The floor’s surface is the ultimate performance element in many sports and dance activities, but it has a profound effect on safety. About a third of all indoor sports injuries can be traced back to the properties of the floor.

A Junckers solid hardwood flooring system provides the correct resilience, shock absorption and friction characteristics in order for the athlete and dancer to experience the ultimate level of performance and comfort, allowing them to train longer, play harder and so enjoy their sport and performance without worry of injury.

Over 80 years of experience in the hardwood flooring industry has given Junckers the technical expertise to allow us to design and supply the correct undercarriage system and high quality hardwood flooring to suit individual sports, multi purpose and dance floors at whatever level is required and has made us the largest supplier of hardwood sports and dance floor systems in the UK and Ireland. The new EN standards for indoor sports flooring have allowed us to develop newer, better systems to satisfy the most demanding performance requirements.

Contact and speak to Junckers Ltd for advice on the choice of system and life cycle costs over 25 to 35 years of use. Junckers is a member of NBS Plus and the RIBA CPD Core Curriculum and will work with the specifier in writing specifications for the installation of their systems.
If you can dream it, you can achieve it.
We pride ourselves on being customer orientated and support this by having a full time Technical Service department, who are able to offer design service and advice to the end-user and designer before, during and after the installation, including an after care service to advise on the care and maintenance of the floors.

Our Customer Service Department will assist the end-user, installer and distributor in supplying the right product at the right time. We also have 11 full time Technical Area Sales Managers, who are based all around the UK and Ireland to give on site advice at any time. No other hardwood flooring company in the UK and Ireland can match this level of commitment to customer service. Junckers solid hardwood flooring is tried and tested in multi purpose halls, community centres and village halls all over the UK and Ireland.

It is this wealth of experience and resource, especially within the sport, dance and education sector, that has enabled us to offer suitable flooring solutions at a cost effective price to sports centres, universities and hundreds of schools, both new and existing over the years.

Junckers 22mm solid hardwood flooring boards correspond to the BRE Global Green Guide online generic specification for hard floor finishes, Element number 821580002, which achieves a summary rating of A+ within commercial buildings.”
ENVIRONMENT

Flemming Juncker, the founder of Junckers, was a forester. When he started the production of parquet floors in the 1930s, he used the parts of the hardwood trees which were then only used as firewood. This resulted in a more profitable utilization of the wood resources and thus gave the forest owners a better financial basis for replanting and maintaining their forests.

Through the better utilization of the wood resources Flemming Juncker contributed to making forestry viable, and this is still Junckers’ philosophy. In the regions where we source our wood for sports and dance floors, new trees are planted to such an extent that the total forest area grows each year. This and the fact that the existing forests are thriving is living proof that they are well managed.

Junckers’ manufacturing process uses 100% of the wood. By-products such as bark, chippings and sawdust are used to fuel the on-site power plant providing electrical power and steam for use in the production of our flooring in Koege. Actually the contribution to production of energy is larger than what is possible to use at the factory and therefore the plant also provides electricity for the Danish national grid.

THIS MAKES JUNCKERS A CO2 POSITIVE COMPANY

Junckers is chain of custody certified according to both the timber certification schemes PEFC and FSC. We will continue to work actively together with our local partners and international organizations to preserve the forests in a manner so as to leave forests for future generations to use.
Standards

Sports, drama, dance and performance spaces and multi use halls. It is government legislation that sets the standards for these types of floors. It is a lot more than just specifying “a sprung floor”. BSEN 14904: 2006 was introduced in July 2006 to set standards for all indoor sport flooring. This supersedes BS7044 Part 4 which is now obsolete. All floors designed for sporting or dance use should conform to this new standard.

All Junckers sports systems fully conform to this new standard and are BB compliant.

Solid hardwood floors are designated within the standard as Area Elastic Floors which provide spring resiliency and shock absorbing qualities that are required for sports and dance use to minimise injury from activities such as jumping or moving. If the floor is too hard then the athlete or user will be exposed to early fatigue and aching joints through to more serious leg and back injuries. Other performance characteristics such as vertical deformation ensure that the floor is not too tiring to run on yet still absorbs these forces.

Ball sports such as Basketball demand a high and fast ball response which is also a major performance characteristic covered by the standard. Slip resistance or level of friction is vital to ensure easy turning or sliding yet maintaining integrity without slipping. The floor must also take into account other non-sporting use such as the heavy loads created by retractable seating. BSEN 14904 is part of document EN 14904 which is a high level European wide standard aimed at raising the performance criteria of sports floors and to separate the various types of flooring systems available in the market.

The standard has 4 separate sections and is specific about the performance factors for each material. The new standard shows how each type of flooring will perform against each other. Point Elastic Vinyl floors, Mixed Elastic, Area Elastic wooden floors and Combi-Elastic Wood/Vinyl floors are all included. The tables below which are taken from the standard indicate the shock absorption and Vertical deformation levels between the various flooring materials:

<table>
<thead>
<tr>
<th>Table B.1 - Shock absorption (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table B.2 - Vertical deformation (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>4</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

VD is the vertical deformation of the point-elastic component

These and other results confirm hardwood sports flooring and especially Junckers, as the Gold Standard for sports and dance flooring.
A CHOICE OF SYSTEMS

Junckers floors fall within the Area Elastic group either in A3 or the higher A4 classes. Point elastic vinyl floors for instance and for obvious reasons, cannot offer the same shock absorbing and resiliency characteristics as hardwood area elastic ones. Area elasticity also allows for optimum freedom of movement while point elasticity impedes rapid movement and to some extent can lock the feet to the floor. An example of the differences between the various flooring products are clearly shown on the graphs opposite. The best sports floor surfaces will always be positioned to give the best shock absorption and vertical deformation characteristics yet still exhibit great ball response.

<table>
<thead>
<tr>
<th>Test</th>
<th>BluBAT</th>
<th>Clip</th>
<th>New Era UnoBAT</th>
<th>UnoBAT 50/45</th>
<th>UnoBAT 62+</th>
<th>DuoBAT 110+</th>
<th>Portable A3</th>
<th>Portable A4</th>
</tr>
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<tbody>
<tr>
<td>EN 14904 Class A3</td>
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<td>✓</td>
<td>✓</td>
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<td>EN 14904 Class A4</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
For decades Junckers Solid Press Dried Beech has been tried and tested in terms of strength, durability and performance. 2 choices, either beautiful light and golden or warm honey brown in colour, both with a warm natural grain they are both functional and highly attractive in appearance.

**A CHOICE**

- **SylvaSport Beech**
  - Tried and tested in terms of strength, durability and performance.
  - 2 choices: beautiful light and golden or warm honey brown in colour.
  - Both with a warm natural grain, functional and highly attractive.

- **SylvaSport Beech Premium**
  - A natural looking prefinished Beech floor with a fine degree of colour and grain variation.
  - Sound and open medium sized knots and other natural characteristics such as surface hairline splits.
  - Irregularities are factory filled.

- **SylvaSport Beech Club**
  - A rustic looking prefinished Beech floor with substantial structural grain and colour variation.
  - Sound and open medium sized knots and other natural characteristics such as surface hairline splits.
  - Irregularities are factory filled.

- **SylvaSport Premium**
  - The favoured surface for most sports and performance use, as it has the most natural appearance.

- **SylvaSport Club**
  - A rustic look chosen for cost effectiveness.

- **Junckers SylvaSport and SylvaTechplus hardwood floors**
  - Manufactured from two rows of 22mm thick PEFC certified solid European Beech staves assembled into self-supporting boards 3700mm long by 129 mm wide by means of a carefully machined double dovetail joint.
  - Tongued and grooved on all four sides. Board ends are always supported - will not break.
  - The tongues are impregnated with proprietary treatment to reduce the gluing effect of any subsequent maintenance coats of lacquer.

- **Being 100% solid hardwood throughout**
  - You can rest assured that the boards will not delaminate and will last far longer than engineered boards.
  - Can be refurbished many, many times, good life cycle costs.
  - Strong can withstand exceptional loadings, up to 25 years warranty.

- **Suitable and guaranteed for use**
  - Over Under floor heating systems and Retractable seating systems.

- **Pre finished with several coats of Junckers furniture quality hardwearing and flexible pure polyurethane lacquer**
  - Ready for use straight away.
OF BOARD

The boards are made as factory finished products so are ready for use as soon as they are fitted and are all finished with several coats of hardwearing, furniture quality silk matt polyurethane seal. 3 grades are available, the 2 most popular ones chosen are Premium and Club, Champion grade is also available.

SylvaTech plus Premium
SylvaTechplus Premium is a natural looking vacuum stained Beech board, honey brown in colour throughout its entire thickness with a degree of colour and grain variation. Sound medium sized knots and other natural characteristics such as surface hairline splits. Irregularities are factory filled.

SylvaTech plus Club
SylvaTechplus Club is a rustic looking vacuum stained prefinished Beech board, honey brown in colour throughout its entire thickness with substantial structural and colour grain variation between the staves. Combination of sound and open medium sized knots and other natural characteristics such as heartwood, surface hairline splits and inbark. Irregularities are factory filled.

- Junckers 22mm solid hardwood flooring boards correspond to the BRE Global Green Guide online generic specification for hard floor finishes, Element number 821580002, which achieves a summary rating of A+ within commercial buildings
- Fully conforms to BS 14904: 2006 and Sport England’s requirements. Quick and easy to install. No need to acclimatise on site.
- The uniformly coloured Beech surface has the perfect light reflectance thus reducing the overall need for artificial light.

- SylvaTech plus is a stronger & harder alternative to Oak, has far better tensile strength, has a far lighter uniformity of colour, and offers much better long term integrity within its straighter grain structure to cope with the constant use that it will receive under dynamic loading.
- Maple has always been a popular choice for sports halls, 2 choices are also available.
Mind, Body & Soul+Collection

Junckers believes that creativity and expression can be a part of performance and fitness flooring. Warmer wood tones can provide the ideal healing backdrop for wellness centers, Yoga and Pilates.

More vibrant hues can offer the right amount of pizzazz for Zumba and other exhilarating activities in Group Exercise areas. When sports flooring subfloor systems are combined with innovative colours and species of Junckers Soul+Collection, an unlimited, high performance colour pallet becomes reality.

Colour Impregnated Boards

REAL

Hot Salsa

Smooth Rum

Spicy Pepper

Wild Hazel

Raw Sugar

Dark Coco

Tender Olive

Reflection

Raw Sugar

Natural Pearl

Golden Pearl

Silver Pearl

Sylva Red

Sylva Ket

Jatoba

Black Oak
The Regal ENGLAND Mind, Body &
EVERYDAY PERFORMANCE

DURING

CHARACTER
The Junckers BluBAT batten system is the simplest of the Junckers subconstruction systems offering good shock absorption and resilience at low costs.

**FACTS:**
- Conforms to EN 14904: A3
- Low cost batten system
- Multi-purpose use
- Fast and easy installation
- Good shock absorption and ball bounce
- Good step sound performance
- Suitable for underfloor heating
- Choice of three different construction heights 52 mm, 67 mm and 79 mm

The system is fast and easy to install on a flat, level subfloor. It is tested and approved according to EN 14904: A3.

The system comprises a Junckers 22 mm solid press dried board, secretly nailed to a veneered softwood batten mounted with a continuous layer of 9 mm thick sports foam.

There is a choice of 3 batten thicknesses, 30 mm, 45 mm or 57 mm - including the 9 mm foam and two different batten centres depending on requirements as to sports performance and loading capacity.

The 45 mm and 57 mm thick battens are the main recommendations for underfloor heating systems in between the battens. The 30 mm thick batten is ideal over underfloor heated screeds.

**SYstem Components**
Construction height, including 22 mm thick floorboard: 52 mm, 67 mm, 79 mm.

1. 22 x 129 x 3700 mm floorboards
2. Porta nail
3. BluBAT batten system includes 9 mm foam strip
4. Polythene vapour check
5. Skirtings

**Test**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>EN 14904: A3</th>
<th>Test results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shock absorption</td>
<td>≥ 40 &lt; 55 %</td>
<td>55%</td>
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<tr>
<td>Vertical deformation</td>
<td>≥ 1.8 &lt; 3.5 mm</td>
<td>1.9 mm</td>
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<tr>
<td>Ball bounce</td>
<td>≥ 90 %</td>
<td>100%</td>
</tr>
<tr>
<td>Friction</td>
<td>100 N</td>
<td>100</td>
</tr>
<tr>
<td>Rolling load</td>
<td>≥ 80 N ≤ 110</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>≥ 1500 N</td>
<td>√</td>
</tr>
<tr>
<td>Pointload</td>
<td>None</td>
<td>5000 N - 500 kg²</td>
</tr>
</tbody>
</table>

1) Junckers test with solid rubber wheels, width = 50 mm, diameter = 100 mm.
2) Junckers test with 100x100 mm point load.
The Junckers CLIP system is a solution perfectly suited for renovation projects that require low construction height.

**Facts:**
- Conforms to EN 14904: A3 with 10 mm sportsfoam
- Very low construction height – 32 mm
- 1st choice for aerobics
- Perfect for refurbishment
- Floating floor system
- Fast and easy installation
- Suitable for underfloor heated screeds

The system fully conforms to the requirements of EN 14904: A3 and offers good shock absorption and resilience at low costs. If placed on an even subfloor, installation of a floating floor such as the CLIP system couldn’t be simpler or quicker. Junckers 10 mm thick sports foam underlay is rolled out over the subfloor and the 22 mm Junckers solid hardwood boards are joined together using Junckers own unique Clip system.

If an even lower construction height is required, 5 mm thick foam is also available.

This system is the main recommendation for refurbishment of existing floors where overall depth of the floor finish is crucial.

**System Components**
Construction height, including 22 mm thick floorboard: 32 mm
1. 22 x 129 x 3700 mm floorboards
2. Clips
3. Intermediate layer (5 or 10 mm resilient foam)
4. Polythene vapour check
5. Skirtings

**Test**

<table>
<thead>
<tr>
<th>Test</th>
<th>Requirements EN 14904: A3</th>
<th>Test results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shock absorption</td>
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<td>46%</td>
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<tr>
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<td>≥ 1.8 &lt; 3.5 mm</td>
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<tr>
<td>Ball bounce</td>
<td>≥ 90 %</td>
<td>98%</td>
</tr>
<tr>
<td>Friction</td>
<td>≥ 80 ≤ 110</td>
<td>100</td>
</tr>
<tr>
<td>Rolling load</td>
<td>≥ 1500 N</td>
<td>√</td>
</tr>
<tr>
<td>Pointload</td>
<td>None</td>
<td>2500 N¹</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4000 N - 400 kg²</td>
</tr>
</tbody>
</table>

¹ Junckers test with solid rubber wheels, width = 50 mm, diameter = 100 mm.
² Junckers test with 100x100 mm point load.
New Era UnoBAT is designed for all sports, multi purpose and activity floors.

**Facts:**
- Junckers High Performance Sports Floor System
- Conforms to EN 14904: A4
- Variable height
- Can be fitted over uneven sub-floors - no need for screeds
- Ideal for high level dance
- Excellent step sound performance
- Quick installation
- Suitable for underfloor heating-pipes between battens
- New dual directional base makes installation simpler and quicker

The New Era UnoBAT system is a packable high quality flooring system which can be installed over an uneven sub-floor. Extensive testing and development work has taken place over the last couple of years to improve the well established standard New Era levelling system to meet the new standards.

This new system incorporates a black evazote polyethylene foam rubber base for higher performance characteristics to the higher A4 level of the standard.

The system comprises the 22 mm Junckers solid hardwood board, secretly nailed to a kiln dried softwood batten, which is supported by foam backed strong polypropylene cradles. Fine levelling of the system takes place between the cradles and the battens. There are a range of heights available from 75 mm to 439 mm. Choice of batten centres depends on requirements as to sports performance and loading capacity.

**System Components**

- Minimum construction height, including 22 mm thick floorboard - 74 mm
- 1. 22 x 129 x 3700 mm floorboards
- 2. 2.2 x 45 mm J-nail (machine nail) or 50 mm Portanails
- 3. New Era batten system: 36 or 48 mm x 45 mm x 1800 mm
- 4. Polypropylene cradles with 10mm foam
- 5. Polythene vapour check
- 6. Skirtings

**Test**

<table>
<thead>
<tr>
<th>Test</th>
<th>Requirements EN 14904: A4</th>
<th>Test results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shock absorption</td>
<td>≥ 55 &lt; 75%</td>
<td>65%</td>
</tr>
<tr>
<td>Vertical deformation</td>
<td>≥ 2.3 &lt; 5.0 mm</td>
<td>2.8 mm</td>
</tr>
<tr>
<td>Ball bounce</td>
<td>≥ 90%</td>
<td>91%</td>
</tr>
<tr>
<td>Friction</td>
<td>≥ 80 ≤ 110</td>
<td>100</td>
</tr>
<tr>
<td>Rolling load</td>
<td>≥ 1500 N</td>
<td>√</td>
</tr>
<tr>
<td>Pointload</td>
<td>None</td>
<td>2500 N²</td>
</tr>
<tr>
<td></td>
<td>1) Junckers test with solid rubber wheels, width = 50 mm, diameter = 100 mm.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2) Junckers test with 100x100 mm point load.</td>
<td></td>
</tr>
</tbody>
</table>
The system fully conforms to the requirements of EN 14904: A4 and is fast and economical to install. It has a total construction height of 50 mm designed for installation on flat, level subfloors.

The system comprises a 22 mm solid Junckers hardwood board secretly nailed to a veneered softwood batten featuring a unique arrangement of specially developed rubber strips on the underside. The outer and inner strips differ in density and performance – low density on the outside and high density on the inside – to produce a 2 step absorption effect with a braking system, which delivers optimum shock absorption and consistent ball bounce.

UnoBAT 50 offers the performance attributes necessary for fast moving ball games while keeping the risk of injury at an absolute minimum.

Choice of batten centres depends on requirements as to sports performance and loading capacity. Heavy loads are supported without compromising the performance of the floor, e.g. retractable seating.

**Facts:**

- Junckers High Performance Sports Floor System
- Conforms to EN 14904: A4
- Low construction height – 50 mm
- Perfect for high and low impact activities
- Fast and easy installation
- Ideal solution for heavy loads without loss of performance
- Perfect for refurbishment
- Suitable for underfloor heated screeds

---

**System Components**

**Construction height, including 22 mm thick floor board - 50 mm**

1. 22 x 129 x 3700 mm floorboards
2. 2.2 x 45 mm J-nail (machine nail)
3. UnoBAT 50 batten: 28 x 50 x 3600 mm incl. resilient rubber strips
4. Polythene vapour check
5. Skirtings

---

**Test**

<table>
<thead>
<tr>
<th>Requirements EN 14904: A4</th>
<th>Test results</th>
<th>Batten centre</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>411 mm</td>
<td>336 mm</td>
</tr>
<tr>
<td>Shock absorption</td>
<td>56%</td>
<td>57%</td>
</tr>
<tr>
<td>Vertical deformation</td>
<td>2.8 mm</td>
<td>2.4 mm</td>
</tr>
<tr>
<td>Ball bounce</td>
<td>93%</td>
<td>96%</td>
</tr>
<tr>
<td>Friction</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Rolling load</td>
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<td>√</td>
</tr>
<tr>
<td>Pointload</td>
<td>3000 N</td>
<td>3500 N</td>
</tr>
</tbody>
</table>

---

1) Junckers test with solid rubber wheels, width = 50 mm, diameter = 100 mm.
2) Junckers test with 100x100 mm point load.
Junckers UnoBAT 45 batten system is our lowest elevation, highest performing single batten undercarriage system offering a resilient floor to the highest demands and criteria.

**Facts:**
- Junckers High Performance Sports Floor System
- Conforms to EN 14904: A4
- Very low construction height - 45 mm
- Perfect for high and low impact activities
- Fast and easy installation
- Ideal solution for heavy loads without loss of performance
- Perfect for refurbishment
- Suitable for underfloor heated screeds

Fast and economical to install, it fully conforms to the requirements of EN 14904: A4 and has a total construction height of 45mm designed for installation on flat, level subfloors.

The system comprises a 22 mm solid Junckers hardwood board secretly nailed to a veneered softwood batten featuring a unique arrangement of specially developed rubber strips pre-mounted on the underside of the batten, including a built in deformation limit. This ensures that the batten system delivers optimum shock absorption and ball bounce consistently across the entire floor’s surface.

UnoBAT 45 offers the performance attributes necessary for fast moving ball games while keeping the risk of injury at an absolute minimum. Choice of batten centres depends on requirements as to sports performance and loading capacity.

The system supports heavy loads without compromising the performance of the floor, eg retractable seating.

**System Components**

**Construction height, including 22 mm thick floor board - 45 mm**

1. 22 x 129 x 3700 mm floorboards
2. 2.2 x 45 mm J-Nail (Machine Nail)
3. UnoBat 45 batten: 23 x 50 x 3600 mm incl. resilient rubber strips
4. Polythene vapour check
5. Skirtings

**Test**

<table>
<thead>
<tr>
<th>Test</th>
<th>Requirements EN 14904: A4</th>
<th>Test results</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Batten centre</td>
</tr>
<tr>
<td></td>
<td></td>
<td>411 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>336 mm</td>
</tr>
<tr>
<td>Shock absorption</td>
<td>≥ 55 &lt; 75 %</td>
<td>60%</td>
</tr>
<tr>
<td>Vertical deformation</td>
<td>≥ 2.3 &lt; 5.0 mm</td>
<td>2.9 mm</td>
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<tr>
<td>Ball bounce</td>
<td>≥ 90 %</td>
<td>95%</td>
</tr>
<tr>
<td>Friction</td>
<td>≥ 80 ≤ 110</td>
<td>100</td>
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<tr>
<td>Rolling load</td>
<td>≥ 1500 N</td>
<td>3000 N</td>
</tr>
<tr>
<td>Pointload</td>
<td>None</td>
<td>5500 N - 550 kg</td>
</tr>
</tbody>
</table>

1) Junckers test with solid rubber wheels, width = 50 mm, diameter = 100 mm.
2) Junckers test with 100x100 mm point load.
Junckers UnoBAT 62+ single layer batten system is a high performance undercarriage solution, which can be packed, offering a resilient floor to the highest criteria.

The system fully conforms to the requirements of EN 14904: A4 and is fast and economical to install. It has a minimum construction height of 62 mm (plus up to 30 mm of levelling material) designed for installation over even or uneven subfloors.

The system comprises a 22 mm Junckers solid hardwood board secretly nailed to a veneered softwood batten featuring unique shock absorption rubber pads. In conjunction with Junckers patented levelling system, which includes a build in J-lock, the system provides high performance sports and dance characteristics and enhanced durability. The time saving levelling system using locking wedges is easily mounted on the battens and correct height and levelness of the floor is ensured without use of nails and tools. Levelling the floor is done in less time than by using standard packing materials. UnoBAT 62+ offers the performance attributes necessary for fast moving ball games while keeping the risk of injury at an absolute minimum.

Choice of two different batten centres depending on requirements as to sports performance and loading capacity. Contact Junckers for further details. Heavy loads are supported without compromising the performance of the floor.

**FACTS:**
- Junckers High Performance Sports Floor System
- Conforms to EN 14904: A4
- Perfect for high and low impact activities
- Can be installed over uneven subfloors
- Perfect shock absorption and ball bounce
- Excellent step sound performance
- Timesaving installation due to the unique patented Junckers levelling system
- Suitable for underfloor heating - pipes between battens

The system comprises a 22 mm Junckers solid hardwood board secretly nailed to a veneered softwood batten featuring unique shock absorption rubber pads. In conjunction with Junckers patented levelling system, which includes a build in J-lock, the system provides high performance sports and dance characteristics and enhanced durability. The time saving levelling system using locking wedges is easily mounted on the battens and correct height and levelness of the floor is ensured without use of nails and tools. Levelling the floor is done in less time than by using standard packing materials. UnoBAT 62+ offers the performance attributes necessary for fast moving ball games while keeping the risk of injury at an absolute minimum.

Choice of two different batten centres depending on requirements as to sports performance and loading capacity. Contact Junckers for further details. Heavy loads are supported without compromising the performance of the floor.

**SYSTEM COMPONENTS**
Minimum construction height, including 22 mm thick floorboard-62 mm

1. 22 x 129 x 3700 mm floorboards
2. 2.2 x 45 mm J-nail (machine nail)
3. UnoBAT 62+ batten: 25.5 x 60 x 3600 mm with J-Lock shock pad system
4. Locking wedge
5. Polythene vapour check
6. Skirtings

**TEST**

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Test results</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN 14904: A4</td>
<td>Batten centre</td>
</tr>
<tr>
<td>411 mm</td>
<td>336 mm</td>
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</table>

<table>
<thead>
<tr>
<th>Property</th>
<th>EN 14904: A4</th>
<th>411 mm</th>
<th>336 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shock absorption</td>
<td>≥ 55 &lt; 75 %</td>
<td>64%</td>
<td>66%</td>
</tr>
<tr>
<td>Vertical deformation</td>
<td>≥ 2.3 &lt; 5.0 mm</td>
<td>2.4 mm</td>
<td>2.5 mm</td>
</tr>
<tr>
<td>Ball bounce</td>
<td>≥ 90 %</td>
<td>95%</td>
<td>96%</td>
</tr>
<tr>
<td>Friction</td>
<td>≥ 80 ≤ 110</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Rolling load</td>
<td>≥ 1500 N</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Pointload</td>
<td>None</td>
<td>3000 N²</td>
<td>3500 N³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5500 N - 550 kg⁴</td>
<td>6000 N - 600 kg⁵</td>
</tr>
</tbody>
</table>

1) Junckers test with solid rubber wheels, width = 50 mm, diameter = 100 mm.
2) Junckers test with 100x100 mm point load.
Junckers DuoBAT 110+ double layer batten system is a high performance undercarriage solution offering a resilient floor to the highest demands and criteria.

The system fully conforms to the requirements of EN 14904: A4 and is easy to install. It has a minimum construction height of 110 mm (with levelling material – 140 mm) designed for installation on even or uneven subfloors with fewer packing areas than other double batted systems.

The J-Lock system ensures fast and secure connection between the upper and lower battens. The system comprises a 22 mm solid Junckers hardwood board secretly nailed to softwood veneered double battens featuring unique shock absorption rubber pads, which in conjunction with the patented J-Lock connection system delivers high performance sports and dance characteristics and enhanced durability. The rubber pads never lose their elasticity.

DuoBAT 110+ offers the performance attributes suitable for high level gymnastic, dance, fast moving ball games and aerobics while keeping the risk of injury at an absolute minimum.
To meet the high demands made upon squash court floors Junckers has developed the highly successful Beech SylvaSquash system.

**FACTS:**
- Accredited by England Squash, SRA and WSF
- Uniform light coloured surface – easier to follow the ball in play
- Good shock absorption
- Ideal surface for friction
- Tried and tested
- Available in unsealed or sealed finishes
- Line marking using Junckers line marking paint

Given full accreditation by the SRA, England Squash and the WSF, the floor provides the player with the optimum playing surface in terms of shock absorption, resiliency, true and even ball response, light uniform colour and friction. Extremely fast games such as squash and racquet ball needs a surface with a high degree of friction. Junckers SylvaSquash comprises a solid Junckers 22 mm thick Beech board of the classic grade with a 45 grit finish, which provides the high level of friction required by the sport. An unsealed finish is the first recommendation by the SRA, England Squash and the WSF.

However, SylvaSquash is also available with one coat of polyurethane seal factory applied as required. The Junckers BluBat and New Era UnoBat systems are the preferred undercarriage systems for a squash floor. Because Junckers SylvaSquash boards are manufactured in uniform lengths, every board end is fully supported by a batten. This eliminates the possibility of board end breakages, a common problem with other “random strip” floors.
Junckers Portable Floor Systems are the perfect solution for temporary use and events. Very quick to install Junckers offers two different portable floor solutions depending on the performance requirements for the floor.

In general, Junckers Portable Floor Systems offer the ultimate solution in terms of flexibility for arenas and halls playing host to a wide variety of sporting and non-sporting events. In situations where specific line-markings are required, Junckers portable sports floors provide the perfect solution for TV transmissions. The systems are suitable for underfloor heated screeds and installation over ice-rinks is also possible. Junckers’ specially designed storage carts make storage and transportation easy.

**PORTABLE A3 SYSTEM**

**Facts:**
- Medium performance use
- Conforms to EN 14904: A3, with 10 mm Junckers sports foam
- Ideal for dance floors, fitness and concerts
- Very low construction height 27/32 mm
- Resilient foam underlay, 5 or 10 mm
- Floating floor system
- Good shock absorption and ball bounce
- Quick and easy installation and dismantling

Junckers Portable A3 Floor System is a perfect solution when a low construction height is required and with a 10 mm underlay this portable floor solution fully conforms to EN 14904: A3, meaning that this system is very suitable as a dance and sports floor, fitness floor or for similar activities.

The floor is quickly and easily installed. An intermediate layer of either 5 mm or 10 mm is required both to protect the existing sub floor and to provide shock absorption and resilience.

Once the ergonomic light weight pre-assembled panels of 22 mm solid Junckers hardwood boards are placed in position, they are held securely with practical fittings which are easy to release when the system is disassembled. A ramped metal trim forms a strong edge.

**System Components**

Construction height, including 22 mm thick floor board = 27/32 mm

1. Floor elements:
   1/1 elements 513 x 1800 mm
   1/2 elements 513 x 900 mm
2. Polythene vapour check
3. Intermediate layer (5 or 10mm resilient foam)
4. Ramped metal trim

**Test**

<table>
<thead>
<tr>
<th>Test</th>
<th>Requirements EN 14904: A3</th>
<th>Test results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shock absorption</td>
<td>≥ 40 &lt; 55 %</td>
<td>46%</td>
</tr>
<tr>
<td>Vertical deformation</td>
<td>≥ 1.8 &lt; 3.5 mm ≥ 90 %</td>
<td>2.0 mm 99%</td>
</tr>
<tr>
<td>Ball bounce</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Friction</td>
<td>≥ 80 ≤ 110</td>
<td>100</td>
</tr>
<tr>
<td>Rolling load</td>
<td>≥ 1500 N</td>
<td></td>
</tr>
<tr>
<td>Pointload</td>
<td>None</td>
<td></td>
</tr>
</tbody>
</table>

1) Junckers test with solid rubber wheels, width = 50 mm, diameter = 100 mm.
2) Junckers test with 100x100 mm point load.
**PORTABLE A4 SYSTEM**

**FACTS:**
- Junckers High Performance Sports Floor System
- Conforms to EN 14904: A4
- Ideal for basketball courts or similar activities
- Low construction height 40 mm
- Hardwearing battens with soft shock pads for maximum performance in heavy duty sports
- High shock absorption and perfect ball bounce
- Unique supporting and protecting edge reducer for the perimeter of the floor
- Time saving installation and dismantling due to prefixed battens on the panels

The A4 sports floor system is the latest version of Junckers portable floor solutions. Junckers is now able to present a portable floor system that fully conforms to the requirements of EN 14904: A4, meaning that we have a portable floor solution in our product range which is suitable for high performance sport.

Installation is simple and very fast. The ergonomic light weight pre-assembled panels of 22 mm solid hardwood boards have prefixed battens mounted with soft pads to provide a high shock absorption and resilience.

The system includes last row panels, which fit without adjustment and a unique supporting and protecting reducer for the perimeter of the floor. Once the panels are placed, they are held securely in position with practical fittings that are easy to release when the system is disassembled.

### System Components

**Construction height, including 22 mm thick floor board - 40 mm**

1. Floor elements:
   - 1/1 elements 513 x 1800 mm
   - 1/2 elements 513 x 900 mm
2. Prefixed battens with shock pads
3. Polythene vapour check
4. Supporting edge reducer

### Test

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<tr>
<th>Test</th>
<th>Requirements EN 14904: A4</th>
<th>Test results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shock absorption</td>
<td>≥ 55% - 75%</td>
<td>62%</td>
</tr>
<tr>
<td>Vertical deformation</td>
<td>≥ 2.3 &lt; 5.0 mm</td>
<td>3.3 mm</td>
</tr>
<tr>
<td></td>
<td>≥ 90%</td>
<td>92%</td>
</tr>
<tr>
<td>Ball bounce</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Friction</td>
<td>≥ 80 ≤ 110</td>
<td>100</td>
</tr>
<tr>
<td>Rolling load</td>
<td>≥ 1500 N</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3000 N 1)</td>
</tr>
<tr>
<td>Pointload</td>
<td>None</td>
<td>5000 N ~ 500 kg2)</td>
</tr>
</tbody>
</table>

1) Junckers test with solid rubber wheels, width = 50 mm, diameter = 100 mm.
2) Junckers test with 100x100 mm point load.
The most common question that we get asked is: "Is Junckers suitable for use over Underfloor heating?" The answer is a resounding YES! Junckers’ solid hardwood floors are firm and stable due to controlled low and consistently uniform moisture content of our prefinished floorboards and our fine machining tolerances. We guarantee it!

All of our products are tested with the leading manufacturers of underfloor heating systems, are approved by the Under Floor heating Manufacturers Association and have been in use for many years and in hundreds of projects. Junckers flooring is adaptable and can be installed in almost any setting, and adjusted to most underfloor heating systems.

Junckers’ floors are suited to both hot water and electrical systems. This makes Junckers solid hardwood flooring the ideal surface for underfloor heating. We advise that if you are considering the use of our flooring over underfloor heating that you contact us for further guidance.

More detailed information on the use of Junckers flooring over underfloor heating can be obtained from Junckers Ltd Technical Department on 01376 534720 (Ireland 00353 (1) 462 2580) or visit www.junckers.co.uk

Junckers Combi Sport Skirting
Junckers Combi Sport Skirting has been designed in such a way that it can be used for floating sports floor systems and where ventilation of the perimeter is required. The skirting can be installed either way up, to provide maximum height or maximum cover.

Moisture barrier
To ensure a safe and fast installation Junckers offers an extra wide PE membrane. The PE-membrane has a width of 4 metres and on the membrane is shown a marking line, which clearly indicates where the overlap has to be. It is manufactured in a recyclable material in consideration of the environment.

Line marking paint
Junckers manufactures the seals used on the floorboards and also the coloured line marking paints for use in marking out courts, logos and special events.

The water-based line marking paint is available in white, red, green, blue, yellow and black. Junckers High Performance sports seal is used to overcoat the newly installed lines to maximise the life of the lines.

Bushings
Junckers bushings are designed to allow access to post holes in the sub-floor whilst looking good and are easy to use.
Retractable seating
Junckers hardwood sports floors are designed to accommodate normal foot loading but often extra loads such as retractable seating and access towers are put onto our floors. Generally this will not be a problem but we may need to reinforce the under structure of the flooring to accommodate these loads. Please contact Junckers Technical Department on 01376 534720 (Ireland 00353 (1) 462 2580) or visit www.junckers.co.uk for further details on a project by project basis.

JUNCKERS SUPPORT TO THE SPECIFIER
Junckers area Technical sales managers and technical staff are able to supply NBS specifications on the installation of our flooring for your project. Junckers specifications are also available on NBS Plus.

We also operate with RIBA to offer RIBA approved core Curriculum CPDs. Junckers area Technical sales managers and technical staff present a choice of 4 CPDs.

1) Selecting and specifying the correct hardwood floor.
2) Hardwood sports flooring.
3) Installation of hardwood flooring.
4) Selecting the correct maintenance schedule for hardwood flooring.

Junckers technical staff are on hand to offer telephone or face to face advice, design assistance and all technical information on Junckers products.
**Maintenance & Life Cycle costs**

Maintenance of a hardwood floor does not need to be hard. Day to day cleaning is quite simple, follow a few guidelines and the floor will be easily kept clean and in good condition. First of all decide if the floor needs an extra coat of seal on installation. In some instances this is a good idea, multi-purpose halls for example where spillages are going to be frequent. The JunckerCare scheme is designed to work in conjunction with the day to day cleaning carried out by the client and the Lifetime warranty; in that it puts the long-term maintenance in the hands of the professionals. To do this all the client needs to do is to enter into a maintenance contract with one of Junckers Approved Contractors to carry out this work.

**Total cost of ownership - Lifecycle costs**

Essentially sports and dance floors are available in different types of surface material. In each case performance, lifetime expectancy, initial purchase price (which includes installation) and maintenance costs all differ significantly. But when weighing up the various options, consider the big picture. In other words, how will your sports or dance floor perform over its entire lifetime and how much will the floor cost in total?

Investing a little time and effort in this respect will ensure that you are not misled. For instance analysis shows that the annual costs of having a hardwood floor are significantly lower than those of both PVC and poured urethane sports floors - even though the initial cost of the hardwood floor may be higher. This is because the initial purchase price is a smaller proportion of the total cost of ownership over the years.

Junckers will warrant the life and long-term performance of the floor and line markings, as long as the flooring is maintained in accordance with Junckers cleaning and maintenance guidelines and uses Junckers maintenance products!

**Designed to last with a minimum of fuss**

All Junckers sports floor systems are subjected to a fatigue test to ensure that they perform consistently for at least 25 years. As to the floorboards, the expected lifetime is 40 to 45 years. Junckers flooring systems are available as total concepts, which include pre-finished hardwood flooring, a suitable undercarriage system, bushings, skirtings and line marking paints and seals. Maintenance makes up the majority of a sports or dance floors life cycle costs. And for this reason Junckers sports and dance floors are designed for easy and efficient maintenance throughout their life.
Junckers.
Proven for over 80 years

All our systems are guaranteed for 10 years and on certain projects Junckers will fully warrant, not only the manufacture, supply and performance, but also the installation of the flooring for the lifetime of the floor, which for this purpose will be for 25 years. This will apply only if installed by a Junckers Approved Flooring Contractor and maintained in accordance with our guidelines by a Junckers Approved Contractor.

The Junckers Approved Contractor scheme means that you are getting a team of highly trained flooring and maintenance contractors, selected for their technical experience and expertise, quality of workmanship and their ability to offer the best possible service on a national basis in the installation and maintenance of your floor. Once you’ve fitted your beautiful Junckers floor it needs caring for. The JunckerCare scheme will look after your floor with the correct maintenance procedures and a programme of servicing, paid for by the client and carried out by the Junckers Approved Contractor that will keep the floor looking good and performing correctly year after year.

Can you afford not to have a Junckers floor?
This is vital from a safety aspect, as users of the floor will always be prone to having accidents. So a well, professionally maintained floor will keep the floor within the recognised British and International standards and minimise risks both from an injury point of view and a legal one as well. Also a perfectly maintained performing floor will lessen the continuous shock to the legs and muscles.

We’re proud of our floors and with a little care you’ll see generations of children, students, athletes both young and old using them with confidence and in complete safety.

The Commonwealth games, Manchester, 2002, England
REFERENCE PROJECTS

Kentish Town Sports Centre
De La Salle College, Jersey
Aldershot Barracks
Tidworth Barracks
Corsham Development Project
Bristol BSF Schools
Wimbledon Racquets and Fitness Club
Headley Court Rehabilitation Centre
Bognor Regis Community College
Black Lion Leisure Centre
Ravenscraig Sports Centre Motherwell
Stirling Sports Village
Aberdeen Sports Village
Lagoon Sports Centre Paisley
Dumfries Leisure Centre
Kenton Bar College, Newcastle, Newcastle BSF
St Josephs Comprehensive School STAG BSF
Graham Sports Centre, Durham
Acklam Grange School, Middlesborough
Sedgefield Community College, Durham PFI
Richmond School, Richmond, North Yorkshire

Joseph Rowntree School, York
Energize Sports Centre, York
Armley Sports Centre, Leeds
Leeds University Sports Hall
Bradford College sports Hall
Bridlington Spa Dance Hall
Barlows Academy
Garstang High School, Preston
Gorton Education Village, Manchester
Halewood School, Knowsley
East Manchester Academy
The Communications Academy, Manchester
Leigh Sports Village, Wigan
King David High School, Manchester
RADA
Siobhan Davis Dance Group
The London School for Contemporary Dance
The Place
Dance East
Longborough University
University of Birmingham
Judo Kwai, Dartford
Elmhurst Ballet School, Birmingham
Central School of Speech and Drama, London, NW
Haberdashers Askes Hatcham School, London, SE14
Geoffrey Chaucer School, London Borough of Southwark
Canterbury High School
Brunel University
Millfield School
Uppingham School
Hampton Schools, Peterborough
Kesgrave High School, Ipswich
Newport Free School, Nr Saffron Walden
University of Hertfordshire
Various Colleges in Cambridge and Oxford
Basildon Hub

FOR THE MOST IMPORTANT SPORT OF ALL:
HUMAN RACE...

Manchester Commonwealth Games, 2002
Crystal Palace National Sports Arena
Andover Leisure Centre
Westgate Leisure Centre
The Handball Arena London Olympics 2012
Glasgow Commonwealth Games
Fivemiletown HS, Fivemiletown
Ashfield Girls, Belfast
Queens PEC, Belfast
St. Cecilia’s, Derry
Waterford Sports & leisure, Waterford
Phibblestown Sec School (Main), Dublin
Trinity College Sports Centre, Dublin
Bundle1 Schools, Ferbane, Banagher, Portlaoise
Loreto Secondary School, Kilkenny
St Claires School, Manorhamilton
Chriost Ri, Cork