



**HARO**  
Sports

**HARO Sports Floor**

# The Foundation for Outstanding Performance

Sports floors that inspire!



# Quality has been our passion since 1866

To ensure that you can enjoy your HARO Floor for many years to come, we process and refine only the finest quality natural materials. Our floors have proven their worth millions of times and are installed all over the world. But they are not just made anywhere – they are made here in Rosenheim. Investing in a high-quality HARO floor provides long-term value and benefits.



We have been working with wood for over 150 years. As Germany's leading flooring manufacturer, we produce naturally beautiful floors with passion and care. In the 5th generation, we still take our responsibility as a family company seriously and are deeply committed to society, the environment and people – guided by the principles of respect and appreciation.



Committed to sustainability



Naturally healthy living



Guaranteed high quality



Made with passion



Made in Germany



# HARO Sports Floors: The outstanding foundation for your sports and multi-purpose halls

HARO Sports is recognised worldwide as the epitome of sports flooring. In more than 100 countries, athletes appreciate the enduring quality and exceptional performance characteristics of our sports floors. A great number of international certificates and acknowledgements from international sports federations are proof of the excellent properties and the use of the floors around the world.

- With 70 years of expertise in the construction of sports floors, we guarantee exceptional durability and long-lasting value
- Outstanding performance characteristics, from school sports to world championships
- Certification according to all national and international standards
- Unparalleled design diversity
- Ecological and low-emission materials that surpass required standards
- Climate-friendly manufacturing processes and ISO-certified quality assurance

## Benefits of the advantages of HARO Sports Floors

- Long-lasting value well into the next generation
- Guaranteed return on investment thanks to a long lifecycle
- Quality-monitored sports flooring systems
- Sports floors that minimise the risk of injury
- Use of resource-efficient construction materials as a basis for sustainable building
- Unique worldwide **10-year** warranty pledge
- Made in Germany
- Solution-oriented advice, service and customer care 24/7

*"Every square metre of your sports hall deserves to be the best in the world."*





# From Professionals for Professionals

All HARO Sports Floors not only meet all the properties required by DIN 18032-2 and EN 14904 under dynamic load, they exceed them by far. An independent testing institute uses a so-called 'artificial athlete' in the testing procedure, with which the latest sports science findings are used as an evaluation standard. In combination with the tested properties, HARO Sports Floors are especially gentle on the body and safe to use, meeting the strict requirements of the German accident insurance funds.

For all athletes and users of the floor, these values offer sensational playing and impact absorption properties combined with excellent ball rebound. The strain on the body and joints is substantially minimised. The high energy consumption and thus the fatigue of the athlete are also reduced.

To consistently ensure the established quality standards, HARO Sports Floors undergo annual RAL quality monitoring.



All HARO Sports Floors comply with DIN V 18032.2.  
The annual RAL quality audit ensures that it stays that way in the future.

## Shock absorption

Shock absorption refers to the reduction of the rebound force of a sports floor construction compared to a rigid floor. A maximum of 47% of the impact force is allowed to be transferred to the athlete.

## Vertical standard deformation

Defines the vertical deformation of the sports floor under load. This must be at least 2.3 mm.

## Deformation control area

The expansion of the deformation control area is measured after a distance of 500 mm from the vertical application of force (drop weight 20 kg). Maximum deformation difference: 15%.

## Ball rebound

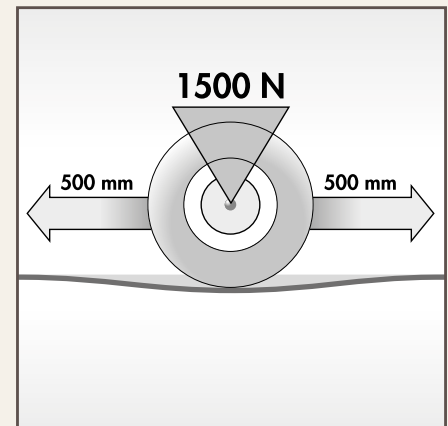
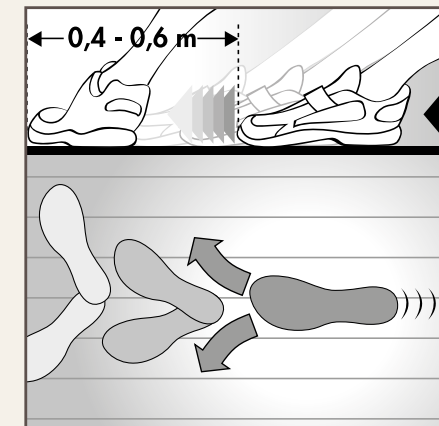
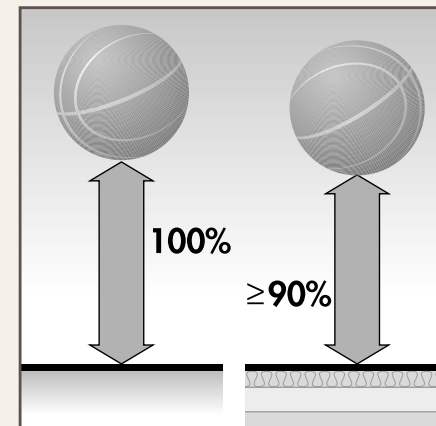
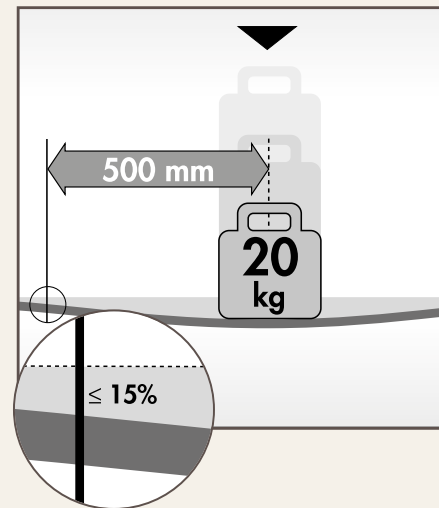
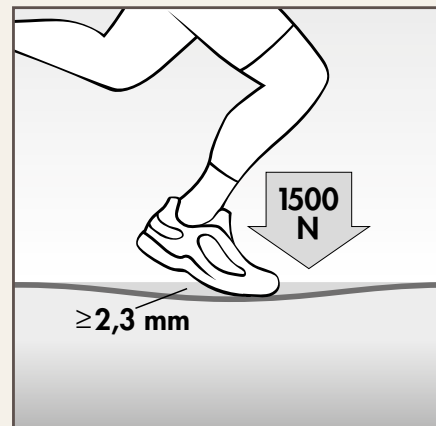
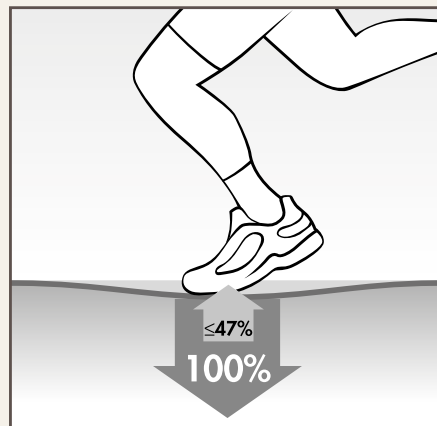
Indicates the rebound height of a basketball on an area-elastic sports floor compared to the rebound height on a rigid floor in %. The ball rebound should be at least 90%.

## Slip resistance

Refers to the property of a sports floor surface to allow rotational movements of an athlete while preventing unintended slipping. Required sliding distance: 0.4 mm to 0.6 mm.

## Behaviour under rolling load

The resistance of an area-elastic sports floor to loads exerted by rollers or wheels. Minimum requirement: Axle load without damage is 1,500 N.





# Modular structure

## Unique sports floors with pioneering modular technology

We were the first sports floor manufacturer to develop modular technology in order to offer you a reliable, long-lasting and consistent standard of quality.



This means that we do not supply individual components, but factory pre-assembled elements.

Our accordance with the strict ISO 9001 standards ensures that you benefit from our quality monitoring when manufacturing our modules.. All production processes are thoroughly and verifiably monitored and documented. Audits by the TÜV technical inspection association take place annually.

- During production, each component of a module has a special significance for the high quality of your sports floor:
- All components are made exclusively of tested, high-quality materials
  - The spacing is always dimensioned to provide optimum flexibility and playing characteristics
  - Connections are set in such a way that the finished sports floor impresses without any visible or tangible joints



# The advantages of HARO Sports Floors in comparison

| Properties             | HARO Sports Floor  | Solid wood floor   |
|------------------------|--|--|
|                        |   |   |
| Swelling and shrinking | <ul style="list-style-type: none"><li>• About seven times more dimensionally stable than solid wood flooring</li><li>• Insensitive to climate fluctuations in the hall</li><li>• Multi-layer structure</li><li>• Jointless installation regardless of the surface size</li></ul> | <ul style="list-style-type: none"><li>• Swelling and shrinkage is approximately seven-fold</li><li>• Necessity of expansion joints when used as sports flooring</li><li>• Higher risk of injury due to gaps in the surface</li><li>• Increased risk of gap formation</li></ul> |
| Top layer              | <ul style="list-style-type: none"><li>• Sealed solid wood top layer</li><li>• Dimensionally stable and flexible plywood construction as base layer</li><li>• Sustainable saving of 65% hardwood compared to solid wood flooring</li></ul>  | <ul style="list-style-type: none"><li>• The solid wood top layer is usually untreated</li><li>• The wear layer is not equal to the thickness of the solid wood</li></ul>   |
| Sealing                | <ul style="list-style-type: none"><li>• Pre-finished with UV-cured PERMADUR®</li><li>• Extremely abrasion-resistant</li><li>• Ideal grip for ball sports</li><li>• Re-sealing only necessary after 10 to 15 years of intensive use</li></ul>                                     | <ul style="list-style-type: none"><li>• The finish is applied on site</li><li>• Significantly softer than PERMADUR®</li><li>• Wear and tear occurs more quickly</li><li>• Regular re-finishing necessary</li></ul>   |
| Performance            | <ul style="list-style-type: none"><li>• Exceeds the requirements of DIN 18032.2</li><li>• Gentle on the joints and spine</li><li>• Low risk of injury</li><li>• Elasticity already provided in the parquet layer</li></ul>   | <ul style="list-style-type: none"><li>• Significantly worse performance</li><li>• Lower elasticity</li><li>• The elasticity is based on the rubber pads used</li></ul>   |
| Lifecycle costs        | <ul style="list-style-type: none"><li>• With proper care and correct use, re-finishing is only necessary after 10 to 15 years of intensive use</li><li>• Low running costs</li></ul>   | <ul style="list-style-type: none"><li>• Regular sanding and re-finishing is necessary</li><li>• High maintenance costs</li></ul>   |
| Care and maintenance   | <ul style="list-style-type: none"><li>• Optimum protection through the HARO cleaning and care range, that is tailored to the PERMADUR® sealing</li></ul>   | <ul style="list-style-type: none"><li>• Special care for finished solid wood floors</li><li>• High maintenance costs due to regular sanding and finishing</li></ul>  |

### PERMADUR Sealing

Our PERMADUR® sealing offers an exceptionally high quality that far exceeds the potential of other high finishes. The reason for this is that PERMADUR® is already applied in the factory under entirely dust-free conditions and is UV cured. This provides maximum durability with minimal wear and constitutes the actual wear layer of our sports floors.



# Different floors – different talents

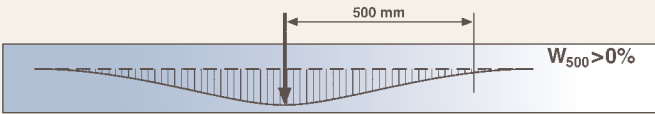
## The ideal sports flooring solution for your specific needs

There are countless sports, each with its own set of demands for athletes, equipment and training techniques. As a result, the floor is subject to different kinds of loads. That is why there are different types of sports floors according to DIN 18032.2. Here are the four most important ones for you:

The HARO Sports Floor is an area-elastic sports floor. It stands out as the top choice for all applications thanks to the combination of its exceptional properties.

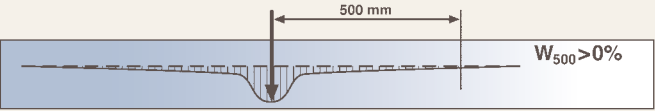
### Area-elastic sports floor

Resilient, deflection-resistant floor with large deformation control area. Most widespread in use and most universally applicable. Very gentle on the joints, spine and ligaments.



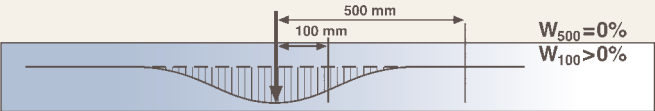
### Combined-elastic sports floor

Area-elastic floor with a point-elastic top layer. Deformation control area is large in the area of the load-distribution layer, in the area of the top layer it is closely adapted to the load-bearing area.



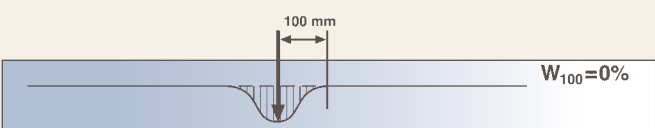
### Mixed-elastic sports floor

Resilient, flexible floor with area-reinforcing component. The deformation control area is small but extends clearly over the load surface area. The initial purchasing costs are relatively high.



### Point-elastic sports floor

A resilient and flexible floor with a small deformation control area under load. Suitable for children's and youth sports.



# The right floor for your needs

## Personal consultation

What is the best floor for your hall? Our HARO product experts will be happy to provide you with expert advice free of charge and without obligation.

Whether it is for multipurpose use or sporting activities, there is a perfect sports floor for every purpose. Our chart shows which flooring is best for different applications:

|  | HARO Sports Floor         |                               |                            |                            |
|--|---------------------------|-------------------------------|----------------------------|----------------------------|
|  | Multipurpose use          |                               |                            |                            |
|  | Area-elastic sports floor | Combined-elastic sports floor | Mixed-elastic sports floor | Point-elastic sports floor |
| Trade fairs, concerts, Exhibitions, events | ● ● ●                     | ○                             | ●                          | ○                          |
| Seated spectators                          | ● ● ●                     | ○                             | ●                          | ○                          |
| Portable grandstands                       | ● ● ●                     | ○                             | ●                          | ○                          |
| Wheelchair users                           | ● ● ●                     | ○                             | ●                          | ○                          |
|  | Use for sports activities |                               |                            |                            |
|  | Area-elastic sports floor | Combined-elastic sports floor | Mixed-elastic sports floor | Point-elastic sports floor |
| Handball                                   | ● ● ●                     | ● ●                           | ● ●                        | ○                          |
| Basketball                                 | ● ● ●                     | ● ●                           | ● ●                        | ○                          |
| Volleyball                                 | ● ●                       | ● ● ●                         | ● ●                        | ●                          |
| Football                                   | ● ● ●                     | ● ●                           | ● ●                        | ○                          |
| Hockey                                     | ● ● ●                     | ● ●                           | ● ●                        | ○                          |
| Table tennis                               | ● ● ●                     | ● ●                           | ● ●                        | ●                          |
| Gymnastics                                 | ● ●                       | ● ● ●                         | ● ●                        | ● ●                        |
| Cycle ball                                 | ● ● ●                     | ○                             | ●                          | ○                          |
| Artistic cycling                           | ● ● ●                     | ○                             | ●                          | ○                          |

- ● ● Very good suitability
- ● Good suitability
- Satisfying suitability
- Unsatisfactory/Unsuitable

The evaluation for individual sports refers to use under competitive conditions.



# Model overview

## HARO Sports sports floors

According to DIN 18032, part 2 (sports and multi-functional use)  
According to EN 14904

|           | Elastic layer with load distribution = Sandwich system | Elastic construction with load-distribution = Beam system | Permanently installed sports floor | Portable sports floor | Installed from the top edge of raw concrete Incl. sports parquet | Installed from the top edge of dry screed Without elastic sports coating | Sports and multi-functional use | Squash and racket sports use | Suitable for use on underfloor heating |
|-----------|--|---|------------------------------------|-----------------------|--|--|---------------------------------|------------------------------|--|
| Athens    | ●  |   | ●                                  |                       |  | 28 mm  | ●                               |                              | ●                                      |
| Montreal  | ●  |   | ●                                  |                       |  | 39 mm  | ●                               |                              | ●                                      |
| Helsinki  | ●  |   | ●                                  |                       | 30 mm  |  | ●                               |                              | ●                                      |
| Rome      | ●  |   |                                    | ●                     | 40 mm  |  | ●                               |                              |  |
| Stockholm |  | ●   | ●                                  |                       | 57 mm  |  | ●                               |                              | ●                                      |
| London    |  | ●   | ●                                  |                       |  | 49 mm  | ●                               |                              | ●                                      |
| Melbourne |  | ●   | ●                                  |                       | 57 mm  |  |                                 | ●                            | ●                                      |
| Munich    |  | ●   | ●                                  |                       |  | 81 mm  | ●                               |                              | ●                                      |
| Berlin    |  | ●   | ●                                  |                       | 82 mm  |  | ●                               |                              | ●                                      |
| Sydney    | ●  |   | ●                                  |                       |  | 22 mm  | ●                               |                              | ●                                      |

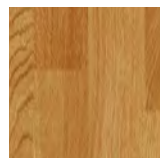




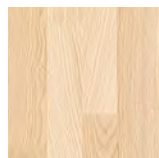
# Always top of the league

## The visual diversity of HARO Sports Floors

No matter what the score – with HARO Sports Floors, every competition, training session and event is a success, ensuring a winning experience for hall operators, athletes, and spectators alike. Architects appreciate the vast design possibilities offered by our diverse range of models. The foundation for this excellence lies in the fact that we exclusively use high-quality materials for our floors, combined with a carefully designed and continuously improved construction. And finally, there is the enduring aesthetic appeal that transforms every encounter into an unforgettable moment.



Oak



Ash



Canadian Maple



### HARO Sports Parquet

- Available in three different wood types: Oak, Canadian Maple, Ash
- Also available in the wood type African Oak in the fitness line
- Natural colour and texture of the wood
- Certified for 'First Level Competition' – perfect for use in Olympic Games and world championships



### HARO Elastic Sports Coating

- Suitable covering – e.g. linoleum, vinyl or PU – in combination with HARO subconstruction
- Elastic sports coating as an alternative to parquet
- Wide range of colours



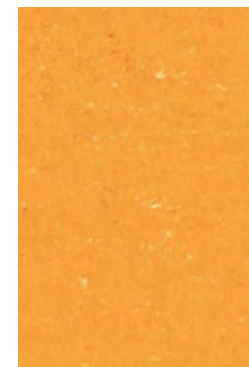
### HARO Portable Floor

- Ideal for multi-purpose arenas and professional sports
- Installation without visible and noticeable joints thanks to special patented interlocking system
- FIBA-certified for use in international competitions

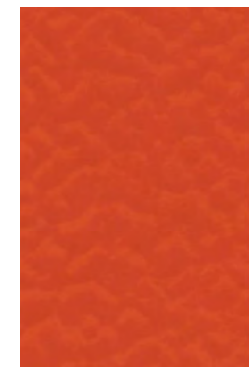
# Colourful sports coatings

Do you prefer fresh colours or do you have a design concept for your sports hall? Then our sports coatings made of durable and sustainable linoleum, vinyl or PU are the right choice! These sports floors offer excellent performance characteristics.

But the most important thing is that it is the HARO modular construction in the sandwich or swing beam design that turns the sports floor into a high-tech product with impressive properties. The sports coating of your choice is quickly, easily, securely and permanently glued to the high-quality modules on site.



Linoleum



PVC



PU



# Renowned certificates

You can always count on the high quality of our HARO Sports Floors. This is not only proven by thousands of satisfied customers and enthusiastic athletes, but also by our certificates, awards and memberships:


[www.realwood.eu](http://www.realwood.eu)


The mark of responsible forestry





# HARO Sports Floors Range

Events, tournaments, training sessions and exciting encounters – our floors help you create the perfect foundation for success.



- 1 HARO Sports Parquet top layer 3.6 mm or 5.6 mm
- 2 Load distribution module
- 3 Special elastic layer
- 4 PE film

## Helsinki

**Internationally renowned for all sporting disciplines**  
Our Helsinki sports floor is a truly versatile performer and is used in some of the world's largest sports facilities.

- Advantages for athletes and operators:**
- Outstanding performance in all sports
  - Consistent elastic properties over the entire lifecycle
  - Ideal for redesign and renovation thanks to the low installation height



- 1 HARO portable elements 2.14 m x 1.07 m
- 2 Special elastic layer
- 3 Special patented interlocking system

## Rome 20 – The Professional Floor

**Quickly transported, easily installed, immediately ready for use**  
FIBA-certified event flooring for mobile use in professional sports.

- Advantages for athletes and operators:**
- Optimal properties for a wide range of sports, especially basketball
  - Weight per element under 35 kg
  - Elements are connected by a special patented interlocking system with a locking spring for a surface without gaps
  - Outstanding durability
  - Easy handling, very fast installation
  - Small storage area required (approx. one third compared to solid wood flooring)



Barker College Rosewood Centre Australia, Helsinki 10-10

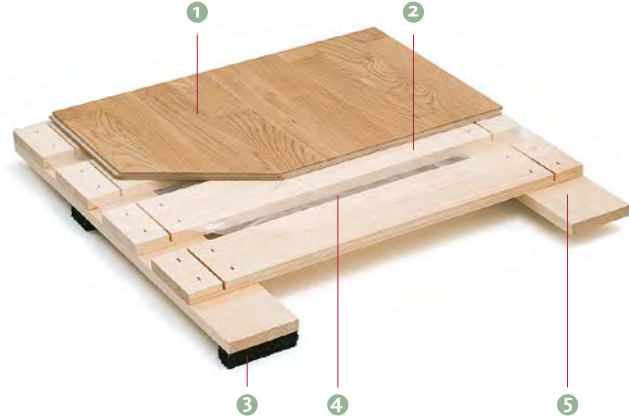


- 1 HARO Sports Parquet top layer 3.6 mm or 5.6 mm
- 2 Subfloor
- 3 Shock pads
- 4 Double swing beams
- 5 PE film

## Berlin

**Unbeatable in all large and small sports halls**  
A true classic, found in thousands of sports halls worldwide, our Berlin sports floor is used by ULEB Cup teams, the FIBA Euroleague, universities, schools, countless multi-purpose venues, and many others.

- Advantages for athletes and operators:**
- High-performance floor with excellent sports-physiological properties
  - Can be installed directly on raw concrete
  - Compensation of any potential height differences through securely fastened equalizing blocks.



- 1 HARO Sports Parquet top layer 3.6 mm
- 2 Subfloor
- 3 Shock pads
- 4 PE film
- 5 Elastic batten

## Stockholm

**Optimal performance at an attractive price**  
Visually appealing, quickly installed and inexpensive – our Stockholm Sports Floor convinces with excellent quality at an attractive price.

- Advantages for athletes and operators:**
- Cost-effective alternative to the double swing beam design
  - Quick installation thanks to factory pre-assembly
  - Can be installed directly on raw concrete
  - Compensation of any potential height differences through securely fastened equalizing blocks.







Grand Slam Cup 2013, Frankfurt Airport, MELBOURNE 65



Puchow Sports Hall, Slovakia - MUNICH 35



- 1 HARO Sports Parquet
- 2 Subfloor
- 3 Shock pads
- 4 PE film
- 5 Elastic batten

## Melbourne

### The perfect floor for squash and racquetball

Accredited by the World Squash Federation, our Melbourne Sports Floor is the unbeatable pro for squash and racquetball. This premium class floor is used at international squash events such as world championships, European championships and world cups.

#### Advantages for athletes and operators:

- SST sealing developed specifically for use in these types of fast sports
- Perfect grip thanks to rough top layer with depth-impregnation
- No slipping – even on floors wet with sweat
- Easy installation



- 1 Load distribution modules
- 2 Elastic sports coating
- 3 Special elastic layer

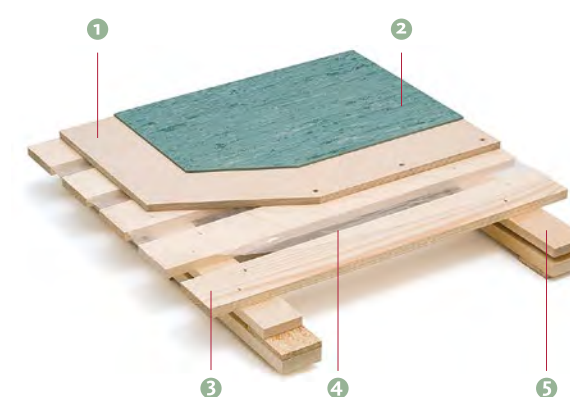
## Sydney

### Straightforward and fast – it couldn't be easier!

Our Sydney Sports Floor impresses with its low installation height of only 22 mm and extremely fast installation, all without the need for screws or staples.

#### Advantages for athletes and operators:

- All-round step seam for quick glue-down installation
- Suitable for all halls and rooms with an even subfloor
- Perfect for mixed sports and multi-purpose use
- Ideal for renovations thanks to its low profile height



- 1 Load distribution panel
- 2 Coating
- 3 Subfloor
- 4 PE film
- 5 Double swing beams

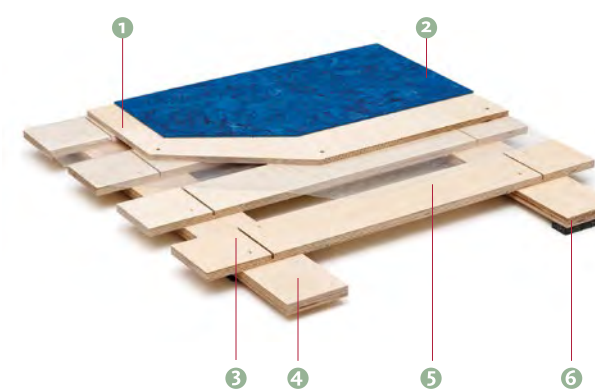
## Munich

### Predestined for use in multi-purpose halls

In well over 1,000 halls around the world, sports-loving children, teenagers and adults train on our HARO Sports Floor Munich.

#### Advantages for athletes and operators:

- Suitable for all sports
- Multi-purpose use possible, including events
- First-class spring-suspension and durability



- 1 Load distribution panel
- 2 Coating
- 3 Subfloor
- 4 Elastic batten
- 5 PE film
- 6 Shock pads

## London

### Low installation height and versatile use

Our HARO Sports Floor is perfect for all types of sports and for the use in multi-purpose halls – at an affordable price thanks to the construction without double swing beams.

#### Advantages for athletes and operators:

- Suitable for all sports
- Multi-purpose use possible, including events
- High durability with low investment costs







Bisingen Secondary School, Germany – MONTREAL 21



# Everything for your sports floor

Safe use, perfect details and a long lifespan are the characteristics of every HARO Sports Floor. Good examples, to name just two, are the module technology developed by HARO SPORTS and the safety and care package:



- 1 Load distribution modules
- 2 Coating
- 3 Special elastic layer

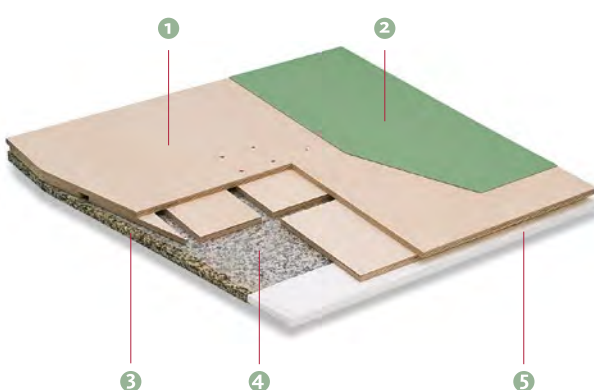
## Athens

### Olympic quality with perfect elasticity

Our Athens Sports Floor not only inspires players and operators – it is also a true Olympian: at the Olympic Games in Athens, it was successfully used with the Taraflex Sport M sports coating in the main competition hall 'Faliro – House of Handball'.

### Advantages for athletes and operators:

- Optimal properties for a wide range of sports, especially handball and tennis
- Excellent elasticity
- Enormous consistency



- 1 Modular HARO swing panels with grid plates 1250 x 2500 mm
- 2 Coating
- 3 Special elastic layer
- 4 PE film
- 5 Rigid support along the entire wall

## Montreal

### Quick to install and ideal for hall renovations

The majority of the installation work for our Montreal Sports Floor is already done for you in our factory. This is why the floor scores not only with excellent values, but especially with its quick installation, which saves time and money.

### Advantages for athletes and operators:

- Excellent elasticity
- Ideal for tennis and professional sports
- Quick installation thanks to factory pre-assembly
- Ideal for renovations thanks to its low profile height



### Safety skirtings

Visually appealing and extremely practical, the factory-assembled safety skirting ensures ventilation of the floor structure and gives the wood room to move. In addition, it ensures a water-tight seal for the floor.



### Threshold cover

This special moulding connects the sports floor with adjoining components, such as entrance doors or equipment rooms.



### Safety frame with cover

Cover and frame for the floor plates close watertight and flush with the floor. The precise fit means there is no risk of injury. Moisture damage from cleaning water is eliminated.



### Vacuum lifting pad

With this special tool, the cover of the safety frame can be quickly unlocked and removed.

### Cleaning and Care series

To ensure that a sports floor continues to perform to its full potential after years of use, it should be treated regularly with the right floor care products. Through extensive testing, we have developed a complete range of care products to suit the different materials used in our sports floors.





# Premium quality and perfect service – from kick-off to the final!

With well over 60 years of experience in the manufacture, sale, installation and care of sports floors, we make a promise: When choosing HARO sports floors, you are choosing real winners! Countless prestigious reference projects around the world, from the Audi Dome in Munich to the Commonwealth Games in Australia, testify to the exceptional quality and professional standard of our floors.

Furthermore, HARO stands for premium consultation and with first-class advice and all-round service excellence.

We are here for you every step of the way – from initial planning and installation to completion and long-term maintenance. This includes services such as:

- An assessment of the structural conditions of your hall and the existing floor
- Comprehensive planning and optimisation suggestions for existing plans
- Expert guidance throughout the completion and installation of your floor
- Maintenance over many years and decades

"We have been working with wood for over 150 years. As Germany's leading flooring manufacturer, we are passionate about creating natural floors that impress with a high level of performance, maximum durability and outstanding beauty. As a family company, we have been committed to corporate responsibility from the very beginning, through five generations to the present day. We actively engage in initiatives that benefit society, the environment and people, demonstrating our commitment with respect and appreciation."

*Dr Peter M. Hamberger  
in conversation with his father  
Peter Hamberger*





