



ENGINEERED  
FOR HOCKEY

Facilities guidance

# OUTDOOR HOCKEY FACILITIES

VER. 01

## Welcome

Hockey is the world's third most popular team sport; the *2018 Global Hockey Survey* conducted by the FIH, showed that there are now over 30 million people playing hockey. Fast, technically skilful, and requiring good levels of personal fitness, the sport is renowned for its social inclusiveness, gender equality, and ability to attract players of all ages.

During much of the 20<sup>th</sup> century, hockey was played on natural grass, and even today this surface is still used by many. In 1976, however, our sport was transformed as an elite level hockey competition was played on synthetic turf for the first time. Today synthetic turf, and especially the versions produced specifically for hockey, has allowed the game to develop into the fast, technically skilful, and exciting sport we now know.

But not all synthetic turf surfaces are the same, and it is important that those investing in hockey facilities select the type that is best suited to the needs of their facility. Deciding on which type of surface is best will depend on many factors. The choice is large, so we have produced this guide to help.





At the elite level of play, the desire for fast, predictable, and consistent surfaces has resulted in the development of surfaces that perform at their optimum when wet. For many, however, watering a field is not feasible either due to a lack of water, or the cost of the necessary irrigation infrastructure. Therefore, the FIH has challenged the synthetic turf industry to innovate and develop surfaces that play the way elite hockey the sport wants without using water.

Below the elite level of play there are already a range of surfaces that can be used without the need for water. For many, these provide a great playing experience at a more viable cost. Additionally, by adjusting the performance of these surfaces it is possible for a hockey field to become a multi-sports venue, allowing tennis, futsal, netball, lacrosse, and other sports to also be played.

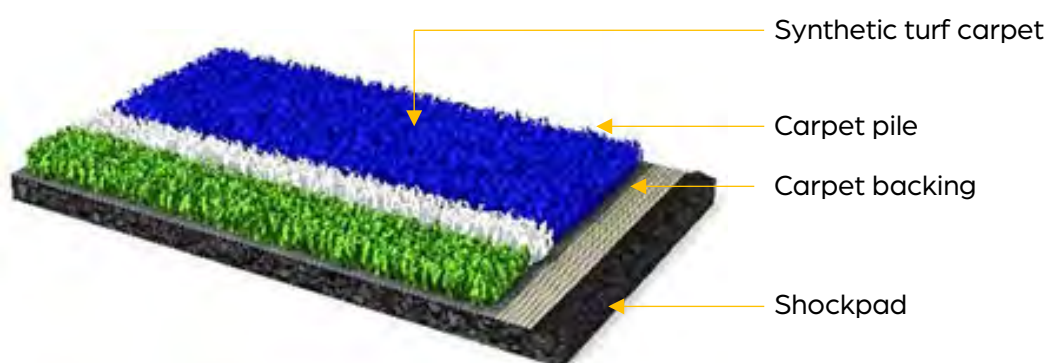
### What about 3G surfaces?

With the increasing use of synthetic turf surfaces for football, people ask if hockey can also be played on these surfaces. Unfortunately, as these surfaces are designed to replicate natural grass, they tend to cause a hockey ball to bobble around and roll at a much slower pace, meaning many consider them unsuitable for hockey.



## What is a hockey turf surface?

A synthetic turf surface has two principal parts, a carpet that forms the playing surface and a cushioned underlayer, known as a shockpad or elastic layer. The two are designed to work together to provide the required levels of performance and player comfort. When they are designed for hockey, we describe them as being a hockey turf.



Today, most synthetic turfs are produced using a tufting process; the manufacturer takes a number of individual plastic yarns grouped together to form a tuft bundle, and loops them through a backing cloth, before they are trimmed to the required length and anchored in place using a latex or polyurethane adhesive.

The length of the carpet pile and number of tuft bundles (or tuft density) is determined by the intended use of the surface. Most hockey turfs are between 11mm and 18mm in length, but some multi-sports versions are a little longer. In comparison, most carpets intended for football have piles that are between 40 mm and 60 mm in length.

Most pile yarns are made from polyethylene. This plastic has good durability, is resistant to weathering, and is soft to touch when players fall on it. For hockey, the yarns can often be curled to help increase the density of the pile.

Many synthetic turf surfaces have some form of infill that supports the carpet pile and acts as a ballast to stop the carpet moving. Surfaces that do not have infill have much higher tuft densities, as the individual tuft bundles need to support each other. These denser carpet piles allow the hockey ball to sit on the top of the surface and not sink into it providing a much better surface for hockey.

Shockpads may either be manufactured in a factory as flexible foam tiles or rolls that are laid out and joined together or be made from a mixture of rubber granules and polyurethane binder that are mixed on site and laid using small paving machine.



## FIH Quality Programme

With over 40 years' experience, the FIH Quality Programme provides consistent and dependable industry standards and products. It protects those investing in hockey facilities by ensuring that FIH Approved products are available, and that your 11 a-side hockey field, or HOCKEY5s court, has been designed and built to the correct standards. The FIH Quality Programme now comprises:

- Industry leading design and construction standards
- Over 300 FIH Approved hockey turf Products
- FIH Approved Field Equipment (goals, rebound boards, team shelters, etc)
- FIH Preferred Suppliers, Certified Manufacturers and Certified Field Builders

Full details are available on the FIH website at [www.fih.ch/qp](http://www.fih.ch/qp).





## Surface selection & the hockey development pathway

Whilst everyone would like to play on the best types of hockey turf, experience shows that the types of surface that can be used at the various stages of hockey development differ.

Like many sports, hockey has a development pathway. Figure 1 shows the four stages, from this the most appropriate types of playing surface can be identified on Figure 2.

Table 1 describes the various hockey turf surfacing options.



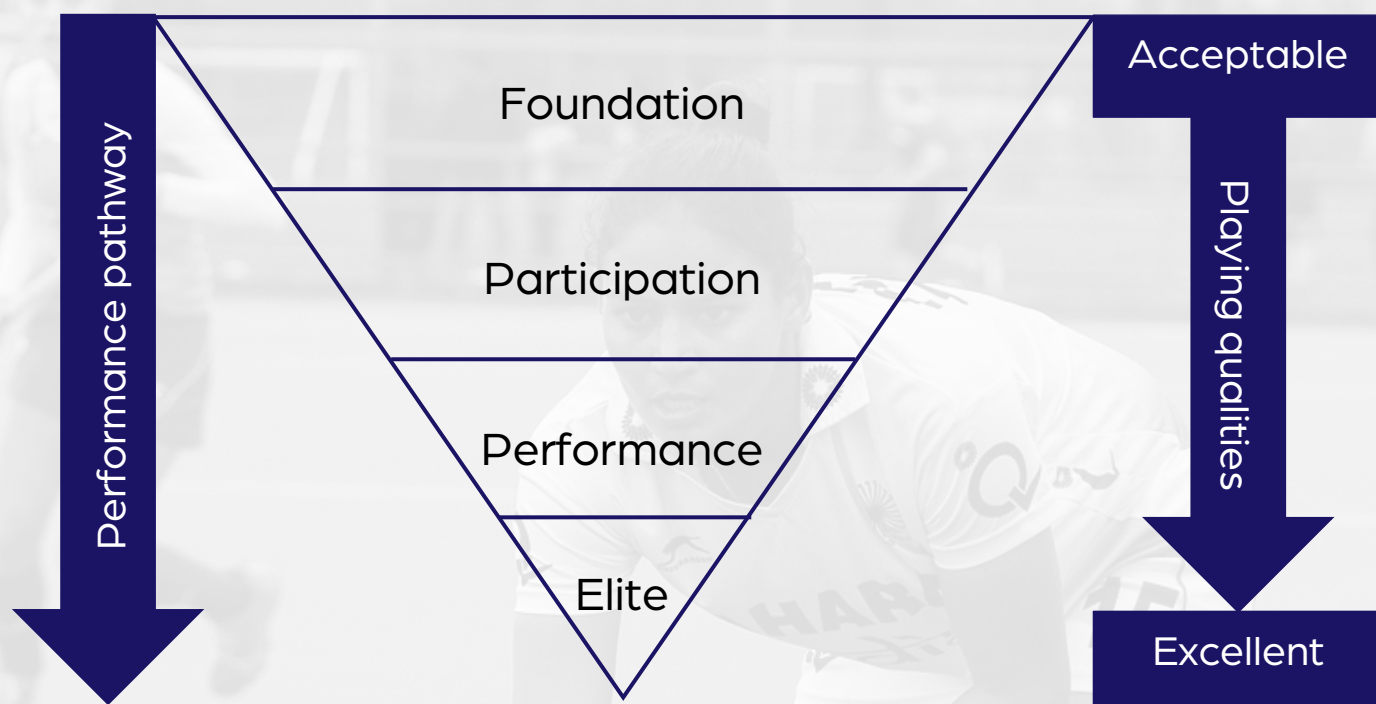


Figure 1 - hockey development pathway

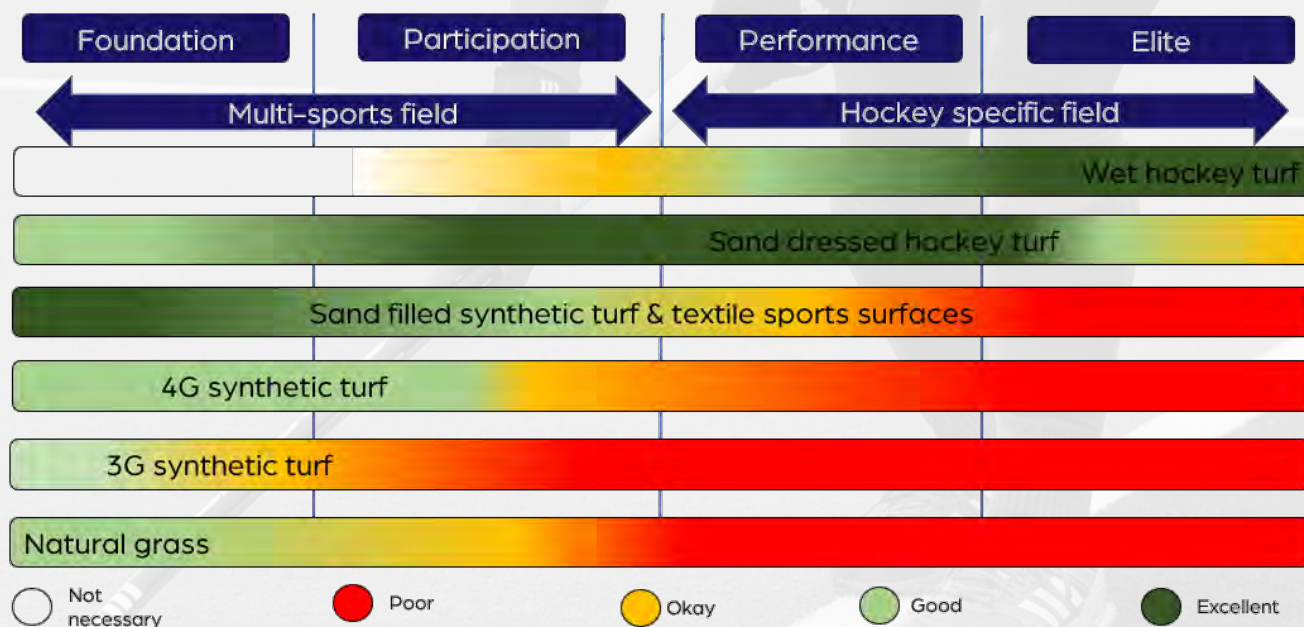





Figure 2 - surface options for each stage on the hockey development pathway



Table 1 – synthetic turf surfaces		Categories of FIH Approval
	<b>Non-filled (wet) hockey turf</b> <ul style="list-style-type: none"> <li>Designed for elite level hockey</li> <li>Short dense pile carpet. No infill</li> <li>Normally requires irrigating</li> </ul>	<ul style="list-style-type: none"> <li>GLOBAL – when tested under irrigated and wet conditions</li> <li>NATIONAL – when tested under dry and wet conditions</li> </ul>
	<b>Sand dressed hockey turf</b> <ul style="list-style-type: none"> <li>Designed for hockey</li> <li>Short dense pile carpet with sand dressing</li> <li>Does not require watering</li> </ul>	<ul style="list-style-type: none"> <li>NATIONAL</li> <li>COMMUNITY – when laid on a more resilient shockpad</li> <li>GEN 2 – when laid on a firmer shockpad</li> </ul>
	<b>Sand filled hockey turf</b> <ul style="list-style-type: none"> <li>Original multi-sports synthetic turf surface, used extensively for hockey in 1990s – 2000s</li> <li>Carpet filled with sand, which can make the surface firm and abrasive</li> </ul>	<ul style="list-style-type: none"> <li>COMMUNITY</li> </ul>



		Categories of FIH Approval
	<p><b>Textile sports surface</b></p> <p>Manufactured using a needle-punch technique, normally semi-filled with sand. The surface provides a durable, relatively fast, and consistent playing surface</p>	<ul style="list-style-type: none"> <li>• COMMUNITY</li> <li>• GEN 2 – when laid on firmer a shockpad</li> </ul>
	<p><b>GEN 2</b></p> <p>Hockey friendly surface laid over a stiffened shockpad that allows hockey and other sports, such as tennis, netball, futsal, etc to be played on the same facility</p>	<ul style="list-style-type: none"> <li>• GEN 2 MULTI-SPORTS</li> </ul>
	<p><b>Long-pile multi-sports turf</b></p> <ul style="list-style-type: none"> <li>• Long pile carpet designed to play like natural grass</li> <li>• Hockey ball sits into carpet creating a slow and often bobbly ball roll</li> <li>• May be semi filled (often with rubber granules), or non-filled</li> </ul>	<ul style="list-style-type: none"> <li>• 3G MULTI-SPORTS</li> </ul>

## Club & college hockey fields

For many players, a non-filled (wet) hockey turf is the surface of choice, so if you are planning a field that will be used exclusively for hockey, this type of surface is likely to be near the top of your wish list. The interaction between the water and the short, dense pile of the carpet allows the ball to run smoothly, with little bounce, whilst the low surface friction ensures the stick slides across the surface, creating a fast, responsive style of play.

Water, however, is precious and it is becoming increasingly scarce in many parts of the world, meaning we all have a duty to use it sparingly and wisely. Even in regions where water is readily available, the cost of a watering system can be prohibitive. This has led to sand dressed hockey turfs becoming popular, particularly for fields that will not host international matches. Not dissimilar in construction to a non-filled hockey turf this type of surface also provides a consistent, quick surface, that allows 3D skills, and provides good levels of player comfort, especially when damp due to rain or a heavy dew.





## Multi-sports community fields – GEN 2

Funding a new sports field is very expensive, irrespective of the surface type. Therefore, maximising opportunities and use is often key to securing funding. For many, this means considering a multi-sports field. Hockey is fortunate that the types of surfaces it desires for community and school venues can also be used by other sports such as:

- Futsal
- Tennis
- Netball
- Soccer
- Lacrosse
- Athletics training / jogging tracks
- Softball

Working with some of these sports, the FIH has developed the GEN 2 concept (see [www.fih.ch/qp](http://www.fih.ch/qp) for details). Based on sand dressed synthetic turfs and textile sports surfaces, with stiffer shockpads, hockey friendly multi-sports surfaces are now available. Details of how these surfaces and field designs can be used to create GEN 2 venues are given on the following pages.





## Hockey and tennis

As a GEN 2 surface has a firmer shockpad it allows a tennis ball to bounce to a height that means a hockey field or HOCKEY5s court can also be used for school level and community tennis.

Up to 12 tennis courts can be marked onto a full size hockey field. All you need are portable tennis posts and nets, and ideally, division nets to separate the rows of courts.

A three court tennis block is also large enough for one HOCKEY5s court.

GEN 2 Concept endorsed by





## Hockey and netball

GEN 2 synthetic turfs provide an acceptable playing surface for community and club level netball.

Up to 9 netball courts can be incorporated onto a full size hockey field. All you need are portable netball goal posts.

A block of three netball courts is also large enough for one HOCKEY5s court (and three tennis courts).

## Hockey, soccer, and futsal

The fast pace of GEN 2 synthetic turfs means they are great for hockey and futsal, and suitable for community soccer and football training.

Dual use hockey/soccer fields are common in many countries, especially in schools and colleges.

Smaller, more affordable, courts are perfect for HOCKEY5s and futsal and offer a lower cost option when building a full-size field is not possible.



## Hockey and lacrosse

Hockey and lacrosse have much in common; both are fast moving, action packed sports played with a small ball and stick.

Not surprisingly, both sports have similar needs; players want safe, fast surfaces that allow swift and secure movement and play.

GEN 2 synthetic turfs allow both sports to be played successfully on the same field.

## Hockey and athletics

Gen2 synthetic turf surfaces provide levels of athletic performance that fall within the ranges specified by World Athletics for polymeric tracks. Whilst not suggesting GEN 2 synthetic turfs are suitable for high level athletics, the surfaces do allow school competitions and community jogging activities to take place.





## Hockey and softball

Base-running sports like softball are increasingly converting to synthetic turf fields due to the benefits they offer in regions that experience inclement weather or where high levels of use or inadequate maintenance resources make natural grass unsustainable.

Utilising innovative layout designs, softball can be incorporated into multi-sports fields, maximising opportunities, and justifying investment



## International competition venues

International competitions are the perfect stage to showcase the best hockey talents to a global audience. To make the most of this opportunity a venue needs to ensure it provides the best possible playing surfaces. Today these are non-filled wet hockey turfs.

Having the best possible playing surface is only part of the objective, however. Maximizing the TV images is equally important. The beauty of hockey is its speed and the skills of the players, ensuring the TV audience can see and appreciate these is fundamental to the game's commercial success.

Working with broadcasters, lighting engineers and the synthetic turf industry the FIH has undertaken research to determine which combination of hockey turf and ball colours provide the greatest visibility of the ball during the play. The outcome has resulted in the FIH adopting a policy of promoting completely blue fields and white balls for its international tournaments. Equally important for these top events is ensuring the TV spectacle is not compromised by additional line marking or logos on the field.





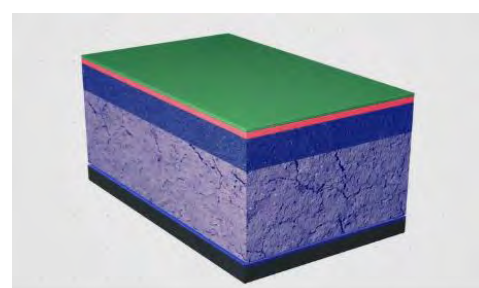
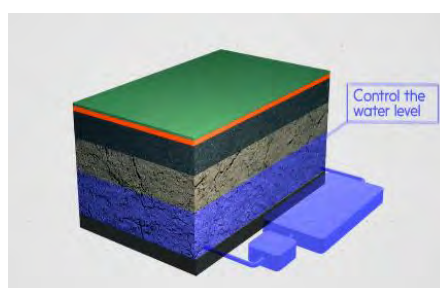
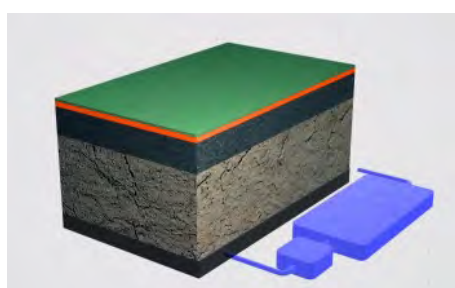
## What about Dry Turf?

Recognising, however, water is precious, and it is becoming increasingly scarce in many parts of the world, the FIH wishes to move from hosting elite level hockey competitions exclusively on wet turf and has challenged the synthetic turf industry to develop surfaces that play the way the sport wants without using watering. Today, the industry are investigating to see if they can achieve these objectives.

Looking ahead, it is not the intention of the FIH to stop the construction or use of water-based fields. As it becomes possible for surfaces to satisfy the requirements for top-level play without water, we believe hockey will embrace this advancement with enthusiasm, but there will be a period where international matches and tournaments will be played on existing water-based hockey turfs as well as the new dry turfs. This means that today, you can still invest in a wet field with the confidence that you will be able to use it for the full life of the hockey turf.

In the meantime, companies are also innovating to develop more sustainable ways of watering fields. Pioneering technology that allows fields to be watered from beneath is now available and fields using this concept have been built in Europe and Oceania. This technology offers the major advantages of:

- Allowing water capture and recycling, reducing consumption
- No loss or watering of spectators, etc through wind drift
- A constant and even distribution of water across the field and throughout a game



*Under field watering concept*

## Field & court constructions

A hockey field or HOCKEY5s court comprises two parts, the field of play which is the area within the side and end lines (or boards for HOCKEY5s), and the run-offs which ensure players can stop safely when running off the field during play.

### Field sizes – 11 a-side hockey

The field of play for 11 a-side hockey is specified in the rules of hockey as follows:



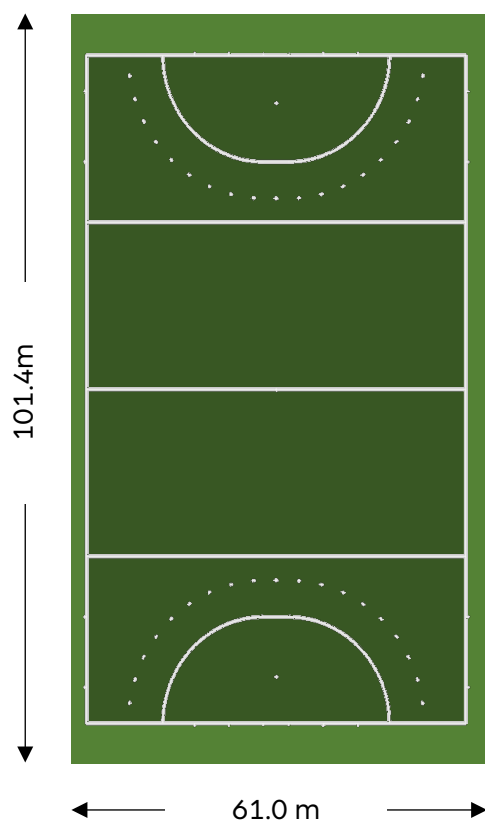
The FIH has established preferred and minimum run-offs. It is recommended the preferred run-offs are used whenever possible and they are mandatory for FIH Category 1 fields.

Depending on the category of field, the run-offs may be surfaced entirely with hockey turf or have a combination of hockey turf and some form of paving on the outer run-off. Further details are given in Part 2 of the FIH Hockey Turf and Field Standards (available at [www.fih.ch/qp](http://www.fih.ch/qp)).

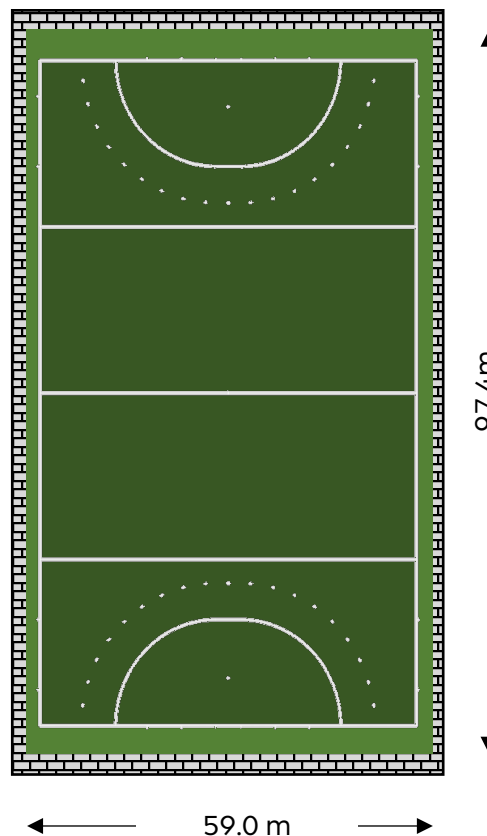
		Inner run-off (hockey turf)	Outer run-off (hockey turf or paving)	Total
Ends	Recommended	3.0 m	2.0 m	5.0m
	Minimum	2.0 m	1.0 m	3.0 m
Sides	Recommended	2.0 m	1.0 m	3.0 m
	Minimum	1.0 m	1.0 m	2.0 m



Field with Preferred run-offs, fully surfaced with hockey turf



Field with Minimum run-offs. Inner run-off in hockey turf, outer run-off hard paving



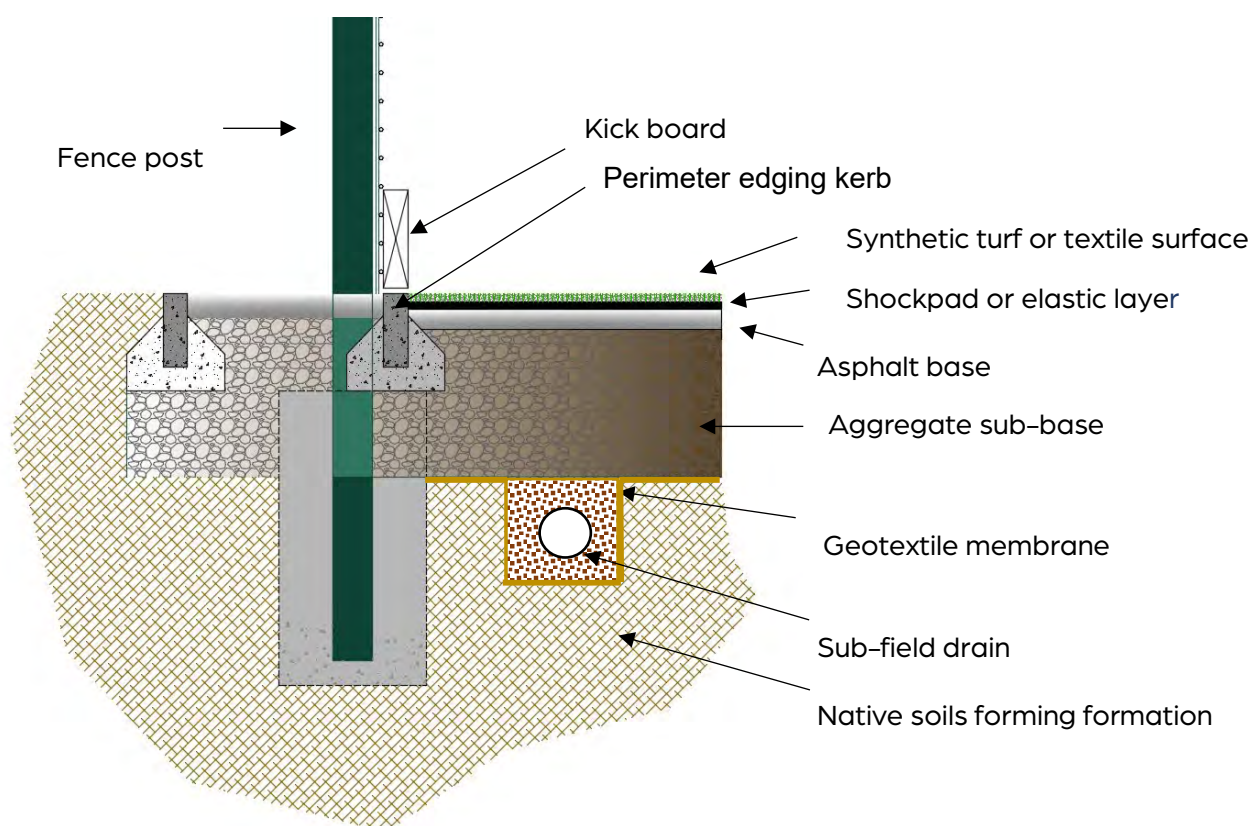
### Court sizes – HOCKEY5s

The size of a HOCKEY5s court will depend on the type of facility being built. Guidance is available in our Facilities Guidance – HOCKEY5s Courts.

### Construction considerations

There are many ways of constructing hockey fields and Hockey5s courts, and every field or court should be designed and constructed to ensure it is suitable for the prevailing site and climatic conditions. These should be based on local good practices that are known to provide constructions that satisfy the requirements of the *FIH hockey turf and Field Standards*.

In many parts of the world a typical construction comprises:



*Figure 4 –typical hockey field or HOCKEY5s court construction*

Understanding the ground conditions on which the field or court is to be located is fundamental to ensuring a good quality, stable, long-lasting construction. Experience has shown the greatest risk of unforeseen problems during construction and longer-term usually lie in inadequate design provision for the site conditions.

The formation or subgrade is the prepared ground on which the field or court is built. It needs to be sufficiently stable with suitable loadbearing capacity to support the facility being built on it. Its ability to achieve this will depend on a number of different factors including the type of soils present, the potential for frost, drought, heavy rain, etc, and the type of construction being placed on it.

The field or court should incorporate a drainage system that is designed to remove rainfall from the playing surface at an adequate rate to ensure excess water does not build-up on the surface and restrict the use of the facility.

The primary function of the sub-base, or foundation, is to protect the formation from excessive loads that may lead to deformation and instability. It may also be used to aid drainage of surface water (for which it must be permeable). The



selection of the necessary construction materials and appropriate thickness should be defined by the field designer in accordance with best practice.

In many parts of the world, the sub-base is overlaid with an asphalt layer. This is designed to provide a smooth, robust platform on which the hockey turf is laid. The asphalt layer may be permeable or impermeable depending on the form of drainage being used. As fields and courts with impermeable asphalt layers need steeper slopes or profiles to aid the lateral flow of water, the use of a permeable asphalt that allows vertical drainage down through the base and sub-base, and a flatter profile is preferable.

Due to the many site considerations that will have a significant bearing on the design and construction of a hockey field or HOCKEY5s court, it is not possible for the FIH to set global construction standards for them. In some countries, national guidance and standards are available and these should be followed whenever possible. Where no such guidance is available, it is essential a specialist design team and construction company be appointed to undertake the works. Identifying such companies can be difficult, which is why the FIH has introduced the certification of **FIH Preferred Suppliers** and **Certified Field Builders**. These are companies with a proven ability to design and construct hockey facilities.



## Supporting infrastructure

In addition to the hockey field or HOCKEY5s court consideration should also be given to supporting infrastructure. This will include lighting, field equipment, perimeter fencing, and for Global category surfaces, irrigation.

## Sports Lighting

The type of lighting required, and its performance will normally depend on the competition rules applicable for matches that will be played on the field or court. Comprehensive guidance is provided in our *Facilities Guidance – Sports Lighting* for Non-Televised Outdoor Hockey and *Facilities Guidance – Sports Lighting* for Televised Outdoor Hockey publications.

## Perimeter fencing

Most hockey fields are enclosed by a perimeter fence. This ensures balls do not leave the field or Court, stops unauthorised use, and helps protect the hockey turf from wildlife, etc. The fencing should be designed and constructed in accordance with local standards and industry guidelines. Fence heights should be determined after assessing the potential for a hockey ball to leave the boundaries of the field and cause injury or damage. With the exception of Category 1 fields, the FIH do not set specific requirements for fencing. Typical heights used are:

End of field – width of shooting circle	4.5 m
End of field – outside shooting circle	3.0 m
End of fields – tiered spectator seating	7.0 m
Sides – no spectator viewing	3.0 m
Sides – spectator viewing	min. 1.0m

Fencing is often based on weld-mesh or twin-bar panels. Ball catch netting can also be used, especially for higher sections behind the goals. The fence must not allow hockey balls travelling at speed to pass through it, so a 45 mm mesh-size is often used.

To protect the bottom of the fencing from being damaged by the repeated impact of balls hitting it, kick-boards (often 250 mm – 300 mm high) are normally fitted to the bottom of the fencing. These boards also help contain any fibre debris or infill and prevent it migrating into the surrounding environment.

If temporary division nets are installed to split a field into sections for cross pitch play, they should be at least 3 m high and have sufficient excess skirt to ensure balls cannot pass under them. Experience also suggests that fitting a weighted band to the bottom of the net helps prevent it billowing in windy conditions.

## Field equipment

Ensuring a hockey field or HOCKEY5s court is equipment with good quality, durable and safe field equipment is important. To aid those purchasing field equipment the

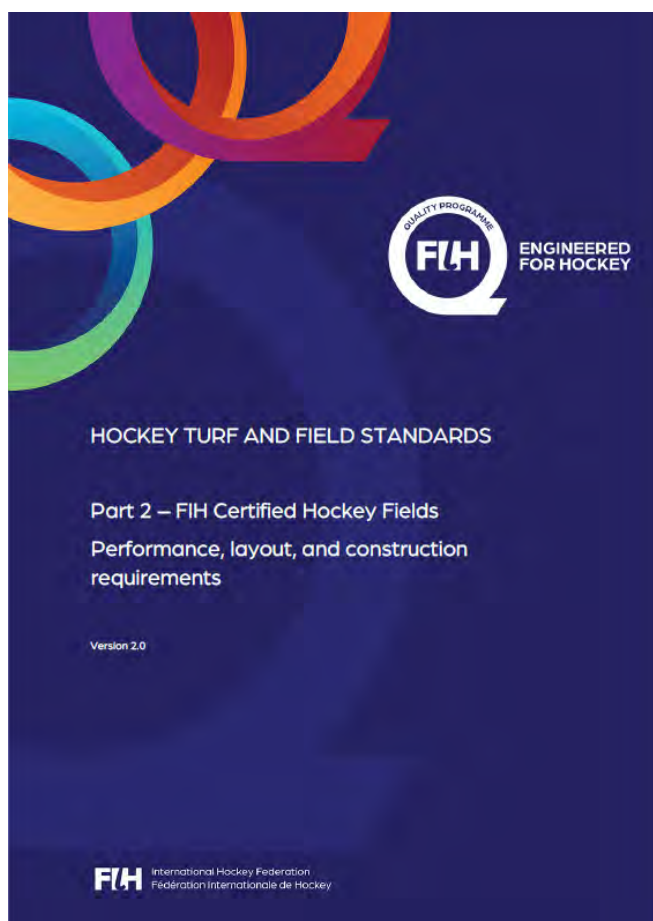


FIH Quality Programme includes FIH Approved, hockey goals, team benches and HOCKEY5s rebound boards, Technical Official's booths. All approved equipment is independently inspected prior to FIH Approval to verify compliance with our standards. For details visit [www.fih.ch/qp](http://www.fih.ch/qp).

## Field Irrigation

Ensuring a field or HOCKEY5s court surfaced with a hockey turf designed to be used with water has a suitable irrigation system is important if the facility is to meet the expectation of players. Our *Facilities Guidance – Hockey Field Irrigation* describes the different points that should be considered, and the level of irrigation performance required to ensure a facility is suitable for hockey.

## Hockey Turf and Field Standards



A new hockey field is a major investment, and it is therefore important that it meets the expectations of players, hockey associations clubs and colleges, etc. To help ensure good quality fields are built for all levels of play, from elite level competition to community development, the FIH has developed its internationally recognised hockey turf and Field Standards.

By incorporating these standards into your procurement plans you can be confident you will achieve the highest standards of performance, player welfare and durability. With over forty years' experience hockey knows what it wants, what works and what does not. Utilising the latest testing technologies and using fully

independent accredited test institutes, every FIH Approved hockey turf is assessed for over 30 different properties, and only the best meet our requirements.

But choosing an FIH Approved hockey turf is only part of your journey. If the surface is badly installed or laid on a poorly designed or constructed base you will end up

with a sub-standard field that fails to deliver the hockey experiences you expect. To help minimise these risks the FIH Hockey Turf and Field Standards also includes a comprehensive inspection programme that assesses the quality of your new field.

Recognising that hockey fields are used for a wide range of different applications, ranging from televised international tournaments, to community participation, the FIH Standards include five categories of field:

FIH Field category	Typical use	Playing surface	
		Surface type	FIH Approval
1	<b>Elite hockey</b> international Tier 1, televised tournaments	Hockey turf: <ul style="list-style-type: none"> <li>• non-filled, wet</li> </ul>	Global
2	<b>High performance</b> international and national competitions	Hockey turf: <ul style="list-style-type: none"> <li>• non-filled, wet</li> </ul>	Global
3	<b>Performance and participation</b> regional and local hockey, plus other sports	Hockey turf: <ul style="list-style-type: none"> <li>• sand dressed</li> <li>• non-filled, wet</li> </ul>	National Global
4	<b>Participation</b> local, community and school hockey, plus other sports	Multi-sport, synthetic turf: <ul style="list-style-type: none"> <li>• sand filled</li> <li>• sand dressed</li> </ul> Sand dressed textile	Community Gen 2
5	<b>Foundation and participation</b> large ball sports and foundation level hockey	Long pile multi-sport synthetic turf	3G multi-sport



## Hockey turf maintenance

All synthetic turf surfaces require maintaining if they are to retain acceptable performance and create an appealing facility people wish to use, whilst maximising the life expectancy of the surface. There is no such thing as a maintenance free synthetic turf sports surface, and failure to maintain a surface will invalidate the warranty provided by the surface manufacturer.

The precise maintenance requirements will depend on the type of synthetic turf surface installed, intensity of use, and location of the hockey field. In all cases the hockey turf manufacturer should provide a maintenance manual, and this should be followed from the first week the field is played on.

Typically, the maintenance of a hockey field will comprise:

- Daily removal of any litter, spillages, chewing gum, etc and any organic detritus;
- Daily check of goals to ensure they are securely anchored and there are no tears in the nets that could allow a ball to pass through or create an entrapment point;
- Weekly removal of leaves and weeds;
- Weekly grooming by brushing to lift the carpet pile, and evenly redistribute any infill that has been disturbed;
- Weekly top dressing of high use areas (penalty corner tabs, top of the shooting circles, penalty spots, etc.) of surfaces with infill;
- Weekly check of all carpet joints and inlaid lines to ensure there are no failures, and prompt repair of any found; to ensure they do not become larger, or a hazard to players;
- Six monthly or yearly deep cleaning to remove algal growth. This will primarily be required on non-filled wet hockey turfs but may also be required on sand dressed turfs laid in moist climates.
- Applying algacide if deep cleaning alone is not adequate to control algae growth. As some forms of algacide can adversely affect the plastics used in the synthetic turf carpet, it is important that any chemicals that applied are approved by the hockey turf manufacturer in advance.

Brushing and grooming of the field is best undertaken using specialist maintenance equipment, as recommended by the surface manufacturer. This will normally either be a mini-tractor with a suitable turf-brush attached, or a specialist machine.

As mentioned, it is very important that maintenance is commenced as soon as the field is first used, so allowing for the necessary equipment in any new facility's budget is important.

It is also important that the brushing and grooming of the surface is done in different directions to reduce the risk of the turf pile developing a directional pile. Each time the field is brushed, use a different pattern of brushing





## Sustainability and environmental considerations

Global awareness of the impact human activity is having on our planet is rightly growing and we need to ensure that hockey is minimising its impact.

As described earlier in this Guide, the FIH ultimately wishes to see all levels of hockey played on surfaces that do not need watering. Whilst the industry innovates and develops this new technology, those considering a wet surface are encouraged to select a surface that has been FIH Approved using an irrigation rate of no more than 1 l/m<sup>2</sup>. Likewise, water harvesting, and water recycling should be utilised, wherever possible.

Synthetic turf surfaces are made from plastics, and like any plastic product it is very important that when the surface reaches its end of life, it is disposed of responsibly. Increasingly, the option of sending the old synthetic turf to land fill is being banned or made very expensive, to encourage recycling. At present, many synthetic turf surfaces are made with a mix of different plastics, making closed loop recycling difficult. Market pressure to encourage manufacturers to produce surfaces that can be fully recycled will help resolve this problem, and anyone purchasing a synthetic turf surface is encouraged to ask challenging questions of the supplier about how the surface can be disposed of when it reaches the end of its usable life.

Shockpads used in FIH Approved surfaces are intended to be used under more than one carpet; so typically for around 20 years. This is only possible if the synthetic turf carpet is laid in a way that allows it to be removed and replaced without damaging the shockpad. Checking this is possible should form part of any new facility's design brief.

Microplastic pollution from synthetic turf surfaces, and especially the migration of the rubber infill used in 3G long pile surfaces, has been identified as a concern by government regulators. The use of containment barriers<sup>1</sup> around the perimeters of a field, can help control this migration to levels considered acceptable. Many hockey fields already have barriers at the bottom of perimeter fences to protect them from ball impacts. The FIH encourage the use of these barriers on all hockey fields, even when infill is not used, as they will also help ensure that any fibre debris from the synthetic turf surface is contained and can be collected for responsible disposal.

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<sup>1</sup> Guidance on preventing rubber infill migration is given in European Standards Committee Technical report CEN TR 17519

## FIH facilities guidance – helping you win

This Guide is part of a series of facilities documents produced by the FIH. Other information that might assist you is available at [www.fih.ch/qp](http://www.fih.ch/qp). It includes:

- Facilities Guidance – Outdoor Hockey
- Facilities Guidance – GEN 2 multi-sports areas
- Facilities Guidance – HOCKEY5s courts
- Facilities Guidance – Sports Lighting for Non-Televised Outdoor Hockey
- Facilities Guidance – Sports Lighting for Televised Outdoor Hockey
- Facilities Guidance – Hockey Field Irrigation
- Facilities Guidance – Indoor Hockey
  
- Hockey Turf and Field Standards Part 1 – FIH Approved hockey turfs
- Hockey Turf and Field Standards Part 2 – 11 a-side hockey fields
- Hockey Turf and Field Standards Part 3 – HOCKEY5s Courts
- Hockey Turf and Field Standards Part 4 – Temporary Overlay Pitches (TOPS)
  
- FIH Approved Field Equipment – Hockey Goals
- FIH Approved Field Equipment – HOCKEY5s Rebound Boards
- FIH Approved Field Equipment – Team Shelters
- FIH Approved Field Equipment – Technical Officials Booths
- FIH Approved Field Equipment – Indoor Hockey goals
- FIH Approved Field Equipment – Indoor Hockey side-boards



## Use of this guide

Whilst every effort has been made to ensure the accuracy of the information contained in this guide, any party who makes use of any part of the Guide in the development of a hockey facility shall indemnify the International Hockey Federation (FIH), its servants, consultants or agents against all claims, proceedings, actions, damages, costs, expenses and any other liabilities for loss or damage to any property, or injury or death to any person that may be made against or incurred by the FIH arising out of or in connection with such use.

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Compliance with the requirements detailed in the Guide by a User constitutes acceptance of the terms of this disclaimer by that User.

FIH reserve the right to amend, update or delete sections of the Guide at any time, as they deem necessary.

Any questions about this document should be sent to [facilities@fih.ch](mailto:facilities@fih.ch)



Rue du Valentin 61  
1004 Lausanne  
Switzerland

[www.fih.ch](http://www.fih.ch)