

**Specification Note:**

The following specifications call out the material and default installation requirements necessary for the floor as recommended by Robbins Performing Arts. In some cases, local codes, physical requirements or installer recommendation may override these methods and procedures. It is Robbins Performing Arts recommendation to review the specification with a Regional Sales Manager or the local Authorized Dealer before incorporating the specification into the project design. Some options impact installed cost and verification of the design and budget is advised.

For the name of the local Robbins Performing Arts representative or dealer, call 1-800-831-8987.

SECTION 09 / GUIDE SPECIFICATIONS FOR  
**ROBBINS® PERFORMING ARTS DANZAIRE WOOD FLOOR SYSTEM**

## SECTION 09 64 00 – WOOD DANCE FLOORING

## PART 1 GENERAL

## 1.1 SUMMARY

- A. Provisions of Division 01 may apply to this section
- B. SECTION INCLUDES
  - 1. A sprung dance floor system with a finished hardwood surface.
- C. RELATED SECTIONS (A cross-reference should be incorporated in these sections.)
  - 1. Section 03 30 00: Cast-in-Place Concrete.
    - a. Concrete and Slab Construction: refer to ACI Code 302.1R-04.
    - b. Concrete Slab Depression: 2 15/16" (75mm) with 25/32" thick maple flooring.
    - c. Surface Finish: steel troweled and finished smooth.
    - d. Concrete Tolerance: +/- 1/8" (3mm) in radius of 10' (3m).
    - e. Floor Flatness and Floor Levelness (FF and FL) numbers are not recognized.
    - f. High spots shall be ground level and low spots shall be filled in with approved leveling compound by the general contractor to meet the tolerance above.
    - g. 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.
  - 2. Section 07 10 00: Dampproofing and Waterproofing.
    - a. Concrete subfloors on or below grade shall be adequately waterproofed beneath the slab and at the perimeter walls and on the 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. Section 08 70 00: Door Hardware – Thresholds.
  - 4. Section 09 90 00: Paints and Coatings
  - 5. Section 11 60 00: Entertainment Equipment.

## 1.2 REFERENCES

- A. ANSI E1.26 -2006 (R2012): Entertainment Technology - Recommended Testing Methods and Values for Shock Absorption of Floors Used in Live Performance Venues
- B. FSC: Forest Stewardship Council®

### 1.3 SUBMITTALS

- A. Submit under provisions of Section 01 30 00: Administrative Requirements.
- B. Specification: Robbins Performing Arts **DanzAire Wood** specification sheet.
- C. Drawings: Submit Robbins Performing Arts **DanzAire Wood** drawing.
- D. Material Sample: Submit one (1) sample of Robbins Performing Arts **DanzAire Wood**, if requested by architect.
- E. Maintenance Guidelines: Submit copy of Maintenance Instructions.
- F. Submit Robbins Technical Services “Concrete Guide Specification” for further information regarding conditions and requirements of concrete prior to installation.
- G. Installer and Manufacturer Qualifications: Documentation showing compliance with manufacturer and installer qualifications specified in the Quality Assurance paragraph.

### 1.4 QUALITY ASSURANCE

- A. Floor System Manufacturers Qualifications
  - 1. Basis of design shall be **DanzAire Wood** floor system as provided by Robbins Performing Arts, [www.robinsdancefloors.com](http://www.robinsdancefloors.com), (800-831-8987).
  - 2. Manufacturer shall be an established firm experienced in field and have been in business for a minimum of ten (10) years; Robbins, Inc. or an approved equal.
  - 3. Material other than those listed must be approved 10 days prior by written addendum. Materials from un-approved manufacturers will not be accepted.
- B. Floor Contractor/Installer Qualifications and Certifications
  - 1. The flooring contractor shall be a Robbins Accredited Installer and be on site for the duration of the floor installation; or, a contractor approved by Robbins Performing Arts.
  - 2. Flooring contractor shall be an established firm experienced in field and have been in business or a minimum of ten (10) years; Robbins, Inc. or an approved equal.
  - 3. Flooring contractor shall submit a list of at least three completed projects of similar magnitude and complexity completed under current corporate identity.
  - 4. Flooring contractor shall be manufacturer trained.
- C. Floor System Design
  - 1. Panels shall be uniformly anchored to the concrete base throughout the floor area.
  - 2. Anchors do not directly or indirectly contact the active layers of the system. Anchoring is achieved through the resilient layer. This is a one of a kind anchored resilient system. (Proprietary)
  - 3. Panel anchoring shall prevent over compression and differential compression of the resilient layer.
  - 4. Resilient layer and system design shall limit vibration to specified parameters listed under Floor System Performance section of specification.
  - 5. Subfloor panels are factory machined to accept loading restraint blocks to assure proper balance of ballet/dance performance and the rigors of loading.

- (Proprietary)
6. Resilient pad shall be made from recycled materials.
  7. Flooring shall be finger-jointed in design

D. Floor System Performance

1. **DanzAire Wood** shall be tested to the following performance criteria:
  - a. ANSI E1.26 -2006 (R2012)
  2. Vibration –
    - a. DAMPING – Time to Total Damping where total damping is considered at  $\leq 2\text{ms}^{-2}$  acceleration. (Proprietary)
    - b. Time to total Damping shall be  $\leq 45$  milliseconds at both 50cm and 85cm.
  3. FFT (Fast Fourier Transformation) measure of Intensity over Frequency ranges
    - a. Vibration Intensity – (Proprietary)
      - 1) Shall be  $\leq 100,000$  across 0-250Hz frequency range at 50 and 85cm from point of impact. This level of intensity results in extremely low system vibration effecting performers.
      - 2) Shall be  $\leq 200$  in the 0-50Hz range at 50 and 85cm from point of impact. This range is of key significance because if unchecked it can cause resonance with the natural frequency of performers (muscle and skeletal structures).

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Materials shall not be delivered, stored or installed until all masonry, painting, plastering, tile, marble and terrazzo work is complete, and all overhead mechanical work, lighting, other overhead units are installed. Room temperature of 55-80 degrees Fahrenheit (13 to 27 degrees Celsius) and relative humidity of 35-50 % are to be maintained. The building shall be enclosed and weather tight. Ideal installation/storage conditions are the same as those that will prevail when building is occupied
- B. Materials shall not be delivered, stored or installed at the installation location if the In-Slab relative humidity level for the concrete slab is above 85% using ASTM F 2170 In-Slab Relative Humidity test.

1.6 PROJECT CONDITIONS-SEQUENCY

- A. Do not install floor system until concrete has been cured 60 days and the requirements in Article 1.5 are obtained.
- B. General Contractor is responsible to ensure slab is clean and free of all dirt and debris prior to floor installation beginning.
- C. Maintain room temperature at 55 to 80 degrees F (16 to 27 degrees C) for one week prior to delivery of materials, during installation, and after installation.
- D. Provide permanent electricity, heat, light, and ventilation 1 week prior to delivery of materials, during installation, and after installation. Maintain a temperature range of 55 to 80 degrees Fahrenheit (13 to 27 degrees Celsius) and a relative humidity range of 35 to 50%.
- E. Acclimatize wood flooring in accordance with period of time recommended by manufacturer. In applications in which very high or low levels of humidity are present, extend period of time accordingly.

1.7 WARRANTY

- A. 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. Robbins Performing Arts hereby warrants the **DanzAire Wood** material to be free from manufacturing defects for a period of 2 years. This warranty is in lieu of all other warranties, expressed or implied including but not limited to any warranty of merchantability or fitness for a particular purpose, and of any other obligations on the part of Robbins Performing Arts. In the event of breach of any warranty, the liability of Robbins Performing Arts shall be limited to repairing or replacing **DanzAire Wood** material and system components supplied by Robbins Performing Arts and proven to be defective in manufacture, and shall not include any other damages, either direct or consequential.

## PART 2 PRODUCTS

### 2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Robbins Performing Arts, which is located at: 4777 Eastern Ave; Cincinnati, OH 45226; Toll Free Tel: 800-831-8987; Fax: 513-871-7998; Email: request info (info@robbinsdancefloors.com); Web: www.robbinsdancefloors.com
- B. Substitutions: Not permitted.
- C. Requests for substitutions may be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

### 2.2 MATERIALS

- A. Vapor Barrier
1. 6-mil polyethylene.
- B. Subfloor
1. Robbins **DANZAIRE** Subfloor panels consisting of Zero/G® resilient blanket, subfloor panels shall be factory fabricated and machined for proper anchor placement and control of vibration and damping.
  2. Upper layer of Exposure 1, APA Rated sheathing.
- C. Surface
1. 25/32" thick x 1.5" wide, 2<sup>nd</sup> and Better grade, Tongue and Grooved, End Matched, Kiln Dried Finger-Jointed Northern Hard Maple Flooring. Flooring same be graded and manufactured in accordance with industry standards. Flooring shall be design with flexibility cross cuts and built-in expansion technology. Flooring must be certified by the Forest Stewardship Council®
- D. Fasteners
1. Subfloor Fasteners: 1" coated subfloor staple.
  2. Flooring Fasteners: 1 3/4" barbed cleat or coated staple.
  3. Adhesive: Elastomeric subfloor adhesive.
  4. Concrete Anchor: 3/16" x 2" steel concrete anchor.
  5. Panel Retainer: 16 gauge panel retainer
- E. Finish Materials
1. Robbins approved stain, seal and or finish.
- F. Perimeter Base
1. 3" x 4" heavy duty ventilating type base with pre-molded outside corners. (Specify black or brown)

## PART 3 EXECUTION

### 3.1 INSPECTION

- A. Inspect concrete slab for proper tolerance and dryness, and report any discrepancies to the general contractor and architect in writing. Slab will be level to within 1/8" (3mm) in a 10' (3m). Moisture content of the concrete slab not exceed 85% in accordance to ASTM F 2170 In-Slab Relative Humidity test.
- B. All work required to put the concrete subfloors in acceptable condition shall be the responsibility of the general contractor.
- C. Floor area shall be broom cleaned by general contractor.
- D. Verify that site conditions are acceptable for installation of wood flooring system.
- E. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding. Do not begin installation until substrates have been properly prepared.
- F. Installer shall document all working conditions provided in General Specifications prior to commencement of installation.

### 3.2 INSTALLATION

- A. Vapor Barrier
  - 1. Install polyethylene with joints lapped a minimum of 6" (150mm) and turned up at walls 4" (100mm).
- B. Subfloor
  - 1. Following manufacturer's guidelines, place **DANZAIRE** subfloor panels in end-to-end manner, staggering end joints in adjacent rows. Space panels 1/4" (6mm) between adjacent panel edges. Provide 1-1/2" to 2" (40 to 50mm) expansion void at the perimeter and all vertical obstructions.
  - 2. Anchor at each pre-designated location. Place additional anchors as required at walls and vertical obstructions.
  - 3. Install solid blocking around perimeter transitions and restraint blocking throughout the balance of the flooring area to accommodate loading.
  - 4. Install the upper plywood subfloor parallel to the lower subfloor panels staggering joints and spacing 1/4" (6mm) apart. Secure these panels using adhesive and staples per manufacturer's instructions.
- C. Flooring Surface
  - 1. Machine fasten maple flooring to the subfloor with end joints properly driven up. Use Robbins recommended standard nailing schedule on continuous subfloor systems. In certain geographical regions and site conditions, additional intermediate expansion spacing may be required.
  - 2. Provide 1.5" to 2" expansion void at the perimeter and all permanent vertical obstructions.

### 3.3 FINISHING

- A. Sanding
  - 1. Sand flooring with appropriate grit papers with drum sander, edger, buffer, and hand scraper.
  - 2. Sand per manufacturer's texture recommendations as indicated in Article 2.2, E.
  - 3. Examine floor area to insure the surface is acceptable for finishing. Floor shall present a smooth surface without drum stop marks, gouges, streaks or shiners.
  - 4. Vacuum or tack to remove sanding dust and debris from entire surface.

- B. Finishing
  - 1. Inspect entire floor to be sure surface is ready to accept stain, seal and or finish. Floor should be free from dust and debris.
  - 2. Apply stain, sealer, and finish per manufacturer's recommendations as indicated in Article 2.2, E. to provide approved finish appearance.
  - 3. Buff and clean floor between coats.

### 3.4 INSTALLATION OF WALL BASE

- A. Install vent cove base anchored to walls with base cement or mechanical fastener. Use pre-molded outside corners and neatly mitered inside corner.

### 3.5 CLEANING AND PROTECTION

- A. Remove rubbish, debris, and waste material from work area and legally dispose.
- B. After floors are finished, area to be kept locked by general contractor to allow curing time for the finish. If after required curing time general contractor or owner requires use of the floor, he shall protect the floor by covering with non-fibered kraft paper or red rosin paper with taped joints, until acceptance by owner (or owner's agent) of complete dance floor. Take necessary precautions to prevent damage from dropped objects. Use breathable materials to cover installed wood flooring. Do not completely cover installed wood flooring, as moisture and color shading issues may arise.
- C. Clean floor surface using cleaning products recommended by flooring manufacturer.

### 3.6 INSTRUCTION

- A. Instruct Owner's designated representatives in flooring maintenance.

END OF SECTION

**Construction options are available to modify this system to the project design and budget. Contact your Regional Sales Manager(1-800-831-8987) or the local Authorized Dealer for more information.**