

**SECTION 09/ GUIDE SPECIFICATIONS
FOR ROBBINS BIO-CUSHION II FLOOR SYSTEMS
PASSES ALL SECTIONS OF DIN STANDARDS 18032, PART 2**

PART 1 - GENERAL

1.01 DESCRIPTION

A. Related work specified under other sections. (A cross reference should be incorporated in these sections.)

1. Concrete Slab Depression: 2-1/2" (2-3/4" for 33/32" thick flooring)
2. Concrete Tolerance - 1/8" in radius of 10' Surface - steel troweled
3. Concrete and Concrete Finishing.....Section 03300
4. Membrane Waterproofing and Dampproofing.....Section 07100
 - a. Concrete subfloors on or below grade shall be adequately waterproofed beneath and at the perimeter of the slab and on the earth side of below grade walls.
5. Thresholds - Metal.....Section 08700
6. Game Standard inserts.....Section 11500

1.02 QUALITY ASSURANCE

A. Floor System Manufacturer Qualifications

1. Manufacturer shall be an established firm experienced in the field and have been in business for a minimum of ten years; Robbins, Inc. or an approved equal.

B. Floor Contractor/Installer Qualifications

1. Flooring contractor shall be a firm experienced in flooring field and approved by manufacturer.
2. Submit a list of at least three (3) completed projects of similar magnitude and complexity.

C. Submit three (3) copies of WSFI Recommendations for correct preparation, finishing and testing of concrete subfloor surfaces to receive wood flooring.

D. Performance Qualifications of Flooring System

1. Floor system shall have been tested and passed the requirements of DIN 18032, Part II as set out below.
 - a. Shock absorption shall be 62% minimum.
 - b. "Uniformity" of shock absorption of plus or minimum 5 percentage points shall be maintained throughout entire surface at each test point using DIN test 18032, Part II.
 - c. Ball return shall be at least 97.6% when tested against concrete and have same uniformity as Section D, 1., b.
 - d. Deflection:
 - (1) Point of Impact: 2.4 mm minimum and have same uniformity as Section D, 1., b.
 - (2) 20" from Point of Impact: 14% of Point of Impact Maximum and have same uniformity as Section D, 1., b.
 - e. Friction: Range 0.5 - 0.7 per DIN Test Method.
 - f. Rolling Load: 337.6 lbs. Weight Capacity without damage.

NOTE: It is the intent of the (name school), to procure a flooring system which meets or exceeds all of the criteria set forth in the Internationally accepted DIN Standards (DIN 18032, Part II). The owner may at their discretion and expense, have the finished flooring tested by an independent certified DIN testing agency (i.e., Otto Graf Institut, Stuttgart, Germany). Should the finished flooring fail to pass these stringent standards, the owner may require the flooring to

be removed and replaced by a floor which will pass these standards. Removal and replacement at no expense to the owner.

1.03 SUBMITTALS

A. Manufacturer's Product Data

1. Submit three (3) Robbins Bio-Cushion II Specifications sheets.

B. Samples

1. Submit one (1) sample of Robbins Bio-Cushion II system, if requested by architect.

C. Maintenance Literature

1. Submit three (3) copies of "WSFI Care and Preservation of Your Wood Floors."

D. Certification

1. Suppliers shall submit certificates attesting that materials furnished will meet specifications for grade, quality, dryness and treatment, if required.

1.04 DELIVERY, STORAGE AND HANDLING

A. Delivery of Materials

1. Materials shall not be delivered, stored or installed until all masonry, painting, plastering, tilework, marble and terrazzo work are complete. All overhead mechanical work, lighting, backstops, scoreboards are installed. Room temperature of at least 60 to 80 degrees Fahrenheit and relative humidity of 35 to 50% are to be maintained. Ideal installation/storage conditions are the same as those which will prevail when building is occupied.

1.05 JOB CONDITIONS

A. Do not install floor system until concrete has been cured 60 days and the requirements in paragraph 1.04 A-1 are obtained.

B. Permanent heat, light and ventilation shall be installed and operating during and after installation. Maintaining a temperature range to 60 to 80 degrees Fahrenheit and a relative humidity range of 35 to 50%.

C. 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 gym, he shall protect the floor by covering with non-fibered kraft paper or red rosin paper with taped joints, until acceptance by owner of complete gymnasium floor.

1.06 GUARANTEE

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, Inc. hereby warrants the **Bio-Cushion II** material to be free from manufacturing defects for a period of 1 year. 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. In the event of breach of any warranty, the liability of Robbins shall be limited to repairing or replacing **Bio-Cushion II** material and system components supplied by Robbins and proven to be defective in manufacture,

and shall not include any other damages, either direct or consequential.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Membrane

1. 6 mil polyethylene

B. Bio-Cushion II System

1. 3/4" Bio-Cushion Isolator Pads
2. 2 layers of 1/2" CD-Exterior Grade Fir or Southern Pine Plywood.
3. Robbins Flooring
 - a. 25/32" thick x 2-1/4" width, second and better, T & G and EM, KD Northern Hard MFMA Maple Flooring as manufactured by Robbins and graded in accordance with MFMA standards.
 - b. Options **(Delete or modify above)**
 - (1) 33/32" thickness in lieu of 25/32" thicknesses or 1-1/2" width in lieu of 2-1/4" width maple can be substituted. Furthermore, first grade, third and better, or third grade may be substituted for the second and better specified above. Also lower grade flooring may be specified in main court surround and/or third grade flooring under bleachers stacked position.
 - (2) Treating **(specify or delete)** - Robbins flooring shall be treated with woodlife preservative. Each bundle shall be stamped with the official treating plant number and a certificate attesting to treatment shall be furnished with each shipment.

C. Fasteners

1. Subfloor
 - a. 1" coated staples or equivalent
 - b. Construction adhesive PL400 or equivalent.
2. Flooring
 - a. 2" barbed cleats or staples.

D. Perimeter Base--Robbins 3" x 4" rubber, ventilating type. (Specify black or brown)

E. Finishing Materials

1. Robbins Miracle oil modified polyurethane sealer and finish.
2. Gameline paint shall be recommended by the finishing materials manufacturer compatible with the finish.

PART 3 - EXECUTION

3.01 INSPECTION

- A. Inspect concrete subfloors for proper tolerance and dryness, and report any discrepancies to the general contractor in writing.
- B. All work required to put the concrete subfloors in acceptable condition shall be the responsibility of the general contractor.
- C. Subfloor shall be broom cleaned by general contractor.

3.02 INSTALLATION

A. Bio-Cushion II System

1. Install polyethylene film with joints lapped a minimum of 4".

2. Install Robbins Bio-Cushion Isolator Pads 12" O.C. on lower plywood subfloor.
3. Install the lower plywood subfloor perpendicular to the intended finish flooring direction. All joints shall be staggered and spaced 1/4" apart.
4. Install the upper plywood subfloor diagonal to the lower subfloor panels staggering joints and spacing 1/4" apart. Secure these panels using adhesive and 1" staples placed 6" O.C. at panel perimeter and 12" O.C. throughout interior.
5. Machine nail maple finish flooring with end joints properly driven up and proper spacing provided for humidity conditions in specific regions. Consult your local Robbins "Certified" contractor. Provide 2" expansion voids at the perimeter and at all vertical obstructions.

B. Sanding

1. Sand flooring with drum sander, edger, buffer and hand scraper.
 - a. Use coarse, medium and fine grade sandpaper.
 - b. After sanding with drum sander, buff entire floor using 100 grit screenback or equal grit sandpaper, with a heavy-duty buffing machine.
 - c. Vacuum or tack floor before first coat of finish.
 - d. Floor shall present a smooth surface without drum stops marks, gouges, streaks or shiners.

C. Finishing - Gymnasiums (delete if not applicable)

1. Apply 1 coat of Robbins Miracle Sealer and 2 coats of Robbins Miracle Finish.
 - a. Option **(Delete or modify above)**
 - (1) 4 coat finish system - specify 1 additional coat of Robbins Miracle Sealer to regular 3 coat system.
 - (2) Screenback or steel wool and vacuum or tack between each coat after it dries. Game Lines: Apply game lines accurately after the seal coat, after buffing and vacuuming. Layout in accordance with drawings. For game lines, use current rules of association having jurisdiction. Lines shall be straight with sharp edges in colors selected by architect.

D. Finishing - Stage and Auditoriums (delete if not applicable)

1. Apply 2 or more coats of penetrating sealer, buffed in accordance with manufacturer's instructions in order to provide a low gloss, flat finish. We recommend that stages be finished in walnut or darker colors for theatrical performance.

E. Perimeter Molding

1. Install Robbins vent cove base anchored to walls with base and neatly mitered inside corner.

- F. Clean up all unused materials and debris and remove same from the premises.