet trades complete, etc. Start project documentation to include moisture content of slab, humidity levels and any problems with job site.
- 2) When materials are delivered to site, make sure there is an adequate means to handle and place materials. This storage site should be in the proposed work site with the flooring resting on skids. Allow enough time for materials to be acclimated to site conditions.
- 3) Your installation begins by first having proper job documentation (temperature, humidity, moisture content, progress and problems) Job documentation needs to be done every day, once in the morning and again at the end of the day. This process must be done throughout the duration of the project.
- 4) Sweep entire project using a sweeping compound to control dust. Then drag metal straight edge over entire surface to determine all high and low spots. Mark and fill all low spots with appropriate filler and grid all high spots.
- 5) Install a 6mil, clear plastic vapor barrier to entire floor terminating at all outside walls. (Clear allows you to see the chalk line thru the plastic) Overlap all joints by a minimum 6" and seal joints with 2" duck tape or adhesive.

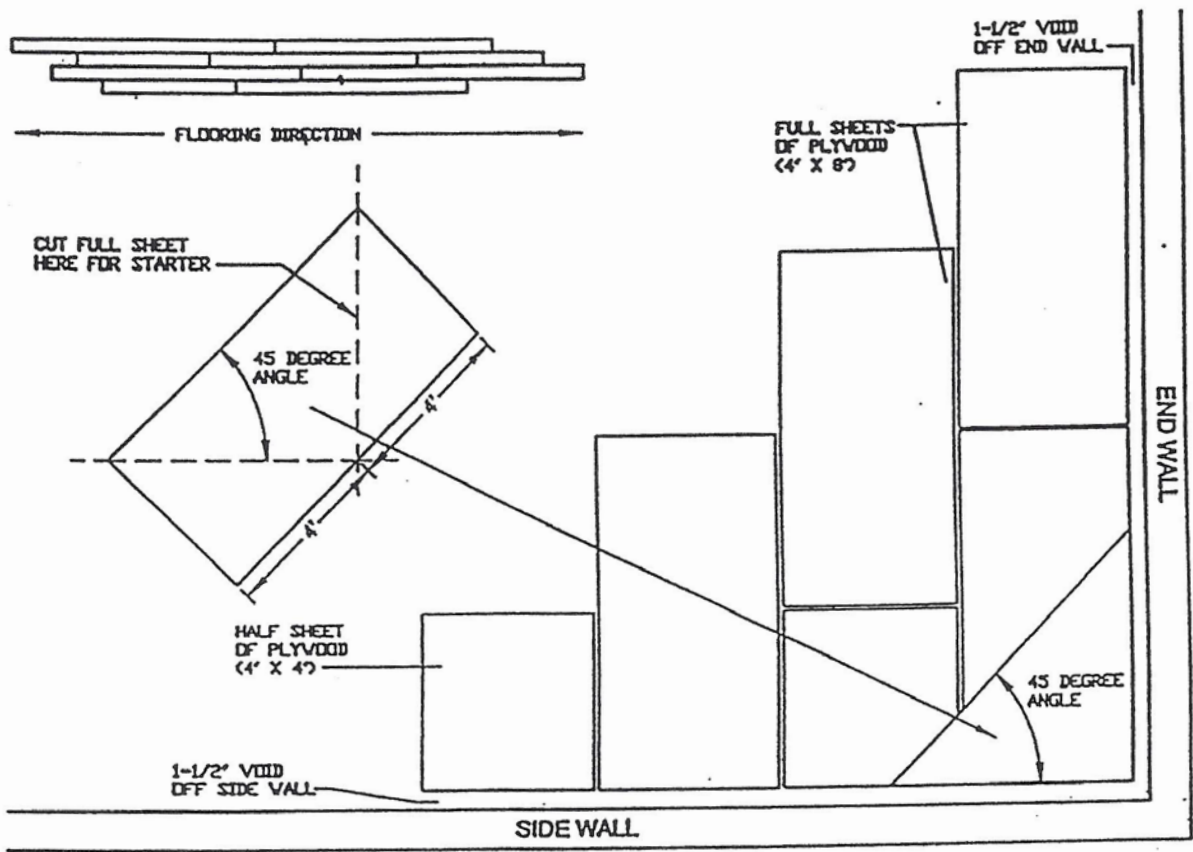
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- 6) Install lower layer of subfloor perpendicular to finish maple flooring spacing all edges 1/4" and breaking joints 4', Provide 1 1/2" expansion voids at perimeter and at all vertical obstructions, The underside of first layer shall have resilient pads attached 12" on center (32 per sheet) and 6" from edges on all sides. Install solid blocking at doorways and under bleachers in the stacked position, permanent obstructions, and areas to receive heavy loads.
- Install system by starting on end wall and working from right to left.
 - Cut full sheets of plywood in half to form 4' X 4' starter units.
 - Attach resilient pads to underside of plywood. Fabricate a pad template out of 1/8" masonite with pad spacing as outlined below. Attach TriPower™ Pad, AacerFlex™ Pad, Aacer Cushion pad, BiPower® Pad, EcoDin Pad or P3 pad with staples.



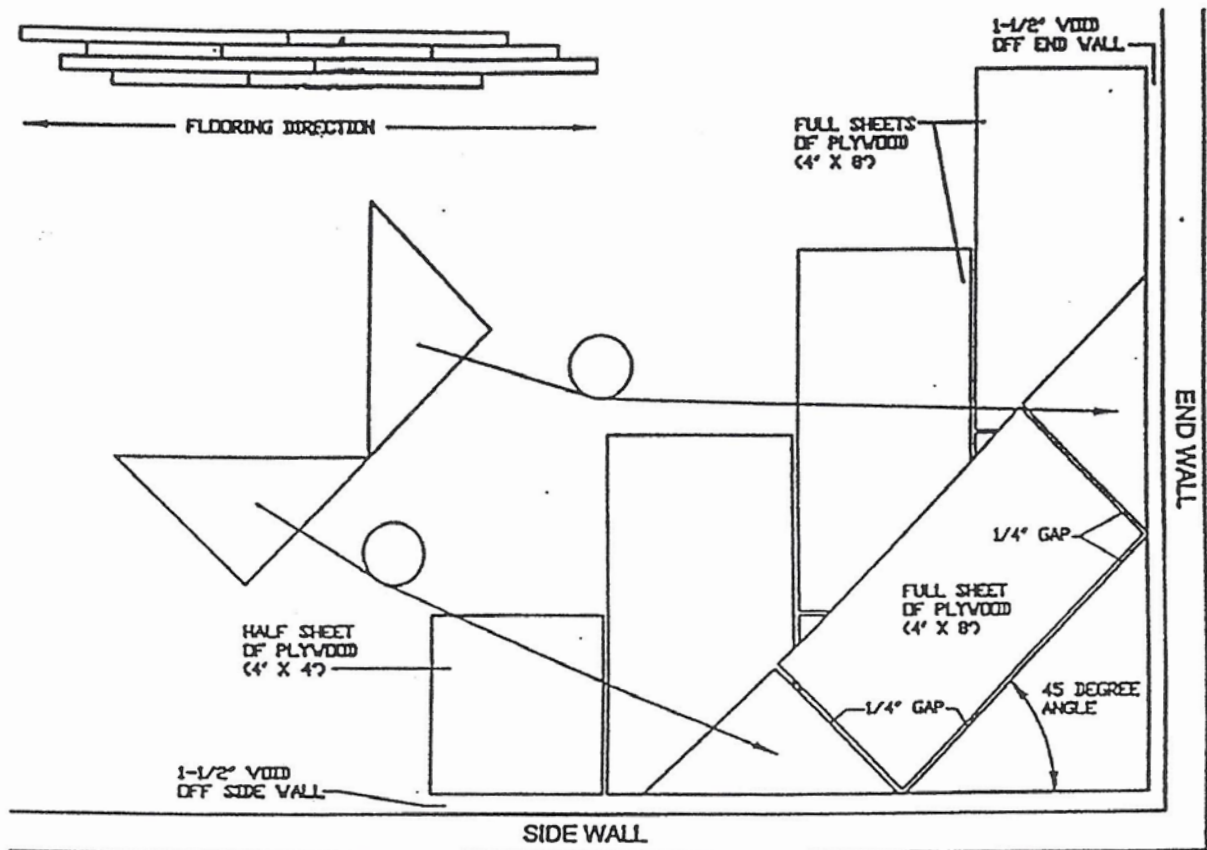
AacerFlex™ Installation Instructions (Cont.)

- 7) The second layer of sub-floor shall be laid at a 45 degree angle over the first layer, 1/4" spacing at all edges and breaking joints 4'. Provide 1 1/2" expansion voids at perimeter and at all vertical obstructions.
- Cut full sheet from comers to 4' mark this will form a starter with 45 degree angle.
 - Place in comer at shown below.
 - Sub-floor adhesive will be applied to the bottom of the second layer of plywood using a box X pattern. Now, add 1" staples or screws 6" o.c. along the perimeter within 2" of the edge and 12" o.c. in the field.

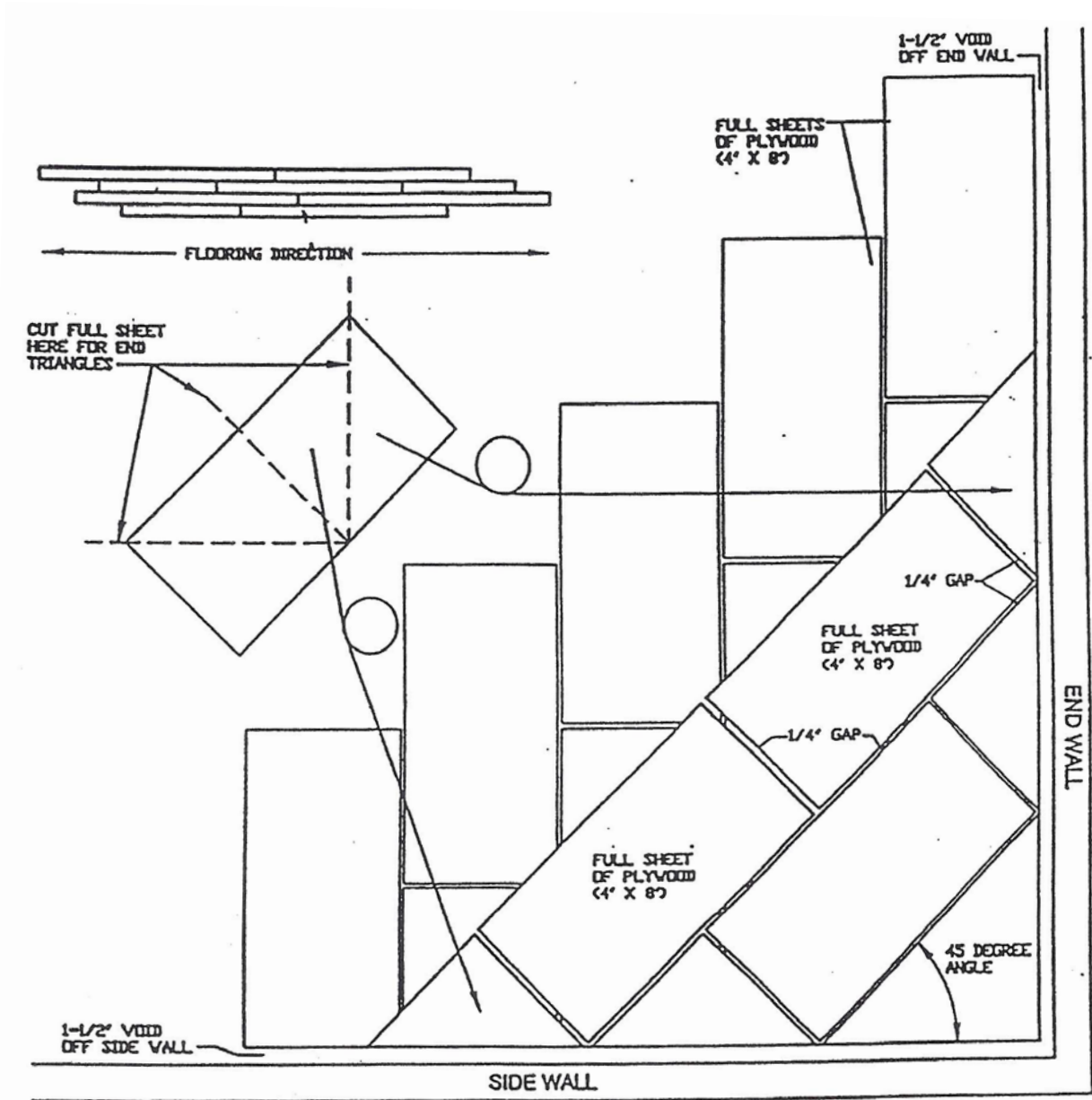


AacerFlex™ Installation Instructions (Cont.)

- Install full sheet as shown below, spacing sides 1/4". Place cut off sections from starter at ends.



AacerFlex™ Installation Instructions (Cont.)



- Cut full sheets to form end triangles.
- Continue placing full and end triangles across floor spacing all sides 1/4"
- Staple plywood at edges and 12" in field

AacerFlex™ Installation Instructions (Cont.)

- 8) Install maple strip flooring running the long dimension of the room, Aacer Flooring recommends starting near the center of the room. Snap a chalk line near the center of the room running the long dimension of the work area. (Adjusting of line may be required to have flooring run parallel with court and game lines) Install straight stop block (1" x 6") along chalk line to begin installation. You may remove stop block after 10 rows are nailed to allow simultaneous installation on both sides of the floor. The starter row will require a double-tongued starter board or spline glued in. When nailing flooring, work in a left to right direction nailing 10"-12" OC. Care should be taken to prevent damage to surface edge or face of maple. Wood end joints should be tight and free of voids. Near the perimeter the use of a nail gun will be impossible, so hand nailing will be required. Face nail with 6d or 8d coated nails. Expansion rows may be required intermittently throughout the floor. Requirements will be determined by site and geographical location. Provide a minimum 1 ½" void at all walls and permanent obstructions. Repeat until floor is complete.
- 9) Sanding: Inspect entire floor for defects and correct as required. Fill all small voids with wood filler then machine sand entire floor using course, medium and fine grit sand paper to a smooth uniform surface free of drum drops and edger marks. Remove all sanding dust and lint from entire surface by vacuum and/or tack cloth.
- 10) Examine entire surface for imperfections and repair as required to make sure floor is ready for finish. Apply seal coats per manufacturer's instructions. Apply game lines and logos as required. Floor shall be buffed, cleaned and tacked between coats. Paint shall be compatible with finish. Apply finish per manufacturer's directions. General contractor or owner shall take steps to secure gym until finish is cured and flooring contractor allows foot traffic.
- 11) Install vent cove base with adhesive or mechanical fasteners to walls. Using pre-molded outside corners as needed. NOTE: when using adhesive take care not to block air cavities.
- 12) Thresholds and transitions shall be designed and installed to adequately allow for expansion and contraction of the wood floor. The flooring contractor shall install thresholds and transitions. At no time should the threshold be fastened to the wood floor.