



Guide to WSF specifications

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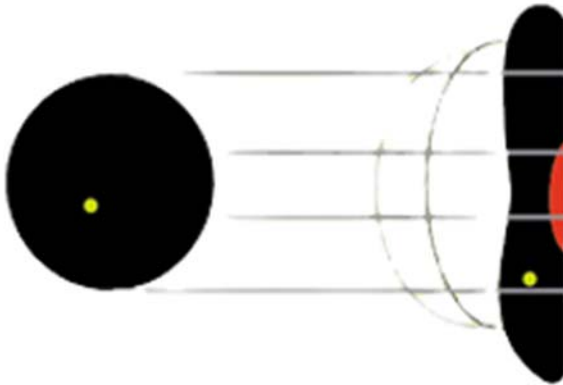
The World Squash Federation (WSF) has established a comprehensive set of Squash Court Specifications, which serve as the primary international standard for the design and construction of squash courts. These specifications are endorsed and recommended for use in all squash court construction projects.

Moreover, the complexity of these specifications necessitates the involvement of a specialist in squash court construction. Such an expert can provide invaluable guidance in determining which of the available court elements best align with your specific requirements and financial constraints.

It's important to note that all squash court manufacturers who have been awarded Complete Court Accreditation by the WSF have court systems that share similar technical characteristics.

In case there are any doubts you can also contact the National Squash Federation in your country for further advise or you send an inquiry to the Squash Facilities Network through the contact form.

Why there is a need for special squash court walls?



The walls of a squash court are subjected to a plethora of challenges. One such challenge includes withstanding the intense impact of squash balls, which can reach velocities of up to 200 km/h. In addition to the sheer force exerted by these balls, the walls must also accommodate the vacuum effect precipitated by the ball's swift rebound. This effect has the potential to dislodge particles from the wall. Consequently, it is imperative that only walls specifically designed for squash to withstand such rigorous conditions are utilised in the construction of squash courts.

Standard Courts vs Glass Show Courts

When it comes to designing squash courts, there are generally two primary types to consider: Standard Courts and Glass Show Courts.

Standard Courts: These courts typically feature three solid walls and a glass back wall. They are the standard choice for most squash facilities, providing a well-balanced and functional playing environment.

Glass Show Courts: On the other hand, Glass Show Courts are a visually striking option. These courts are constructed entirely from glass, and they serve multiple purposes. They are often used for events with more than 50 spectators, creating a captivating spectacle for the audience. Additionally, elite facilities may opt for Glass Show Courts to give their players the opportunity to practice on the same type of court used in major tournaments. This can enhance the overall prestige and ambiance of the facility.

The choice between these two types of courts should align with your specific goals, budget, and the intended use of the facility. Standard Courts offer practicality and cost-effectiveness, while Glass Show Courts add a touch of grandeur and are perfect for showcasing the sport to a wider audience.

Standard Courts

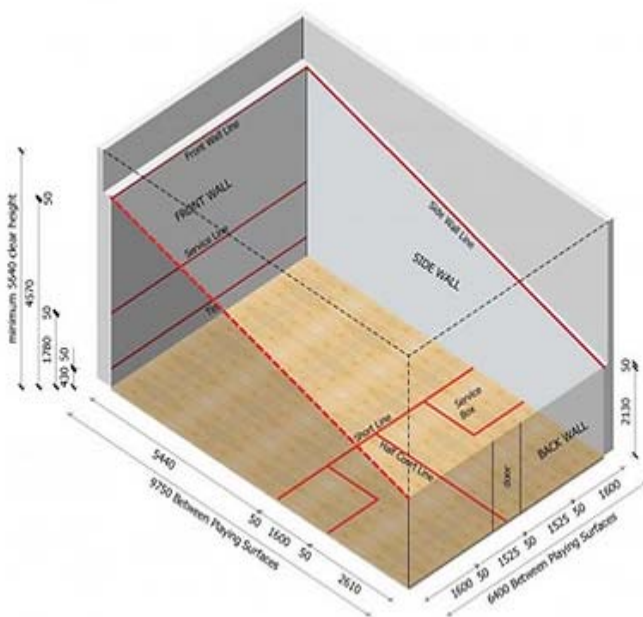


Prior to the 1990s, standard squash courts were generally constructed with plastered white surfaces. However, a notable shift in this design paradigm occurred in the mid-1990s when prefabricated wall panels specially designed for squash courts came in the market. These modern walls contain sand-filled cavities, ensuring uniform ball bounce across the court's play area.

Single vs Doubles - Dimensions

While Singles Squash is the dominant form of the sport worldwide, constituting approximately 95% of all play, Doubles Squash has carved out a significant niche, especially in countries with advanced squash proficiency. There are various types of Doubles Courts in existence, each with its own dimensions. It's important to note that all dimensions mentioned refer to the final inside dimensions of the court, and consideration must also be given to the varying wall thicknesses.

Singles



Globally, Singles Squash is the predominant form of the game, accounting for approximately 95% of all matches.

Length: 9.750 mm

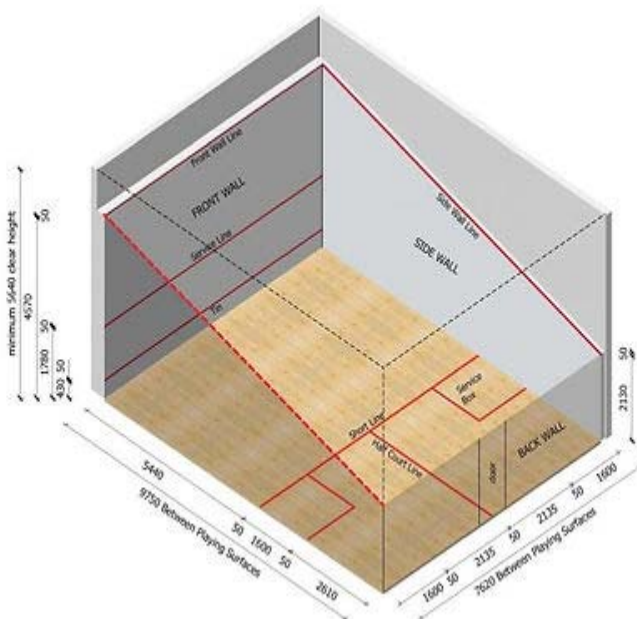
Width: 6.400 mm

Min clear height: 5.640 mm

Recommended height: 6.000 mm

Tin height: 480 mm

International Doubles



In the 90s, the World Squash Federation (WSF) introduced Doubles Squash as a new discipline within the sport, specifying a court width of 7620mm. However, it quickly became apparent during initial competitions that this width was too restrictive, particularly for top-level players who demonstrated a broader range of play.

Length: 9.750 mm

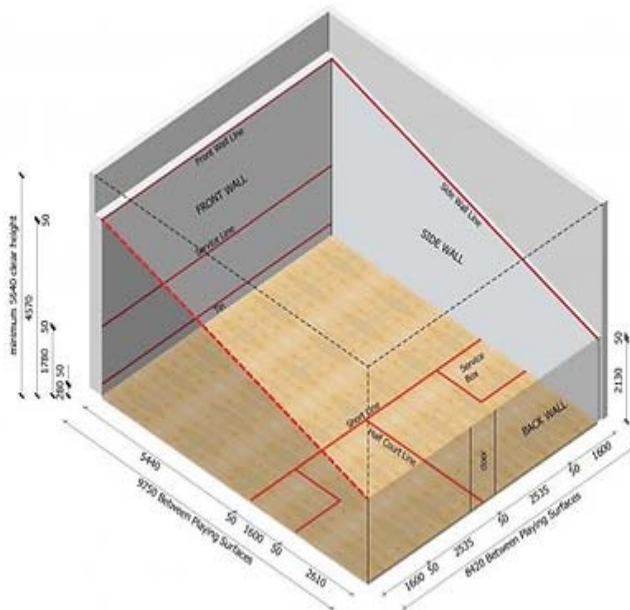
Width: 7.620 mm

Min clear height: 5.640 mm

Recommended height: 6.000 mm

Tin height: 480 mm

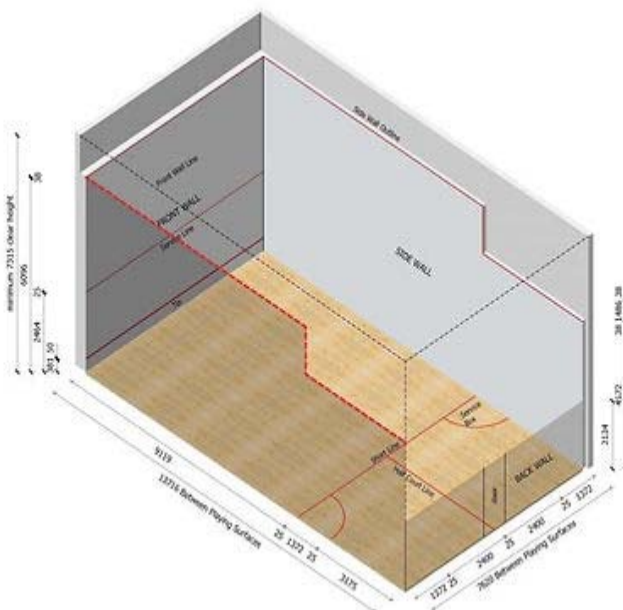
Competition Doubles



To enhance the gameplay experience and enable more dynamic movement and strategy, the WSF introduced an additional width for International Competition Doubles Courts, extending the width to 8420mm. This additional space creates a more expansive and flexible play area, catering to the high-intensity, strategic gameplay of international doubles matches. Considering these developments, it is now recommended to adopt the larger width of 8420mm.

- Length:** 9.750 mm
- Width:** 8.4200 mm
- Min clear height:** 5.640 mm
- Recommended height:** 6.000 mm
- Tin height:** 330 mm

Hardball Doubles



Hardball Doubles, a distinct variant of the sport primarily played in North America, was named due to the use of a harder, bouncier ball compared to the softer ball typically used in international squash. While Hardball Singles Squash has largely disappeared over the past few decades due to the global standardization of squash around the softer ball Hardball Doubles continues to thrive, especially in the United States and Canada.

- Length:** 13.716 mm (45'0")
- Width:** 7.620 mm (25'0")
- Min clear height:** 7.315 mm (24'0")
- Recommended height:** 7.925 mm (26'0")
- Tin height:** 430 mm

Squash Wall Thickness Variances

WSF approves various types of walls for standard squash courts, each with its own specific construction thickness. This is a crucial architects need to consider, as the thickness of the walls can affect the finished size of the court.

Prefabricated squash walls for standard courts mainly fall into two categories. While both kinds offer sameplaying dynamics, their technical intricacies vary. It's crucial to decide on the wall type early in the planning stage, given its substantial influence on the overall design. It's not uncommon to see a blend of both wall types within a single court.

Free-standing walls



These are standalone structures, independent from the main building.

Construction thickness: 100 mm

Building-attached walls



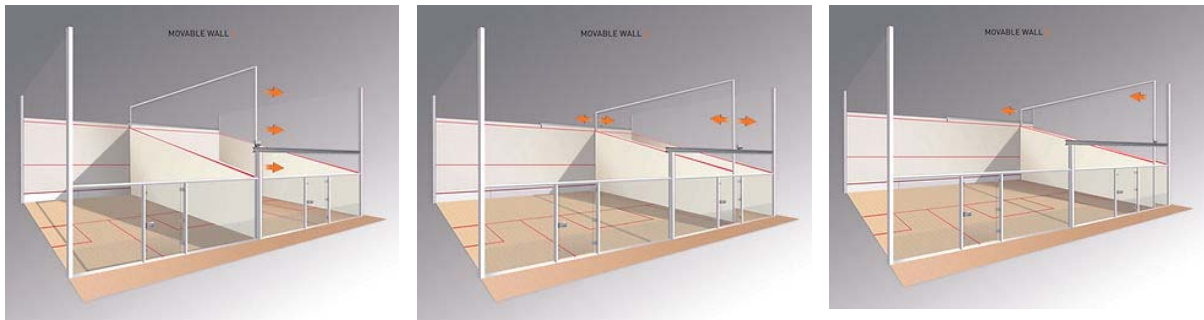
These are integrated and anchored to the building's structure.

Construction thickness: 40 mm

Singles and Doubles on the same court

The challenge of catering to both singles and doubles play on the same court is only possible by the installation of movable sidewalls in between two adjacent singles courts. This feature allows for the transformation of the space from two separate singles courts into one larger doubles court based on the specific requirements of the users.

Movable wall



The inclusion of movable walls can also allow the squash courts to be repurposed for other sports or social activities, further enhancing its functional capacity.

Other sports

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Court Equipment

In the configuration of a standard squash court, several equipments must be carefully considered to optimize both functionality and player experience. The back walls, for example, can be come with a frame or supporting glass fins. The choice of flooring is another critical consideration, requiring materials that offer both optimal grip and safety for players. Likewise, the lighting should be deliberated upon to ensure it meets various specifications according to the unique requirements of Squash. Finally, the tins, which set the lower limit for valid shots, must be adjustable to accommodate different levels of competition. Each of these components is not merely optional but essential to consider for a squash facility aiming for operational excellence.

Types of Glass Back Walls

Glass back walls serve a crucial role in ensuring the safety of squash players during their matches. These walls are crafted using specialized squash fittings and are constructed from durable 12 mm tempered glass, engineered to withstand the rigors of intense gameplay.

What's more, these glass back walls feature an entrance door with a clear width of 914mm, adhering to international accessibility norms to accommodate players with disabilities.

In the realm of design, two primary options for glass back walls are commonly employed: Frame Glass back walls and Fin Glass back walls. These designs offer distinct choices to cater to the specific needs and preferences of squash facilities, all while prioritizing player safety and inclusivity.



Fin Glass Back Wall

Traditional Appeal: Often seen as the conventional design for glass back walls.

Installation Space: The 300mm glass fins necessitate a larger installation area compared to the frame design.

Breakage Concerns: Glass fins may increase the probability of glass shattering.

Viewing Advantage: When paired with raised seating arrangements, this design offers spectators an expansive, largely unobstructed view of the game.



Frame Glass Back Wall

Popularity:

This design is the more prevalent of the two and is especially suitable for courts without galleries or seating behind them.

Features & Benefits:

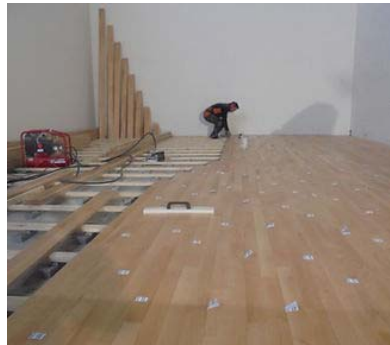
Requires a smaller installation area. Offers the option to completely segregate the court from external areas to reduce energy costs.

Low Maintenance:

Fewer components translate to minimal upkeep needs.

Squash Court Floors

Squash court floors, often carved from premium hardwoods like maple, beech, oak, or ash. The top surface of squash floors differs substantially from typical sports floors. They're designed to resist the 'aquaplaning' effect, which can lead to accidental slips from sweat drops. To achieve this, the floors aren't sealed with a glossy finish. Instead, they are impregnated to preserve the wood's natural porosity, ensuring grip while offering protection against moisture. This technique is a standard for WSF-approved flooring companies.

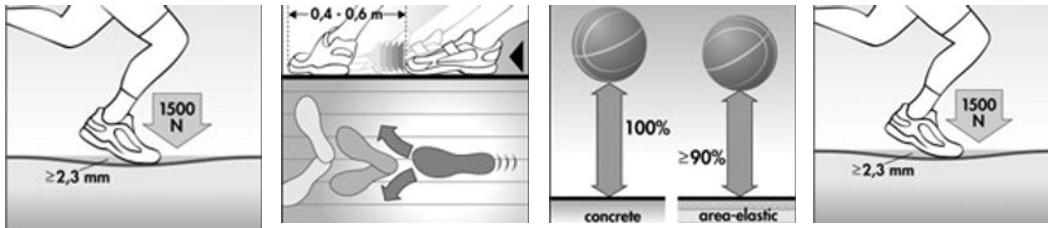


Construction of floors

The construction of squash flooring varies depending on the manufacturer. However, they all share a common feature, consisting of a substructure and a top structure. It is the precise alignment of the substructure with the top structure that ensures optimal performance. Depending on the manufacturer, the total construction height can range from 60 to 90 mm.

Sport Floor Norm EN14904

For player comfort and safety, squash court floors should comply with the standards for area elastic floors – EN14904:2006. This norm describes the minimum requirements on a sports floor for the optimum health and safety of the players. Floors that do not meet the EN 14904 are causing a higher body wear and tear.



Standard Court Lighting

An effective squash court lighting arrangement enhances the overall playing experience by providing clarity and minimizing eye strain. Following these guidelines guarantees a well-balanced, well-lit, and consistent lighting environment, which in turn enables a smooth game for both players and spectators. The level of illumination measured 1000mm above the finished floor shall be: Minimum standard 300 lux, recommended standard 500 lux, recommended standard for LED installation 600 lux



Protective Covers

To safeguard the lighting equipment from squash balls, it is recommended that the lamps have covers made of glass, hard plastic, or metal. These protective covers shield the bulbs from potential damage while maintaining the quality and reliability of the lighting system.



Clearance above Court

It's imperative that no lighting units extend into the clear space above the standard court height, which is 5.64 meters from the floor. This ensures that there are no obstructions or disruptions to the gameplay caused by protruding fixtures.

min. clear height from floor level to ceiling 5.64 m



Court Environment

When it comes to environment of squash courts, several crucial factors requires consideration, including climate conditions within the court, the color of the court ceiling, and the characteristics of the ceiling itself.

Creating an ideal squash court involves maintaining the right climate conditions, ensuring proper ventilation, and considering the ceiling's color and characteristics. These elements collectively contribute to a high-quality playing experience and the longevity of the court's infrastructure.

Climate Conditions

It is highly recommended that a squash court be equipped with a heating and/or air conditioning system capable of maintaining a temperature range between 15 and 25 degrees Celsius, with an ideal comfort zone falling within 18 to 20 degrees Celsius. Maintaining these temperature parameters ensures optimal playing conditions for squash enthusiasts.

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Ceiling Considerations

Consideration must be given to the utilization of a black squash ball within a standard court. To elevate the visibility of ball tracking for players, it is absolutely essential that the color of the court ceiling provides the utmost contrast with the black ball. Despite the ceiling not being an active playing surface, it is quite common for a squash ball to come into contact with it. Hence, it becomes imperative to take measures that prevent squash balls from becoming lodged in or causing damage to the ceiling.

Additionally, in cases where concrete ceilings are in use, it's worth noting that sound reflections can lead to significant disruptions during gameplay. To mitigate this issue, it is often advisable to incorporate sound-absorbing materials into the ceiling design.

Show Glass Courts



When it comes to events accommodating more than 50 spectators or elite performance facilities, the pinnacle of squash venues is undoubtedly the show glass court.

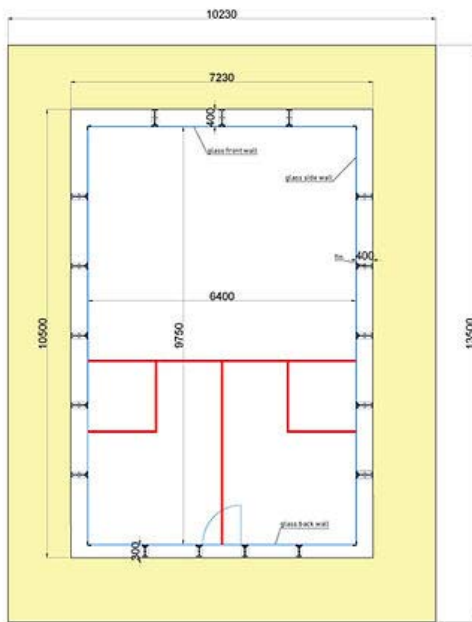
Constructed entirely from 12 mm tempered glass, it offers an unparalleled view of the game. However, there's a crucial consideration: the use of a white squash ball on a glass court. To optimize ball visibility for players and elevate the viewing experience for spectators, it's imperative that the glass panels on the side and front walls undergo a specialized ceramic coating treatment. This unique treatment imparts a "one-way vision effect" to the surface.

Dimensions of Show Glass Court

When dealing with show glass courts, the inner dimensions closely match those of a standard court. However, various factors come into play when determining the necessary installation space.

In addition to the 12 mm thick glass walls, horizontal glass fins play a crucial role in stabilizing the court. These fins follow precise dimensions: 400 mm in length for the front and side walls, and 300 mm for the back wall. For the exact clear dimensions please contact a WSF approved supplier.

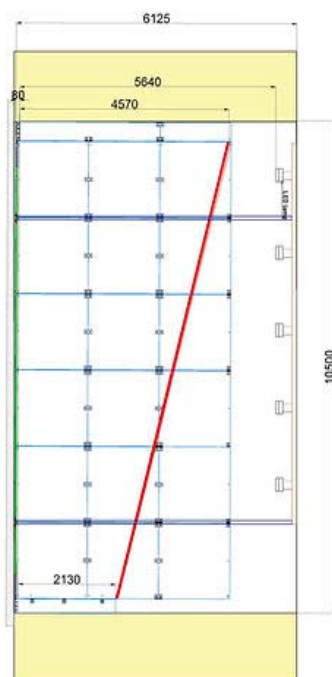
Ground plan



Beyond the court and its structural components, other considerations come into play. There should be ample room for people to move comfortably around the court, and provisions must be made for TV cameras and photographers to capture the action effectively.

Therefore, it's advisable to allocate a minimum of 1.5 meters of clear space around the court. Additionally, preferred seating for watching squash matches is typically located behind the glass back wall, providing spectators with an unobstructed view of the game.

Section plan



In addition to the specified clear height of 5.640 mm, particularly when dealing with a demountable glass court, it is strongly advisable to ensure a clear height within the venue of a minimum of 6.100 to 6.200 mm.

This additional clearance allows for adequate space for any necessary structural components and lighting fixtures. It ensures that the venue can accommodate the court's setup while maintaining a comfortable and visually unobstructed environment for both players and spectators.

Show Glass Court Lighting

Lighting plays a pivotal role in enhancing the one-way see-through effect of show glass courts. This effect hinges on the contrast in illumination levels between the interior and exterior of the court. Inadequate court lighting or excessive external brightness can result in 'burn-through,' diminishing the one-way effect. To maintain this unique feature, it is imperative that the lighting in show glass courts is carefully designed to be direct rather than diffused, ensuring that the light stays contained within the court.



Lighting Intensity for Show Courts:

Mini. for play: 600 lux

Min. according to WSF: 1,200 lux.

For live TV : 1,800 to 2,500 lux.

It is recommended to use dimmable lights.



Another critical factor to consider when choosing lamps is lamp protection. It's essential to select lamps with robust covers crafted from durable materials like sturdy plastic or metal. These covers act as a shield, protecting the lamps from potential impacts caused by squash balls.

Show Glass Court Lighting Environment

At the heart of the glass court lies Contra Vision® technology, a marvel that employs ceramic dots on glass. It's a meticulous process where a black dot is laid down first, followed by a colored dot, whether it be blue, green, or even red. This double-dot technique creates a one-of-a-kind one-way vision effect. For spectators, it provides a transparent view of the match, while players perceive an unbroken glass wall, undisturbed by external distractions. The precision in dot placement and color thickness is the secret sauce of this technology. But the real magic happens when lighting is just right.



The presence of adjacent glass windows or the back wall of standard courts located nearby can pose challenges for players trying to track the ball during the game.



Excessive external lighting can dim this effect, causing the one-way vision to lose its impact.

The key to unlocking the full potential of the Contra Vision® technology is the maximum darkness outside.

Glass Show Court Floors

The flooring in Show Glass Courts differs significantly in color compared to standard squash courts. This contrast arises from the use of a white squash ball on a glass court, which necessitates the floor to be as dark as possible for optimal visibility.

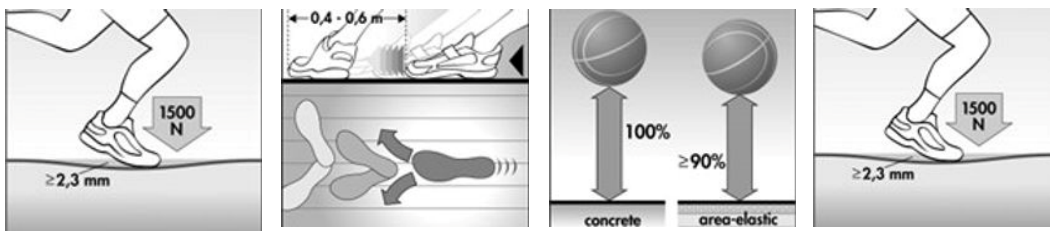


Attention: Sanding of floor

It's crucial to note that all squash courts, regardless of their type, require periodic sanding to maintain proper grip for players. However, there is an important consideration: certain wooden floors may lose their color or finish after sanding, rendering them uneconomical for squash sports.

Sport Floor Norm EN14904

For player comfort and safety, squash court floors should comply with the standards for area elastic floors – EN14904:2006. This norm describes the minimum requirements on a sports floor for the optimum health and safety of the players. Floors that do not meet the EN 14904 are causing a higher body wear and tear.



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