



Haro Sports Floors

Dominating the Game in over 7500 installations worldwide



Haro Sports Floors History and Sports Time Line







- 1866 Haro's Saw Mill Founded
- 1950 Began Hardwood Flooring Production
- 1959 Haro Sport Flooring Unit Founded
- 1972 Provider of the Olympic Games/Munich (over 80,000 sq.ft.)
- 1982 Implementation of Haro Sports Floor Laboratory
- 1985 Haro Introduces Portable Sports Floors
- 1992 Cooperation with College of Rosenheim on floor testing
- 1994 Haro is the first FIBA wood floor partner
- 2000 Sponsor of German Premier Basketball league
- 2001 All Haro Sports floors entirely meet the DIN 18032-2 and are subject to the continual quality control RAL GZ 942
- 2005 7 of 14 Teams in German Basketball Premier League play on Haro Sports Floors.
- 2006 Over 7500 Sports Floors installed in over 65 countries



France vs. Italy at the European Basketball Cup 2003 in Sweden: on 12,000 square feet of HARO Sports Hardwood Flooring – Model ROME 25.

Product Overview

Helsinki 10 Gymnasium Sports Flooring
 Rome 25 Portable Flooring
 Montreal 21 Combination System

Requirements according to DIN V 18032.2 - April 2001						
	Shock Absorption	Vertical Deflection	Deformation Control	Rolling Load	Ball Rebound	Friction
	Min 53%	Min 3/32"	Max 15%	337 lbs.	Min 90%	Min. 16" Max. 24"
Product	Performance according to DIN Test					
Helsinki 10 1-5/8" 	62%	1/8"	1%	Pass	98%	18.11"
Rome 25 1-5/8" 	68%	1/8"	7%	Pass	98%	18.11"
Montreal 21 1-5/8" 	59%	3/32"	5%	Pass	97%	Per Synthetic Layer



Din is recognized worldwide as the best method for evaluating sports floors
 Din 18-32-2-2001 Certification of Athletic Floors



1. Shock Absorption:
 Less stress on the athletes increases safety and lowers injury.



2. Standard Deformation:
 More deformation means greater shock absorption which further reduces injuries



3. Deformation Control:
 20" radius from vertical impact. Vibration confined to area of impact eliminating trampoline effect to the other players.



4. Ball Rebound:
 Reduces amount of energy exhausted



5. Friction:
 Reduces knee and ankle injury while improving performance without slips and falls.



6. Behavior under rolling loads:
 Withstands dynamic loads up to 337#/square inch without damage from portable basketball goals, bleachers, or carts



Setting New Standards in Sports Flooring

Athletic Performance



- Canadian Maple, *Acer Saccharum*
- Exceeds all benchmarks set by international standards
- 7,000 installations worldwide
- Olympic Games
- FIBA
- University of Southern California
- Largest indoor sports arena in the world (ASC)
- U.S. Men's National Volleyball Team Training Facility

Safest



- 62% Shock Absorption
- Exceeds American College of Sports Medicine Guidelines
- Deformation Control
- Consistent athletic sport coefficient of friction

Lowest Life Cycle and Annual Costs



- PERMADUR stronger and longer lasting than field applied finish
- 8 factory applied UV layers of finish
- Not a field applied finish - which means no contamination
- No annual screen and recoating
- Sand and refinish less frequently (up to 15 years)
- Controlled finish

Fastest Job Site Installation



- No sanding or finishing
- No surface finish contamination by jobsite conditions
- No Building evacuation or shutdown
- Minimal acclimation

Engineered Performance



- 7X more stable than 25/32" maple
- 16 uniform northern birch plywood layers
- Less Swelling and shrinking
- Monolithic surface, no expansion gaps required

Environmentally Responsible



- Maple Hardwood is a precious slow growing species
- Haro uses less than 20% of the Maple than 25/32" strip maple
- Fast growing Birch is used for 80% of the HARO construction
- HARO is FSC certified and by purchasing FSC certified materials you are supporting the growth of responsible forest management worldwide.
- Haro produces all energy for production from sawdust waste

HELSINKI 10

Helsinki gymnasium floors are proven at all levels of competition and far exceed standards for safety and athletic performance. 62% Shock Absorption with 98% Ball Rebound! Helsinki features choice hardwood supported by 16 uniform northern birch layers over a special elastic layer that will maintain its properties throughout its entire life cycle. The hardwood top layer receives an 8 coat factory applied Permatur® finish for superior performance and unsurpassed protection. Helsinki's "engineered design" make it the most dimensionally stable gymnasium floor available today. Imagine having a fully DIN Certified hardwood floor without any unsightly expansion gaps or the expense of recoating the gym floor each summer. Its low construction height also makes Helsinki a perfect choice for renovations.



American Sports Center; 90,000 sq.ft. of Helsinki without any expansion gaps.



Canadian Maple
1st grade



Canadian Maple
2nds and better



Oak
select and better



Ash
clear grade



PERMADUR® is the Better, Faster, Lower Cost Floor Finish System





Finish Type	Durability Score
HARO	~230
Field Applied	~80

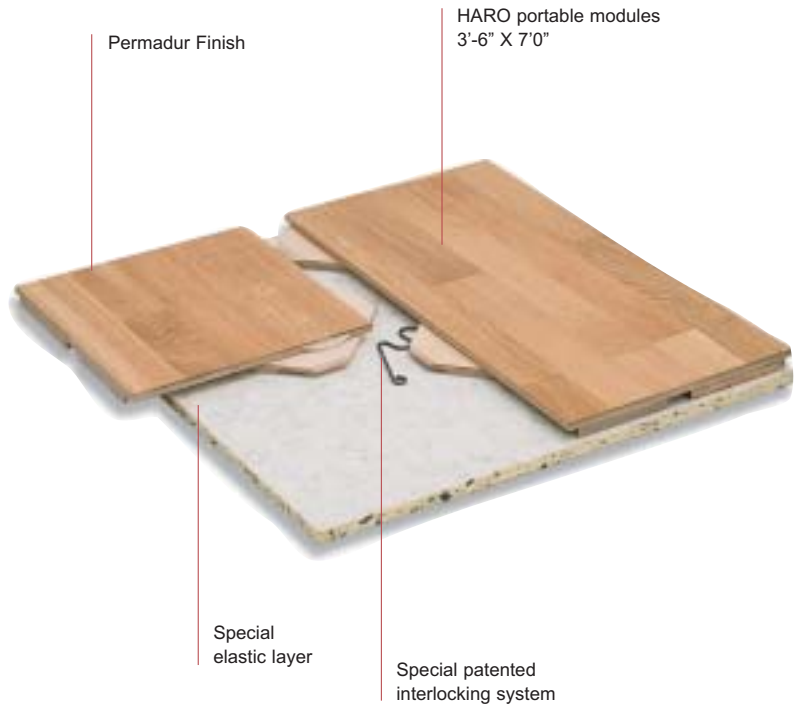
3X
3 times the durability of on-site sanding and finishing

NO DUST
PERMADUR factory sanded and finished with 1 sealer and 7 UV cured Polyurethane coats.

\$
• PERMADUR lasts up to 3 times longer than field applied finishes and does not require annual recoating
• Controlled application is dust and contaminate free
• Less disruptive and quicker installation save time and money

Rome is the only portable sports floor worldwide that has been officially approved by the International Basketball Assoc. (FIBA) and fully complies with the DIN 18032.2 standard. The modules of this portable floor weigh less than 77 lbs. and thus allows easy handling. They are connected with a patented inter-locking system. The spring clips ensure a tight fit of adjacent modules, which gives the floor surface an almost seamless appearance. In addition, Rome 25 only takes up about 1/3 of the storage area required for most other portable hardwood surfaces.

ROME 25



Less Weight and Faster Assembly



The Volkswagenhalle in Braunschweig which the operating company also uses for concerts



is turned into a 12,000sq.ft. large sports arena in less than three hours thanks to our portable sports floor ROME 25

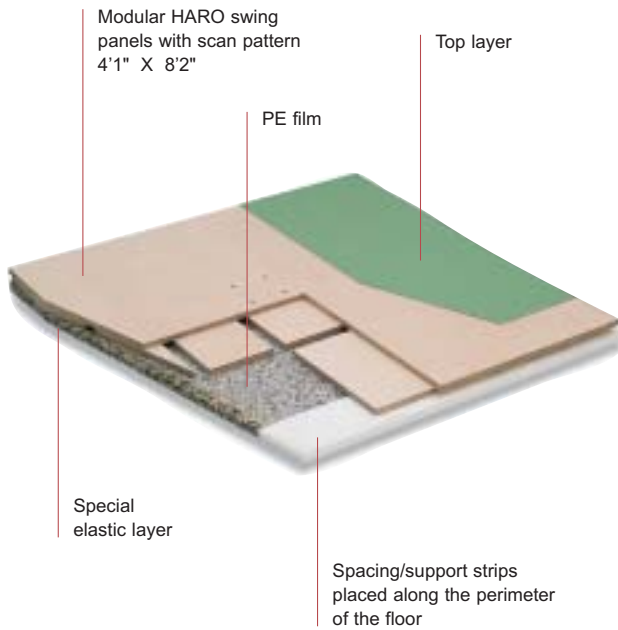


The light-weight modules are connected with a special interlocking system



The result is a top-quality indoor sports floor that amazes installers and athletes alike.

MONTREAL 21



Montreal combines the two best sports floors into one. Montreal is a true “combination floor” with an area-elastic subfloor and a point elastic synthetic surface on top. It combines safety and shock absorption with low maintenance and durability. Montreal is the ultimate sports floor consisting of pre-assembled wood engineered panels over a special elastic layer. This substructure provides up to 59% shock absorption for safety and performance.

The synthetic top surface is glued to the substrate. It’s low construction height makes Montreal a perfect choice for renovations.

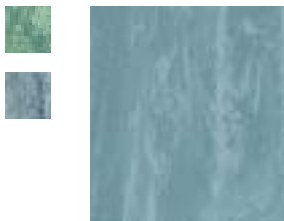


A real “Olympic Champion”, HARO’s Montreal with the Taraflex Sport M elastic coating from Gerflor, was used in the Olympic Games in Athens in 2004.

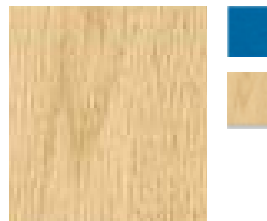
DLW or Forbo



Gerflor Mipolam



Taraflex Sport M Plus



Depending on your specific requirements, you can choose from different synthetic coatings, combined with the Haro subconstruction.



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Galen Athletic Center
University of Southern California



American Sports Center, Anaheim, CA



Park District; Bedford Park, IL



Forest Hills High School, Ada, MI

7500+ installations in over 65 countries