

INSTALLATION INSTRUCTIONS:

MULTISTAGE HC, *Fixed Resilient System*

NOTE: THIS MANUAL PROVIDES A FUNDAMENTAL REFERENCE GUIDE FOR THE INSTALLATION OF THE MULTISTAGE HC FLOOR SYSTEM. WHILE INFINITY WOOD FLOORS 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

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, and 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 is 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) Concrete substrate shall be deemed fully cured by industry standard embedded probe relative humidity (RH) testing. RH levels are required to be 85% or lower to proceed with a standard 6-mil polyethylene vapor retarder. Suitable heavy-duty vapor retarders shall be included to address RH levels above 85%. In all regards, the concrete surface vapor retarder is included only to address vapor remaining in a substantially cured and dry slab and is not included to address free moisture (i.e., hydrostatic pressure, ground water, poor drainage, water leaks). Flooring and subfloor materials should not be brought to the job site and stored over concrete with elevated RH levels. Polyethylene Film test, Calcium Chloride test or Electronic Moisture Meters can be used as pre-tests only and should not be used to determine if the concrete slab has reached acceptable levels for installation.

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- 6) Flooring must be stored on site in a dry well-ventilated area while acclimating to site conditions, not in direct contact with the concrete. Moisture content of wood shall be consistent with the ambient conditions of the building as will be maintained when occupied.
- 7) Concrete slab depressions shall be consistent with total height of sub floor and strip wood floor combined. Any and all discrepancies shall be addressed prior to material being delivered.

MultiStage HC Installation Tools Required

- Humidity meter
- 10 or 12' metal straight edge (for checking flatness)
- Marking paint (to mark slab if required)
- Dolly (for moving material)
- Shim material for floor
- Chalk line
- Vapor Retarder (Visqueen)
- Duct tape or adhesive for vapor retarder lap joints
- Concrete hammer drill
- 1/4" masonry bits
- 3# hammer
- Chop saw
- Table saw
- Jigsaw
- Air compressor & hoses
- Extension cords
- Pneumatic stapler & staples (for stapling sub floor)
- Pneumatic gun & fasteners (for attaching strip floor)
- Hand drive 6d or 8d coated finish nails or pneumatic gun and finish nails
- General carpentry tools
- Moisture meter (for checking sub floor and strip flooring)
- Expansion spacers (nylon line) if anticipating possible intermediate expansion
- Wide, fine bristle broom
- Sanding and finishing equipment

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MultiStage HC 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 includes 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 tests 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 manufacturer's specifications, overhead trades complete, wet trades complete, etc. Start project documentation; 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. The storage area should be in the work site. Storing materials in the four corners will save extra handling later. Allow enough time for materials to be acclimated to site conditions if required.
- 3) Begin installation by first having proper job documentation (temperature, humidity, moisture content, progress, and problems). Job documentation needs to be done every day, twice a day minimum, throughout the duration of the project .
- 4) Sweep entire project using a sweeping compound to control dust if necessary. Drag metal straight edge over entire surface to confirm concrete flatness has been achieved if remedial work was required. Mark remaining low and high locations for further attention by the general contractor.
- 5) After confirming acceptable concrete RH level, install vapor retarder over entire floor running slightly up walls. Overlap all joints by 6" and seal with 2" duct tape or adhesive.
- 6) Provide 3/8" solid blocking below stacked bleachers, portable goal locations, and at doorways.
- 7) Install subfloor panels perpendicular to flooring direction by starting first panel row by removing overhanging side and end edges of upper plywood layer. Place first panel in starting corner allowing 1-1/2" spacing between panel edges and walls. Complete panel row with full panels overlapping subfloor ends onto extended ends of previous panel. Provide 1/4" spacing between ends of adjacent panels and apply 1" subfloor staples at 12" on center.

Attach panel to concrete substrate, and all additional panels, by installing a steel channel in each anchor pocket and secure with one anchor pin. Provide equal spacing between channel ends and pocket end edges.

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Start second subfloor panel row by first crosscutting a full panel at 72" measured from the extending end of the lower plywood layer. Space cut end 1-1/2" from wall and space side edge 1/4" from adjacent panel edge. Attach overlapping subfloor side edge to adjacent subfloor panels with 1" staples applied at 12" on center including staples near subfloor ends. Continue second row of subfloor panels with panel end and side edges offset 1/4" from adjacent panels while attaching overlapping sections with 1" staples applied 12" on center.

Start third subfloor panel row by first crosscutting a full panel at 48" measured from the extending end of the lower plywood layer. Space cut end 1-1/2" from wall and space side edge 1/4" from adjacent panel edge. Attach overlapping subfloor side edge to adjacent subfloor panels with 1" staples applied at 12" on center including staples near subfloor ends. Continue third row of subfloor panels with panel end and side edges offset 1/4" from adjacent panels while attaching overlapping sections with 1" staples applied 12" on center.

Start fourth subfloor panel row by first crosscutting a full panel at 24" measured from the extending end of the lower plywood layer. Space cut end 1-1/2" from wall and space side edge 1/4" from adjacent panel edge. Attach overlapping subfloor side edge to adjacent subfloor panels with 1" staples applied at 12" on center including staples near subfloor ends. Continue fourth row of subfloor panels with panel end and side edges offset 1/4" from adjacent panels while attaching overlapping sections with 1" staples applied 12" on center.

Repeat subfloor pattern as previously described when starting each row to maintain the most desired offset spacing of subfloor end joints and steel channel in alternate rows.

To reduce waste, panels cut at finishing wall measuring a minimum of 16" can be used to start panel rows if maintaining a minimum 12" offset of adjacent panel ends and anchors of previous row. Add support blocking if required where panel ends have been trimmed.

- 8) Install maple strip flooring running the long dimension of the room, or as designated by main game court lines. Aacer Flooring recommends starting near the center of the room. Snap a caulk line 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 temporary backer boards straight along chalk line as a guide for the first few rows to begin installation. When nailing flooring, work in a left to right direction taking care to prevent damage to surface edge or face of maple. Wood end joints should be tight and free of voids. Remove stop block after 20 rows are installed and insert and glue wood spline to allow simultaneous installation of the floor in both directions from center out and include flooring fasteners through spline so first flooring board row includes fasteners along both side edges.
- 9) Face nail with finish countersinking nailing gun or hammer driven 6d or 8d coated nails near walls and other vertical obstructions where the use of a flooring nail/staple gun is not possible. Pre-drill a slightly undersized hole in the flooring to prevent splitting the boards if hammer driving fasteners. Countersink nails and cover with suitable filler.

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- 10) Expansion rows may be required intermittently throughout the floor as determined by site and geographical location. Provide a minimum 1-1/2" to 2" void at all walls and permanent obstructions.
- 11) Sanding: Inspect entire floor for defects and correct as required. Fill all small voids (do not fill spaces between board side edges) with wood filler then machine sand entire floor using coarse, medium and fine grit sandpaper to a smooth uniform surface free of drum drops and edger marks. Remove all sanding dust and lint from entire surface by vacuum or tack cloth.
- 12) Examine entire surface for imperfections and repair as required to make sure floor is ready for finish. Apply seal coats per manufacturer's instructions. Floor shall be buffed, cleaned, and tacked between coats. Apply game lines and logos as required. 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.
- 13) Install vent cove base to walls with adhesive or mechanical fasteners, using pre-molded outside corners as needed, and miter inside corners. NOTE: When using adhesive take care not to block air cavities.
- 14) Install thresholds, transitions, and floor plates to adequately allow for expansion and contraction of the wood floor. Do not directly or indirectly attach in a manner that binds the wood floor to the concrete substrate.

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