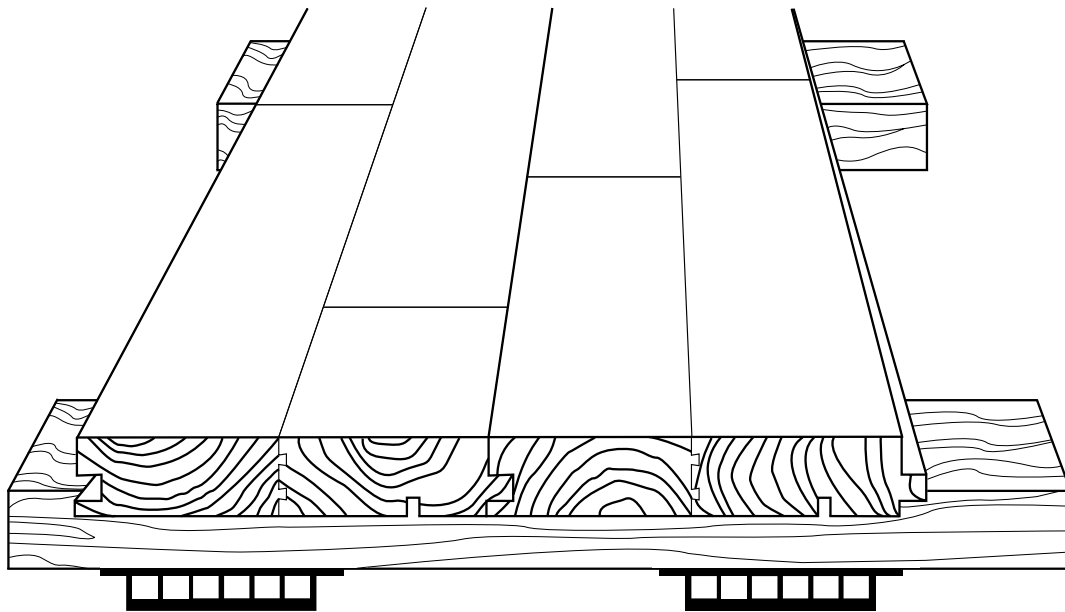


Multi-Purpose Single Sleeper System



The Multi-Purpose Single Sleeper System is the most economical sports / multi-use flooring system in the Junckers family. This system is ideal for playing all types of sports, especially those that require faster playing conditions such as racquetball and squash. This traditional floating sports floor system offers good performance with a time-proven track record for durability.

SPECIFICATION FOR JUNCKERS' RESILIENT WOOD FLOORING SYSTEM SINGLE SLEEPER SYSTEM – SECTION 09591 – PAGE 2

Part 1 – General

1.01 SUMMARY

A. Section includes: A resiliently-supported flooring system utilizing a single wood sleeper and resilient pads.

– EDIT THE FOLLOWING SECTION TITLES AS APPROPRIATE TO THE PROJECT –

B. Related Sections:

1. Section 01300 - Submittals.
2. Section 01630 - Product Options and Substitutions.
3. Section 03300 - Cast-in-Place Concrete: Floor slab placement, tolerancing, and finishing. Coordination with built-in sleeves.
4. Section 06100 - Rough Carpentry.
5. Section 08710 - Finish Hardware: Thresholds.
6. Section 11490 - Gymnasium Equipment.
7. Division 16 - Electrical: Coordination with recessed electrical and communications services.

1.02 SYSTEM DESCRIPTION

A. Performance Standards:

1. Floor system shall have been successfully tested in accordance with the minimum requirements of DIN 18032, Part 2. Testing shall have been performed by the Otto Graf Institut, Stuttgart, Germany, or any agency certified by the Otto Graf Institut. Test results from any other non-certified agency or testing institution does not constitute DIN certification.
 - a. Shock absorption shall be 39.0% minimum.
 - b. Ball return shall be at least 98%.
 - c. Deflection:
 1. Point of Impact: 0.8mm minimum.
 2. 500mm (20-inches) from point of impact: 14% of point of impact maximum.
 - d. Friction: Range 0.5 to 0.7 in accordance with DIN test method.
 - e. Rolling Load: Sustain weight capacity of 337.6 pounds without damage.

1.03 SUBMITTALS

- A. Product Data: Submit complete manufacturer's descriptive literature and specifications in accordance with the provisions of Section 01300.
1. Materials List: Submit complete lists of materials and finishes proposed for use.
- B. Shop Drawings: In accordance with the provisions of Section 01300, submit Shop Drawings which comprehensively describe the layout and installation of resilient wood floors.
1. Dimensional plans, including locations of all inserts, support sleeves, electrical boxes, game lines and logos.
 2. Details and locations of termination conditions at floors and walls.
- C. Samples: In accordance with the requirements of Section 01300, submit samples of finish materials for review by Architect.
1. Submit sample of assembled floor section 18" square (450mm x 450mm) showing construction and finishes.
 2. Submit 12" (300mm) lengths of accessories, including base, threshold, and striping paint colors.
- D. Quality Control Submittals: Submittals shall be made in accordance with the provisions of Section 01300.
1. Certificates:
 - a. Provide each bundle of flooring identified with appropriate style marks.
 - b. Submit certification from the Otto Graf Institut, Stuttgart, Germany, or an agency certified by the Otto Graf Institut to do DIN testing, that the floor system has been tested and meets or exceeds minimum standards as established by DIN 18032, Part 2.
 2. Manufacturer's Instructions: Submit manufacturer's current recommended installation instructions.
 3. Manufacturer's Field Reports: Submit concrete inspection reports, delivery and storage records for wood flooring materials, and daily installation reports.

SPECIFICATION FOR JUNCKERS' RESILIENT WOOD FLOORING SYSTEM SINGLE SLEEPER SYSTEM – SECTION 09591 – PAGE 3

4. Test Reports: When directed by the Architect, submit test reports for the following:
 - a. Moisture control testing.
 - b. Humidity level testing.
 - c. Dent resistance testing.
- E. Contract Closeout Submittals:
 1. Operations and Maintenance Data: Submit manufacturer's standard recommendations for the maintenance and preservation of the flooring.

1.04 QUALITY ASSURANCE

- A. Installer's Qualifications: Regularly engaged and specializing, for the preceding 5 years, in installations of resilient wood flooring systems of equivalent type, size and complexity. Installers shall be specifically trained or approved in writing by the manufacturer of the resilient wood flooring system.
- B. Regulatory Requirements: Comply with applicable codes and regulations of governmental agencies having jurisdiction over airborne emissions.
- C. Coordinate sequence of work with gymnasium equipment specified in Division 11.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Do not deliver wood materials until after wet operations in building are completed, building is fully enclosed and weathertight, and permanent heating, ventilating, and lighting systems are installed and operational.
- B. Maintain temperature, relative humidity, and illumination levels as specified by manufacturer prior, during, and after installation.

**– REMOVE FOLLOWING PARAGRAPH UNLESS LOCATION OF PROJECT
HAS EXTREME CLIMATIC CONDITIONS –**

- C. Place wood flooring materials in the rooms or spaces to be floored at least 7 days in advance of the start of installation. Open packages of wood flooring to permit natural adjustment of moisture content.

1.06 PROJECT CONDITIONS

- A. Environmental Requirements: During installation, maintain a temperature range of between 55-78°F, and a relative humidity range of between 35-50%.
- B. Field Measurements: Prepare Shop Drawings based on field measurements specifically for work of this Section.

1.07 WARRANTY

- A. Furnish a 3-year guarantee for the finished wood flooring and associated work, agreeing to repair or replace flooring which shrinks, warps, cracks, or otherwise deteriorates excessively, or which buckles, delaminates, or fails to perform as required or as represented by the manufacturer, due to failures of materials and workmanship.

Part 2 – Products

2.01 MANUFACTURERS

- A. Design is based on the use of the products manufactured by Junckers Hardwood, Inc., Anaheim, CA (714) 777-6430, (800) 878-9663.
- B. Material shall be the products of one manufacturer and shall be either the ones upon which the design is based or the products of a manufacturer accepted in advance in accordance with Section 01630.

2.02 MATERIALS

- A. Finish Flooring Materials:
 1. Hardwood: Comply with style rules for the following:
 - a. Species: Beech (*fagus grandifolia*).

– SELECT APPROPRIATE STYLE BELOW –

- b. Style: (*Select Classic, Harmony or Variation*).
- c. Cut: Square edges, tongue and groove sides and ends.

SPECIFICATION FOR JUNCKERS' RESILIENT WOOD FLOORING SYSTEM SINGLE SLEEPER SYSTEM – SECTION 09591 – PAGE 4

2. Size:
 - a. Thickness: Minimum 7/8" (22mm).
 - b. Face Width: 5-1/16" (129mm).
 - c. Lengths: 12' (3600mm).
3. Seasoning: Press-dried before milling, approximately 8% moisture content.
4. Finish:
 - a. Exposed Surface: Factory sealed with two coats of two-component polyurethane.
 - b. Underside: Marked and stamped with a factory laminated layer of polyethylene sheeting acting as an additional vapor barrier.
 - c. Edges: Wax sealed by manufacturer to prevent panelization from occurring.
- B. Subfloor Materials:
 1. Moisture Barrier: Polyethylene film, clear, 6-mil (0.135mm) thickness.
 2. Sleepers: Pressure-treated, kiln-dried fir or spruce, nominal 2" (50mm) thick x 3" (75mm) wide x 4' (1250mm) long.
 3. Pads: 3/8" (9mm) thick neoprene tested by DIN Standard 18032, Part 2.
- C. Accessory Materials:
 1. Vented Base: Heavy-duty, molded, vented, rubber cove base with premolded outside corners. Size shall be 4" (100mm) high with 3" (75mm) horizontal leg.
 2. Thresholds: 5" (125mm) wide aluminum [stainless steel], flat stock, not less than 1/4" (6mm) thick. Provide stainless steel fasteners to match threshold finish.
 3. Fasteners: 2" (50mm) headless non-corrosive nails or staples.
- D. Striping Paint: As recommended by flooring manufacturer.
- E. Floor Sealer: As recommended by flooring manufacturer.

2.03 SOURCE QUALITY CONTROL

- A. Verification of Performance: The Owner may have the finished flooring tested by an independent certified DIN testing agency. Should the finished flooring fail to pass these stringent standards, the Owner may require the flooring to be removed and replaced with a floor that will pass the specified standards. Removal and replacement shall be at no expense to the Owner.

Part 3 – Execution

3.01 EXAMINATION

- A. Verification of Conditions:
 1. Confirm that below grade moisture barriers have been properly installed.
 2. Verify that subfloor is level to a tolerance of 3/16" in 10' (5mm in 3m) with no more than 1/2" (13mm) deviation over entire floor slab area.
 - a. Ensure that high areas are ground and low areas filled with approved flooring compound.
 3. Verify that subfloor is relatively smooth with no sharp ridges and is depressed a minimum of 2-3/4" (70mm) below adjacent finished floor elevation.

3.02 PREPARATION

- A. Surface Preparation: Thoroughly clean area to receive wood flooring.
- B. Install floor sleeves and accessories supplied under the gymnasium equipment section as required. Cooperate with other trades to ensure proper location and anchorage is achieved.
- C. Moisture Protection: Place moisture barrier over entire slab area to receive wood flooring, overlapping joints 6" (150mm) and extending up walls 2" (50mm). Seal edges using a compatible sealant, as recommended by manufacturer.

3.03 INSTALLATION

- A. General: Install work in accordance to the manufacturer's recommendations.
 1. Pattern Direction: Lay flooring lengthwise with space to be floored.
 2. Expansion Spaces: Provide expansion space at wall and other obstructions, interruptions, and terminations of flooring.

SPECIFICATION FOR JUNKERS' RESILIENT WOOD FLOORING SYSTEM SINGLE SLEEPER SYSTEM – SECTION 09591 – PAGE 5

- a. At sides, leave 0.024" per foot (2mm space per m) width of room.
- b. At ends, leave 0.012" per foot (1mm space per m) length of room.
- B. Subfloor: Install subfloor sleepers parallel to the width of the room at 16-3/16" (411mm) on centers with five resilient pads nailed to the underside of each 4' sleeper.
 - 1. Install sleepers adjacent to the floor penetrations to support ends of wood flooring.
 - 2. Whenever treated wood sleepers are cut for installation, apply a heavy brush coat of 5% pentachlorophenol immediately after cutting.

– DELETE NEXT PARAGRAPH IF NO BLEACHERS –

- 3. Coordinate with bleacher manufacturer and provide extra support at wheels or bearing points.
- C. Wood Flooring:
 - 1. Install wood strip flooring using machine nailing system. Blind nail each strip where it intersects each sleeper.
 - a. Stagger end joints.
 - 2. Ensure that all plank head joints fall directly above a sleeper.
 - 3. Ensure that joint lines are straight and parallel to major walls.
- D. Finish:
 - 1. Preparation: Abrade entire floor surface with 100 grit sanding pads or screens. Remove dust and contaminants from floor surfaces by sweeping, mopping and vacuuming. Take precautions to prevent dust infiltration during finishing operations.
 - 2. Apply game lines, graphics and other floor markings as indicated on Contract Documents. Mask flooring to provide sharp edges.
 - 3. Sealer: Apply two coats of floor sealer following manufacturer's directions. Prevent heavy traffic on finished floor for a minimum of 10 days.
- E. Accessories:
 - 1. Install vented base trim, thresholds, and other cover trim as indicated on Contract Drawings for expansion spaces at edges, vertical obstructions, and interruptions of flooring.

3.04 PROTECTION AND CLEANING

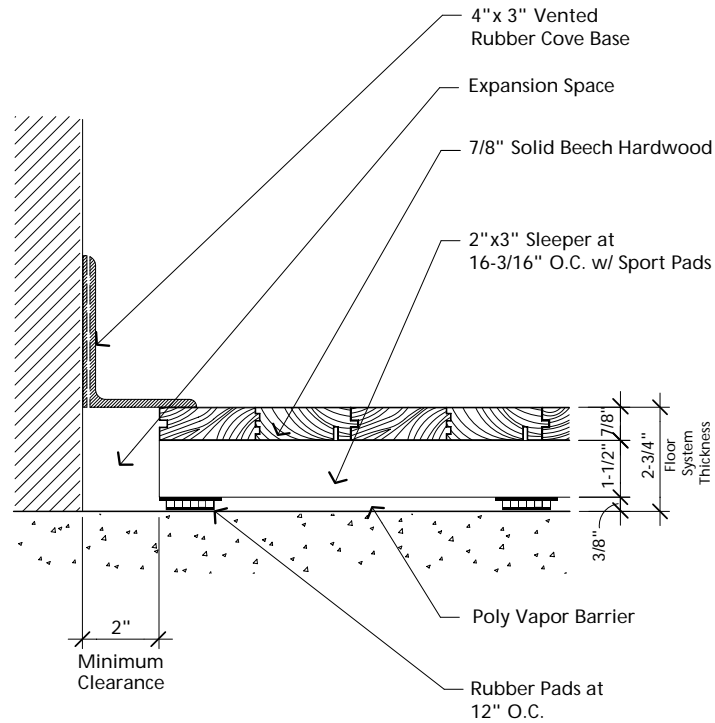
- A. Immediately after sealer coat is dry, cover flooring with protective covering.
- B. Prior to final inspection, remove protective covering, repair any damage to the flooring, clean and machine buff the entire floor area.

END OF SECTION

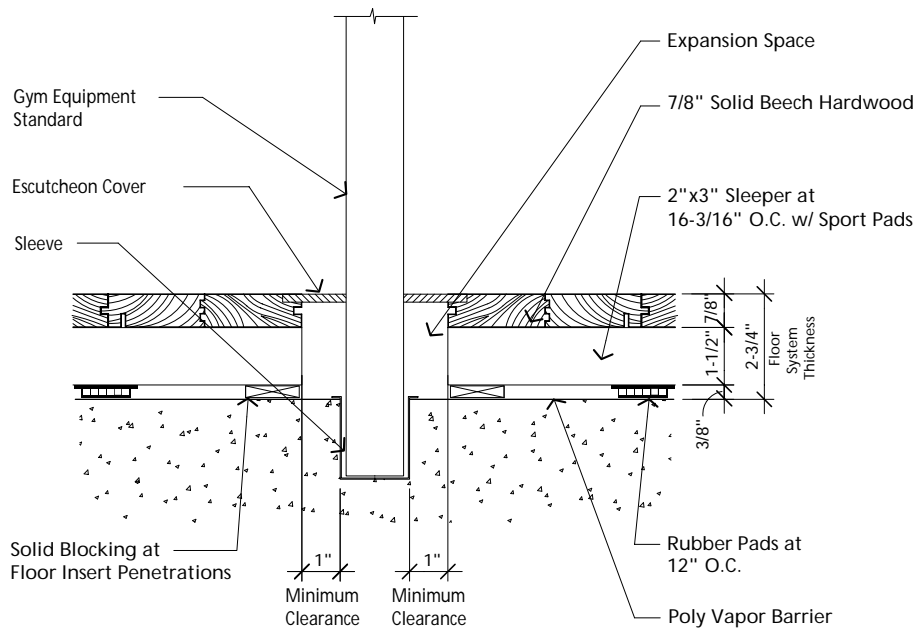
SEE NEXT PAGES FOR DETAILED ILLUSTRATIONS.

**SPECIFICATION FOR JUNKERS' RESILIENT WOOD FLOORING SYSTEM
SINGLE SLEEPER SYSTEM – SECTION 09591 – PAGE 6**

Wall Detail

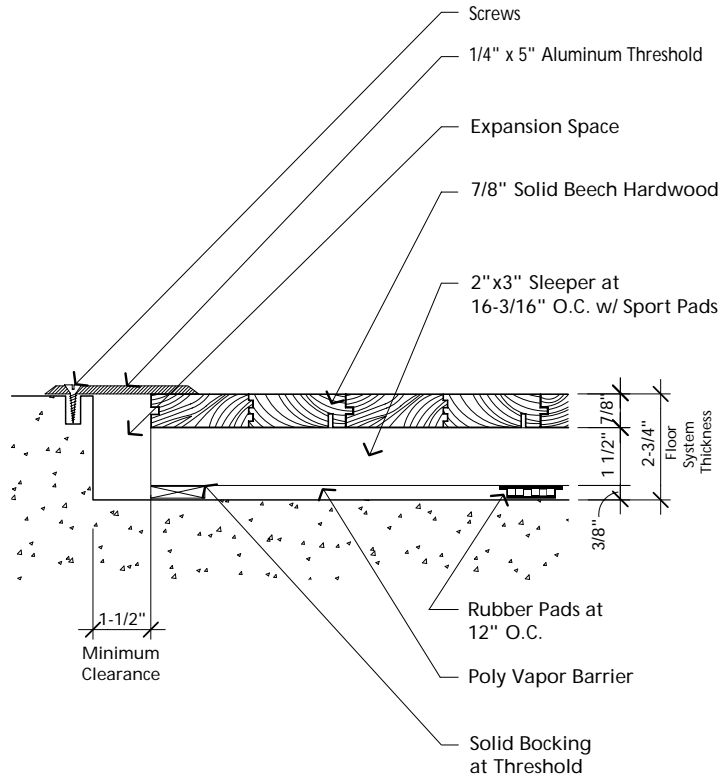


Standard Equipment Detail



**SPECIFICATION FOR JUNKERS' RESILIENT WOOD FLOORING SYSTEM
SINGLE SLEEPER SYSTEM – SECTION 09591 – PAGE 7**

Threshold Detail

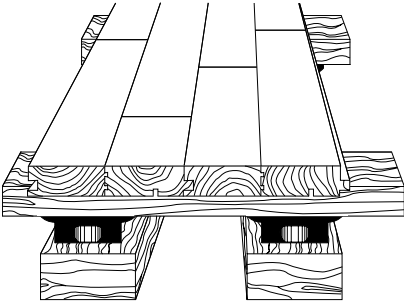


Performance Testing Data

Demand Type:	DIN Type Standard 18032, Part 2	Multi-Purpose Single Sleeper System
Shock Absorption:	Min. 53%	39%
Resilience:	Min. 2.3mm (approx. 1/8") and W 500 (approx. 20") Max. 15%	.8mm and W 500 14%
Rolling Load:	Min. 1500 N (approx. 330 lbs.)	>1500 N
Ball Response:	Min. 90%	98%
Friction	Min. 0.5, Max. 0.7	0.5

Measured by Otto Graf Institut, Germany

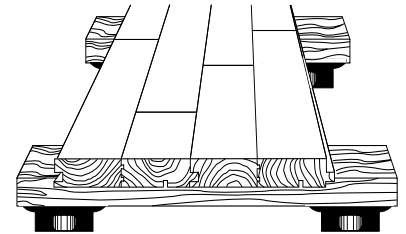
Double Sleeper DIN System



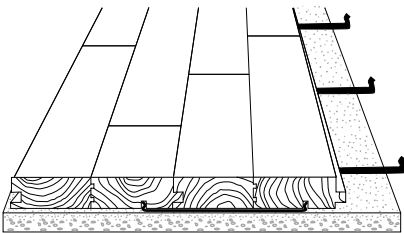
Years of research and testing has resulted in the engineering of Junckers Double Sleeper DIN System. The basket weave subfloor design offers excellent performance and safety, surpassing all the DIN criteria, and is ideal for aerobic, dance or gymnasium applications. Especially valuable for renovation projects, the Double Sleeper DIN System is designed as a "shimmed" system. This allows for installation over all types of uneven subfloors and easy adaptation to any slab depression from 5" to 10" deep.

Single Sleeper DIN System

The Junckers Single Sleeper DIN System is a high performance floor that combines excellent performance and safety with an affordable price. This traditional floating sports floor system has been greatly improved with the addition of our exclusive 7/8" thick DIN sport pad and 16" on center sleeper spacing. This system yields a performance rating that exceeds the International DIN Standards for shock absorption and resilience. The economy and high performance characteristics have made this our "best value" and most widely used gymnasium flooring system.



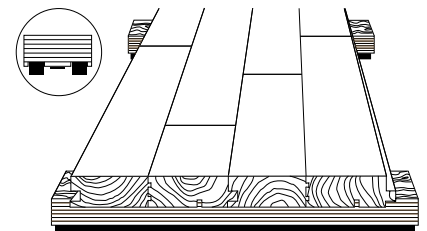
Clip DIN System



The Junckers Clip DIN System is a low profile, high performance gymnasium and aerobic flooring system. This system is ideal for upgrading synthetic floors since it can be installed directly over existing floor surfaces. The total finished floor thickness including the foam subfloor is only 1" to 1-1/2" in increased height depending on foam thickness. Junckers sports floors constructed with 3/8" foam and steel clips exceeds all world recognized DIN standards, providing excellent resilience, high shock absorbance, and safe playing conditions.

UnoBat 50

The UnoBat 50 System is the newest sport floor system from Junckers and is a low profile, high performance gymnasium and aerobic flooring system with a finished floor height of only 2-inches. The subfloor is constructed from a specially engineered plywood sleeper with dual density resilient strips inset into the underside. The resilient strips offer a two step shock absorption performance which yields an exceptionally high ball bounce and excellent resiliency for athletes.



Junckers Hardwood, Inc.

95 Grand Street, Unit 3, New York, NY 10013 • (714) 777-6430 • (800) 878-9663 • Fax (714) 777-6436
information@junckershardwood.com • www.junckershardwood.com