hauraton

Rainwater Management in Sports Facility Construction

Application Areas and Systems

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To all sports facility planners:

Get ready for your next project.

Sport inspires, moves and brings people together - in the sun as well as in the rain. To ensure that sports fields, stadiums and leisure facilities remain usable at all times, our solutions ensure safe and sustainable rainwater management.

With **HAURATON**, associations, planners and municipalities rely on innovation, quality and experience. In this way, we provide the basis for sport to take place at any time – today and in the future.

„The SPORTFIX SLOTTED CHANNEL is a perfect system for the sports sector - discreet and highly efficient. The result is a really super precise finish."

Katherine Haddock, GRAF Australia

Sports facilities place the highest demands on functionality, durability and safety – both for athletes and operators. Whether artificial turf pitch, athletics facility or stadium environment: Each area brings with it individual challenges for the planning and implementation of sustainable rainwater management.

Robust, low-maintenance surfaces, increasing sealing and more frequent heavy rainfall events make it necessary not only to drain water quickly, but also to treat it in a targeted manner, allow it to seep away locally or retain it and use it, for example, for green irrigation (watering).

This catalogue provides you with a basis for decision-making for your sports project. Let yourself be inspired and get fit for your next job.

Rainwater Management in Sports Facility Construction

The planning and construction of sports facilities require special solutions for rainwater management.

What should be considered?

New construction measures or conversions with drainage systems are often associated with a corresponding permit under water law. The responsible water authority checks whether the rainwater drainage complies with the regulations. In the past, rainwater was simply discharged into the sewer system, but today this is to be avoided. According to the Water Resources Act, connections to the combined sewer are particularly unacceptable (§60 WHG 2009, valid since 1 March 2010). The state water laws of the federal states and the local wastewater statutes of the municipalities have been adapted accordingly. If a product is used for rainwater treatment, then this must be at least equivalent to an overgrown soil zone (DWA-A 138-1 or DWA-A 102).

As with all wastewater, the WHG consistently requires state-of-the-art technology for the discharge of rainwater. Comprehensive rainwater management means keeping an eye on all functions: fast and safe drainage, the purification of contaminated surface water, targeted retention to relieve the sewer system and infiltration on site – for example in combination with infiltration swales or underground storage elements. For modern sports facilities, this results in flexible requirements for the systems used – depending on the type of area, use and load.

Rainwater management at sports facilities – a special discipline

What makes rainwater management in the sports sector so special compared to other applications? In addition to the general challenges posed by rainwater, additional factors must be taken into account in sport:

1. Risk of injury
A minimised risk of injury means that playing surfaces must be made dry and safe quickly – without disturbing obstacles.

2. A fair playing field
In order for athletes to be able to compete under the same conditions at different times of the day, the drainage system must function reliably and consistently.

3. Time availability of the playing field and track
Time is a decisive factor: match schedules, athletes' recovery phases, TV broadcasts and fan expectations require a rapid restoration of usability after rainfall.

4. Marking
Drainage systems should either be discreetly inconspicuous, or serve as markings with an appropriate cover.

5. Design
In the case of new buildings or renovations, an aesthetically pleasing solution is required that blends harmoniously into the respective sports facility. Covers play a central role here – more on this on page 9.

6. Hydraulic complexity
Façades, stands, sloping surfaces and typical sports obstacles such as water jumps make drainage challenging. In addition, vehicles such as ambulances, delivery vehicles or lawnmowers must be able to drive on the areas.

HAURATON offer solutions for all load classes:

7. Sensitive surfaces
The sports surface is often sensitive and expensive and must be protected. An efficient drainage system extends the life of the pitch or surface covering and reduces maintenance costs.

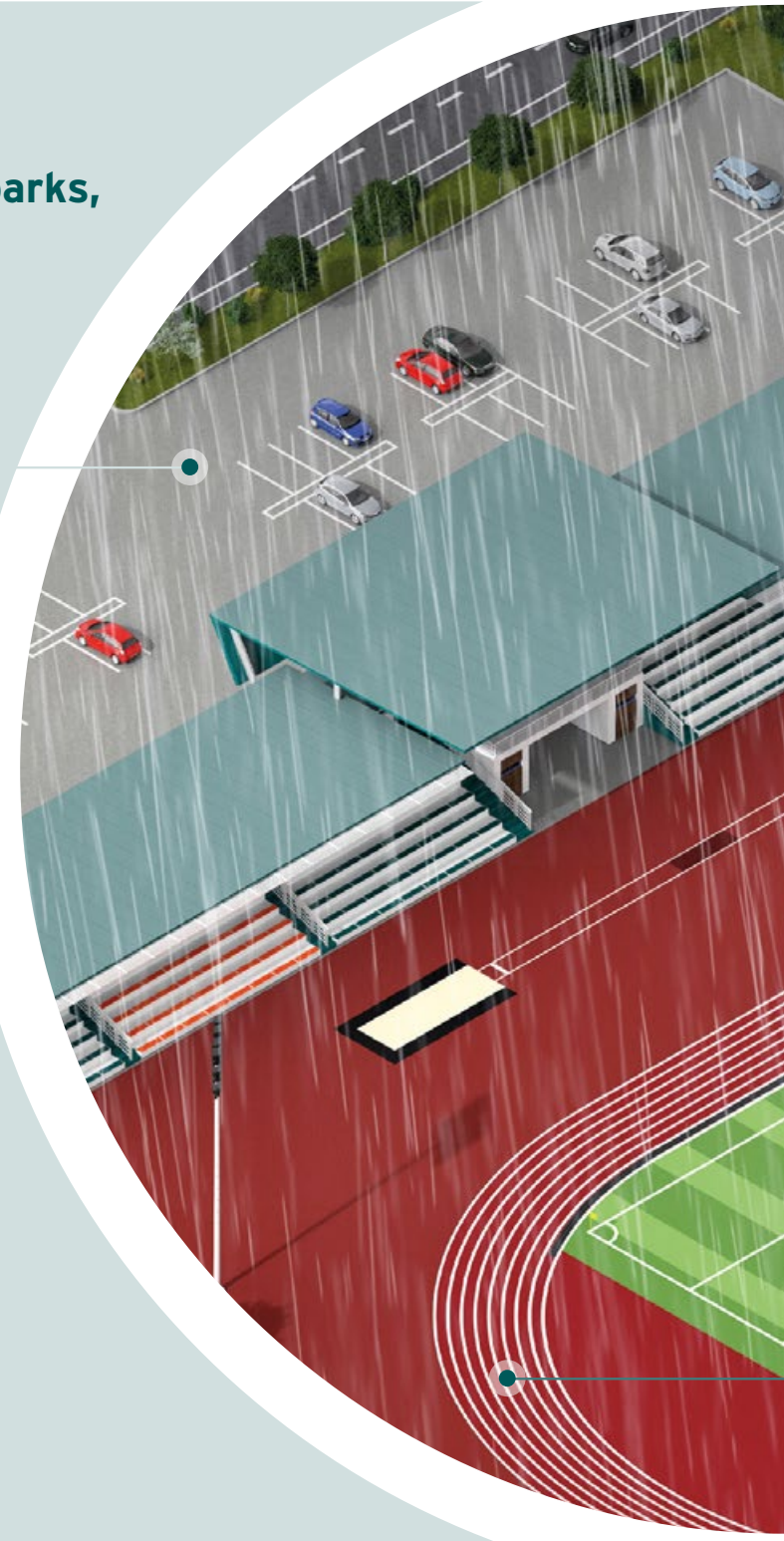
8. Water consumption
Watering natural turf and green areas or irrigating hockey pitches consumes a lot of water. If rainwater is collected as a resource and made available for reuse, large quantities of drinking water can be saved.

Safely draining rainwater with drainage solutions from **HAURATON**

Rainwater Management in Sports Facilities

Car parks, underground car parks, and traffic routes

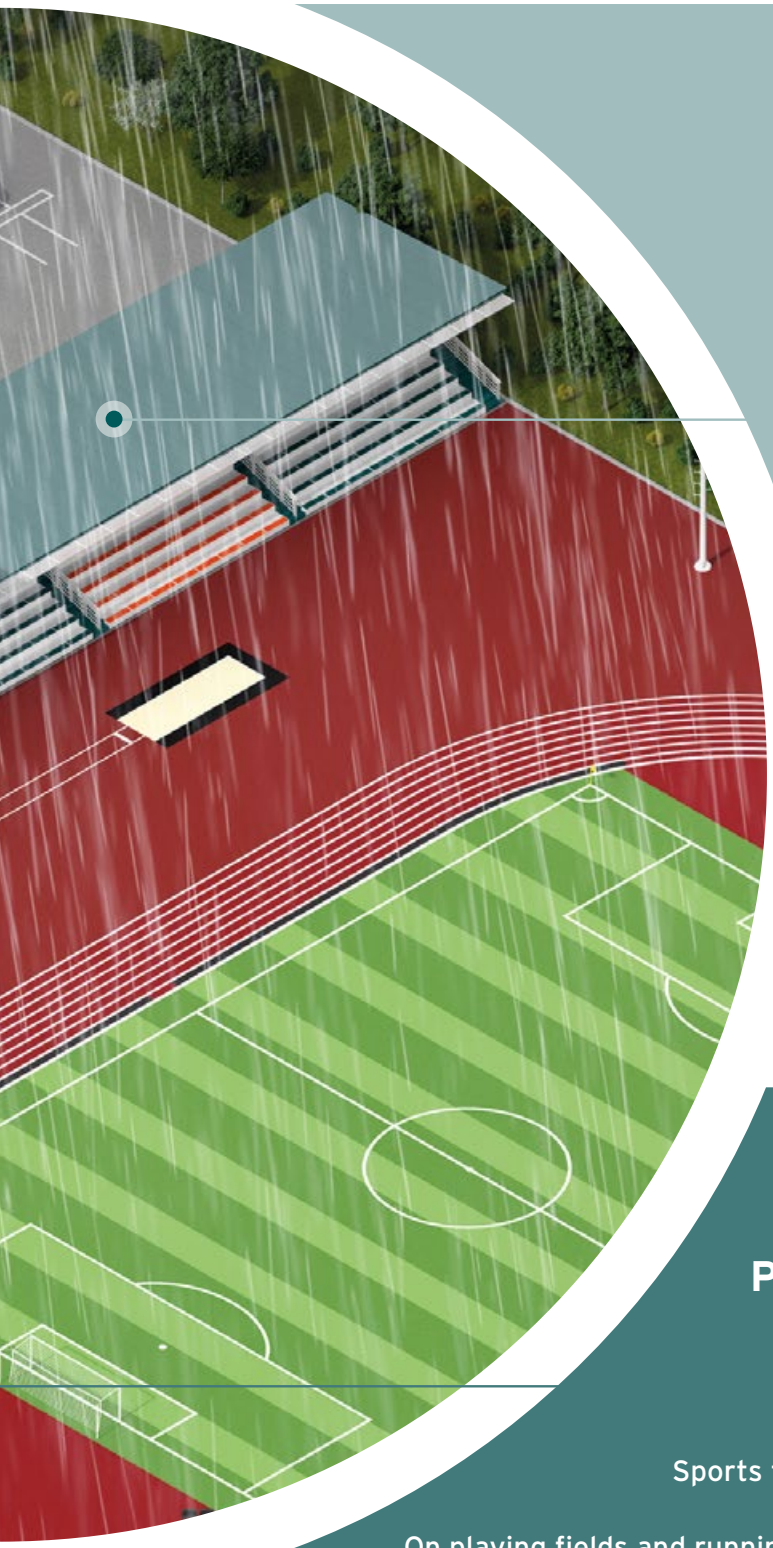
Car parks, underground car parks and traffic routes place high demands on drainage and construction methods. Weather, moisture, corrosive substances and low installation heights require robust systems. The aim is protection, functionality and sustainability – even in extreme weather.



Challenges:

- Large sealed areas
- High force impact
- Impurities
- Steep gradients
- Accessibility

Rainwater management includes all measures for the controlled drainage, storage, infiltration, purification and use of rainwater. The aim is to return water to the natural cycle and to reduce negative impact on the environment and infrastructure.



Stadium building and stands

The drainage of facades and stands has special requirements. Low installation heights and standards must be observed. Barrier-free solutions require threshold-free, corrosion-resistant, durable systems with careful planning.

Accessibility

DIN 18040

Flat Roof Directive

DIN 18531–18533

Playing field and running track

Sports field construction **DIN 18035**

On playing fields and running tracks, rainwater must be drained quickly, safely and over a large area. Systems should retain microplastics and sand particles, protect elastic coverings and be sustainably resilient. Accessibility, surefootedness and World Athletics standards are mandatory.

Car parks, Underground Car Parks, and Traffic Routes

Arrive safely, no matter what the weather.

Car parks and parking decks

Exposed parking spaces are not only continuously exposed to the weather, but are also particularly heavily frequented. In the case of parking surface drainage, a distinction must be made between external parking decks that are exposed to the weather and those that are located on the inside, which are protected from the weather. In both cases, frequently occurring moisture and heavy use play a major role.

Special requirements are:

- High thrust and shear forces
- Contaminated rainwater
- Handling of corrosive substances

DRAINFIX CLEAN

Filter substrate channel for rainwater treatment

DRAINFIX BLOC

Infiltration storage unit for heavily trafficked areas

Find out more on our application page.

hauraton.com/en-int/application-areas/parking/

Underground car parks

The amount of water in underground car parks usually results from dripping and melting water, which is caused by moving vehicles into the underground car park. The amount of water produced depends on various factors. Without a correctly planned and safely installed drainage system, there is a risk of damage to the building structure. These can occur after just a few years and lead to a loss of static stability in the long term.

Special requirements are:

- Handling of corrosive substances
- Low installation heights
- Gradient due to entrance and exit ramps

Transport routes

On heavily frequented areas, adapted rainwater management is essential. It is a matter of correctly dimensioning the drainage system and at the same time choosing the right load class for the forces that occur.

Special requirements are:

- **Infrastructure protection:** Buildings and outdoor facilities are reliably protected against flooding and consequential damage – for safe operation even in extreme weather.
- **Sustainable cleaning:** Filter substrate channels enable infiltration or reuse after drainage.
- **Barrier-free design:** Systems are integrated in such a way that they enable unrestricted use by all people – without tripping hazards, height differences or functional restrictions.

FASERFIX PARK

Evaporation channel for multi-storey and underground car parks

RECYFIX NC

Robust composite drainage system for heavily frequented areas

Stadium Building and Stands

The excitement is rising for athletes and spectators.

Façade and stand drainage

There are various technical and structural features for the drainage of facades and stands. For example, according to the Flat Roof Directive, the drainage system must have an overall width of more than 15 cm, unless the splash water load is minimised by a roof. Low installation heights often place high demands on the product to be selected and the correct installation. In addition, the façade channel should be corrosion-resistant, as it often comes into contact with cleaning solutions.

STEELFIX SLOT D

SLOTTED CHANNEL with perfect alignment

STEELFIX REGULAR

Closed channel for standard and regular façade drainage

Find out more on our application page.

hauraton.com/en-int/application-areas/flat-roofs-and-facades/

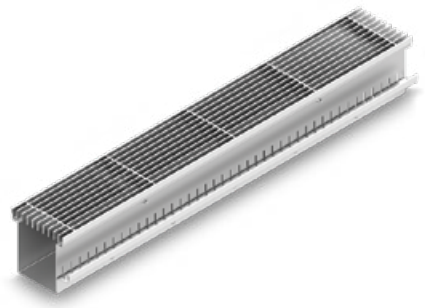
Drainage of glass façades

Glass facades are often designed as mullion-transom systems and must be drained via a drainage system. In many cases, an upstand height of 15 cm for the sealing cannot be maintained. Often it is 5 cm or less. Therefore, the glass façade, like the wooden façade, represents a special case, and drainage must be taken into account at an early stage in the planning. This is where the series of standards for building waterproofing, DIN 18531 – 18533 and the FLL guidelines come into play. The latter regulates the transition area between the open space and the building. In hydraulic calculations, façade surfaces are accounted for at 50 % of the floor surface area.

Barrier-free drainage

The barrier-free design of buildings is becoming increasingly important. DIN 18040 requires that buildings should be usable without restriction by people of all ages and with any physical limitations. This standard stipulates that the principles of accessibility must be implemented in a binding manner in all new public buildings, and private builders are also increasingly tending to choose barrier-free solutions.
Although a threshold height of no more than two centimeters is considered barrier-free, professional execution and waterproofing requires special constructions in accordance with the Flat Roof Directive. In practice, this means that various factors must be carefully taken into account when planning and executing barrier-free façade channels.

STEELFIX FLEX



Façade channel for low-lying glass facades

RECYFIX PRO with FIBRETEC

All-rounder for the drainage of sports fields and stadiums

Playing Field and Running Track

For exciting and safe competitions.

Grass pitches

Natural turf surfaces are living systems with special requirements for drainage and water retention. To ensure that the lawn remains resilient and ready to play in the long term, excess rainwater must be drained away quickly – without drying out the vegetation layer. Uniform drainage prevents waterlogging, protects the roots and ensures a stable lawn base layer. At the same time, retained rainwater can be used for irrigation in order to conserve resources and reduce maintenance costs. The drainage system must be hydraulically efficient, easy to maintain and perfectly coordinated with the lawn care system – for a natural playing surface in top shape.

Flachtank NEO

Versatile solution for sustainable rainwater retention

DRAINFIX BLOC

Infiltration and retention of large precipitation volumes

Find out more on our application page.

hauraton.com/en-int/application-areas/sport-drainage/

Artificial turf pitches

Football, hockey or multi-purpose fields with synthetic surfaces pose special requirements. The surface structure is permeable to water, but microplastics from granules, blade abrasion or fine particles from tartan surfaces can be washed out with rainwater. An integrated system for drainage and rainwater treatment helps to retain these substances and to transfer the discharge into the environment. At the same time, the rainwater management system used must be permanently efficient and mechanically resilient – in particular: with intensive sporting use and frequent cleaning of the playing surfaces.

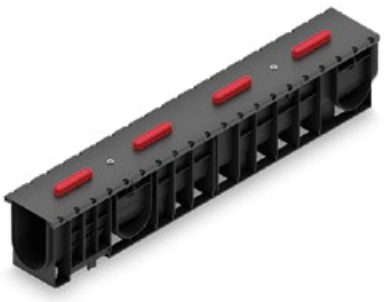
Track and field facilities

Whether it's running tracks, long jump pits or throwing areas – rainwater management must work particularly widely, quickly and safely. Water must not accumulate or cause slippery spots. Channels and associated components of the rainwater management system must be integrated in such a way that they do not undermine or damage the elastic plastic coverings – and at the same time be barrier-free and permanently non-slip. For competition-ready facilities, additional requirements according to World Athletics (WA) apply, for example with regard to the installation height and drainage performance of channels and covers.

SPORTFIX CLEAN

For the sake of the environment: microplastic filtration

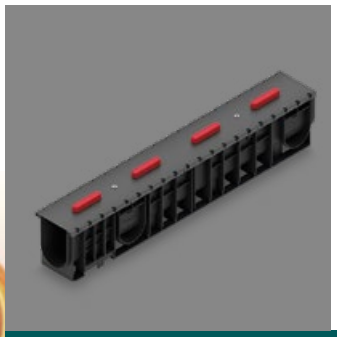
SPORTFIX SLOTTED CHANNEL



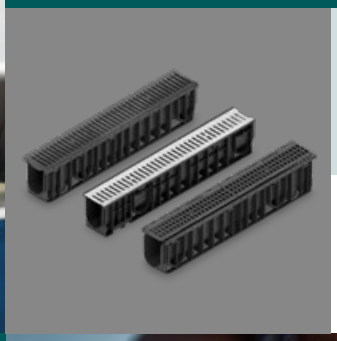
The lightweight and corrosion-free plastic drainage system

Products for a Wide Range of Sports Applications

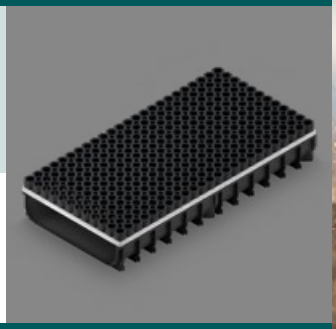
Used worldwide and consistently with high performance.



SPORTFIX SLOTTED CHANNEL –
Discreet drainage for professional sports facilities.

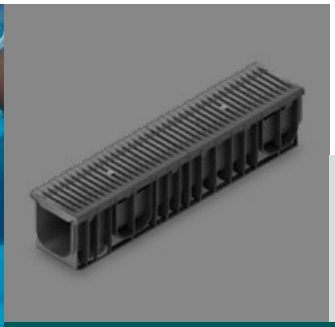


SPORTFIX channels – the ideal combination of drainage channel and mobile boundary for running tracks.



SPORTFIX Sand Trap Channels offer a secure border from other surfaces.

HAURATON supply reliable drainage systems as well as products specially designed for projects in sports facility construction, such as Sand Trap Channels and Soft Kerbs. All solutions have one thing in common: the name **SPORTFIX.**



SPORTFIX PRO – The all-rounder for the drainage of sports fields and stadiums.

SPORTFIX CLEAN – The filter substrate channel.

Track and Field

Safety & comfort for athletes.

Standards and integration into the sports facility

It is particularly important that the channels are integrated safely and without tripping hazards into the running track. These are usually laid on the inner edge of the track, often with end profiles, which at the same time form the edge of the track. A slight slope of the pavement surfaces (0.5 – 1 %) reliably directs the water into the drainage channel.

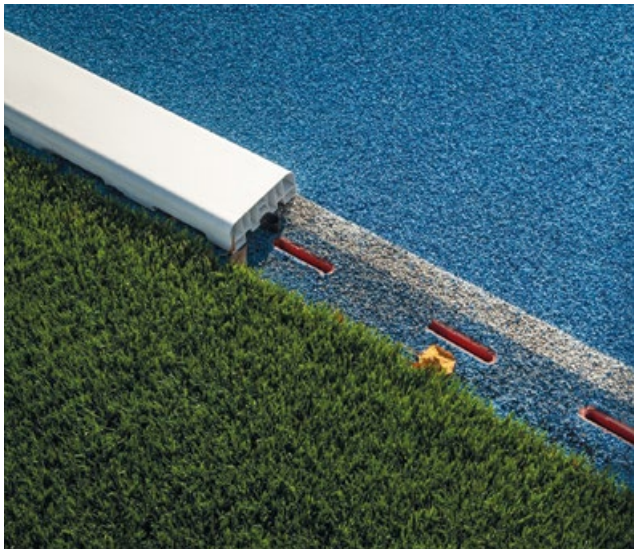
In addition to pure drainage, rainwater management is becoming increasingly important. Planners are increasingly considering systems for water retention, infiltration or reuse, for example for watering lawns. Special channel systems such as **SPORTFIX** or **RECYFIX PRO** combine functionality with sustainability and enable durable, safe and environmentally friendly solutions for modern athletics stadiums.

Requirements for channels and covers

The systems used must offer high hydraulic performance, as large amounts of water occur during heavy rainfall. For athletes, a spike-proof, flush transition is crucial to prevent injury and damage to shoes or surfaces. Gratings must be anti-slip, resistant and low-maintenance. Channel systems are not directly involved in the sporting competitions, but probably decisive for the quality of the infrastructure. For this reason, discreetly integrated systems such as **SLOTTED CHANNEL** are often chosen, which provide their performance barely visible to the user. Alternatively, drainage systems can also be integrated into the running track surfaces in terms of colour.

Checklist for planners

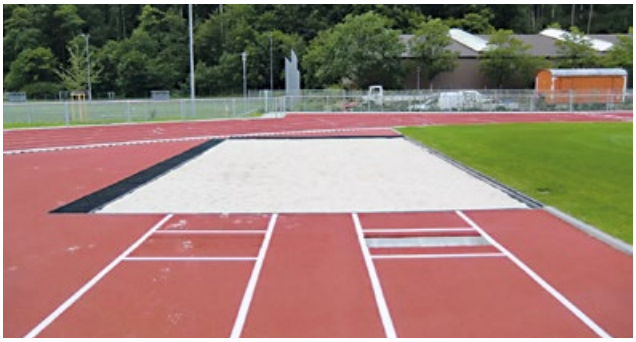
- Observe DIN 18035 + EN 1433 standards
- Plan for the running track gradient at an early stage
- Select channels with spike and trip protection
- Calculate hydraulic performance (heavy rain!)
- Integrating sustainable rainwater management



SPORTFIX SLOTTED CHANNEL installed with running track marking

Athletics Case Studies from All Over the World

With our **SPORTFIX** systems in stadiums and sports facilities around the globe, we proudly look back on a long history of successful projects and close partnerships.



Zell am Harmersbach Sports Facility, Germany

The sports facility includes a modern athletics stadium, an artificial turf pitch and additional sports and leisure areas. Drainage is carried out via a combined system of surface channels along the edges of the pitch, underground drainage and infiltration or retention elements.

Products used:

- **SPORTFIX Sand Trap Channel**
- **SPORTFIX SLOTTED CHANNEL**
- **FASERFIX KS 100**

Sport Complex on Asnyka Street in Katowice, Poland

Multifunctional facility with artificial turf, running track and training areas. Efficient drainage system ensures safe use of the pitch when it rains. Sustainable rainwater management relieves the sewer system.

Products used:

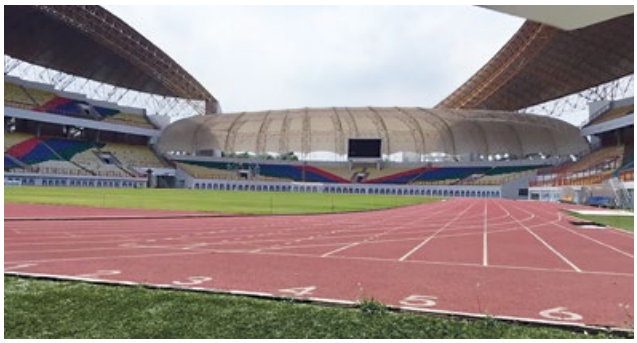
- 400 m **SPORTFIX SLOTTED CHANNEL**
- 1 piece **SPORTFIX Water Jump**
- 50 pieces of **SPORTFIX Sand Trap Channels**
- 100 m **SPORTFIX Soft Kerbs**

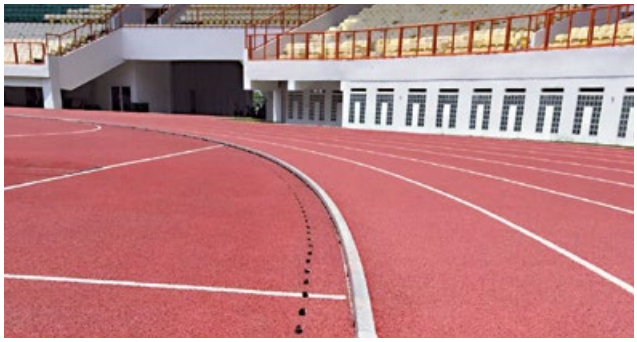
Bentinckspark Sport Complex Hoogeveen, Netherlands

The sports complex consists of a sports hall, an athletics track and a football complex.

Products used:

- **RECYFIX PRO**
- **RECYFIX STANDARD**
- **SPORTFIX Channels**





Wibawa Mukti Stadium, Indonesia

A modern multi-purpose stadium with an artificial turf football field, an athletics track, a high jump track with a run-up hill, a shot put facility, a pole vault track with a run-up hill, a sandpit with a long jump track, a baseball field with natural and sand surface, two beach volleyball courts and a multi-purpose field.

Products used:

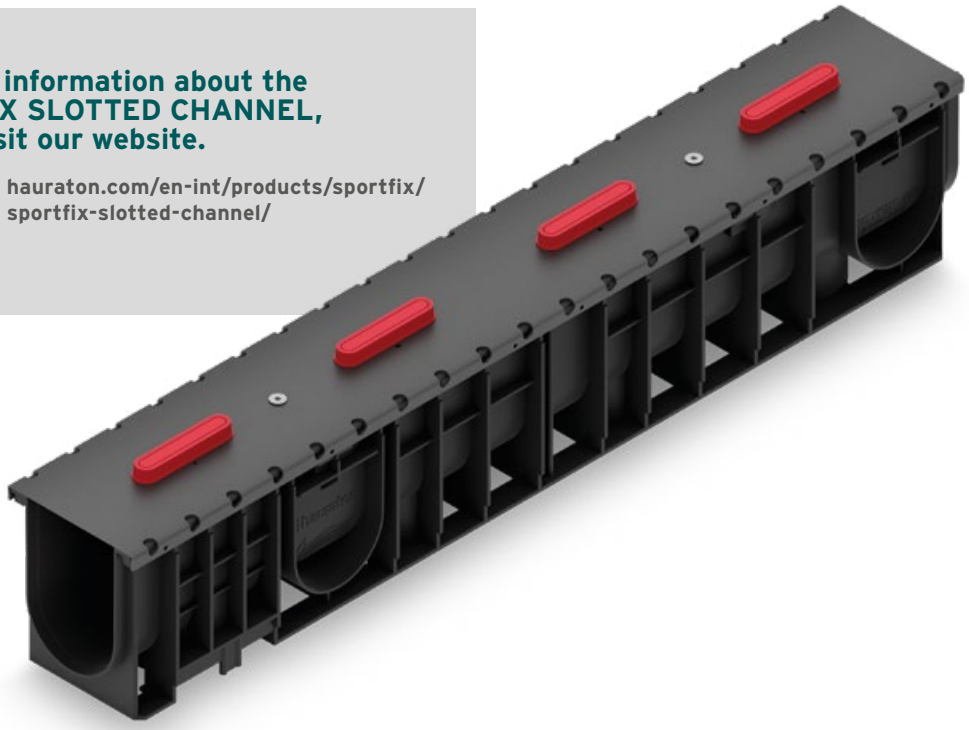
- 396 m **SPORTFIX SLOTTED CHANNEL**

SPORTFIX SLOTTED CHANNEL

The pro for stadiums and sports facilities in a class of their own.

For more information about the SPORTFIX SLOTTED CHANNEL, please visit our website.

hauraton.com/en-int/products/sportfix/sportfix-slotted-channel/



SPORTFIX SLOTTED CHANNEL integrates optimally and efficiently

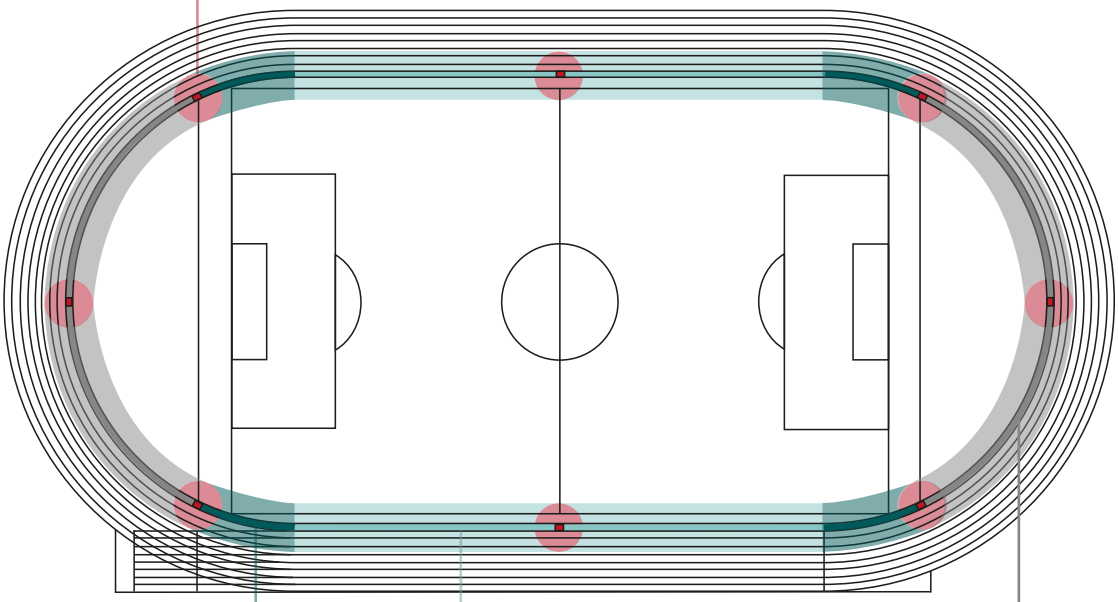
Your benefits with SPORTFIX SLOTTED CHANNELS

SPORTFIX SLOTTED CHANNELS ensure discreet and reliable surface drainage for running tracks. The drainage system can be used both adjacent to turf (with upstand) and with continuous running track surfacing (without upstand). The material is recycled polypropylene, which guarantees excellent durability and resistance to environmental influences.

- Can be combined with **SPORTFIX PRO** or **SPORTFIX STANDARD**
- Slot inserts made of EPDM: After laying the track surface, the slots are simply opened with a cutter knife and screwdriver.
- Optional side openings on one or both sides for the connection of a second drainage level
- Additional access points (inlet boxes) for easy maintenance
- KTL coating: this ensures the optimal connection to the running track surface
- Can be combined with white plastic track markings or aluminium blind covers

Sump Unit

Optional 400 m Set
Aluminium Blind Cover



Segment	A			B			C		
Product	Channel	Sump Unit	Blind Cover	Channel	Sump Unit	Blind Cover	Channel	Sump Unit	Blind Cover
Item No.	10807	10825	10812	10807	10825	10802	10806	10825	10812
Length	1000 mm	500 mm	1000 mm	1000 mm	500 mm	1000 mm	1000 mm	500 mm	1000 mm
Height	199 mm	500 mm	96 mm	199 mm	500 mm	96 mm	184 mm	500 mm	96 mm
Weight	6.36 kg	7.19 kg	1.67 kg	6.36 kg	7.19 kg	1.67 kg	5.80 kg	7.19 kg	1.67 kg

Channels for the segment area with adjacent playing field

Channels for the segment area with adjacent playing field

Channels for the segment area (running track surface on both sides)

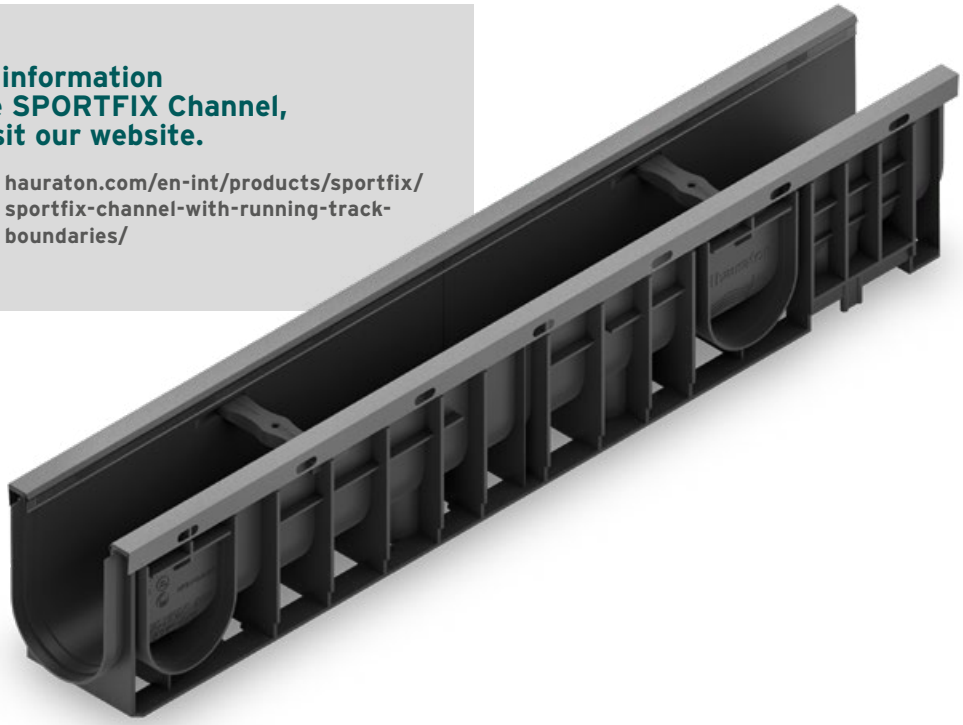
The lengths of the individual channel sections must be selected on a project-specific basis.

SPORTFIX Channel with Blind Cover

The ideal combination of drainage channel and mobile boundary for running tracks.

For more information about the SPORTFIX Channel, please visit our website.

hauraton.com/en-int/products/sportfix/sportfix-channel-with-running-track-boundaries/



SPORTFIX Channel in use

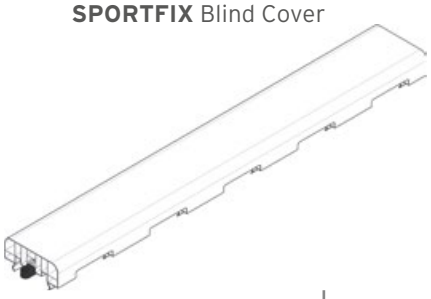
Your benefits with SPORTFIX Channel with blind cover

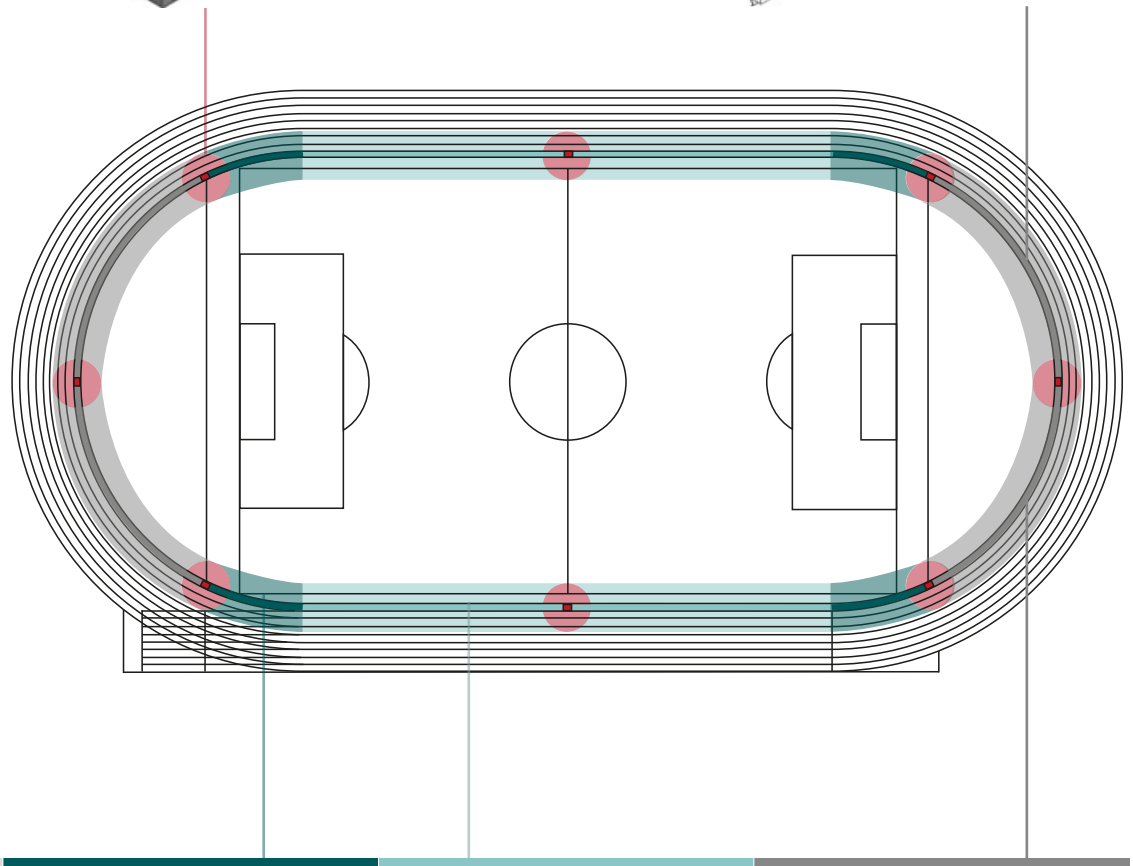
The **SPORTFIX Channel** is the classic among sports field drainage systems. As an open channel combined with a white track curbing, the channel can be used universally. The channel body made of recycled polypropylene has a long service life, is resistant to frost and is very light.

- Integrated edge frame made of KTL-coated steel for more safety
- Meets the guidelines of World Athletics
- White PVC running track marking is provided with four clips attached to the channel
- Running track markings are available as straight and curved elements in order to be laid exactly along the track

Sump Unit

SPORTFIX Blind Cover

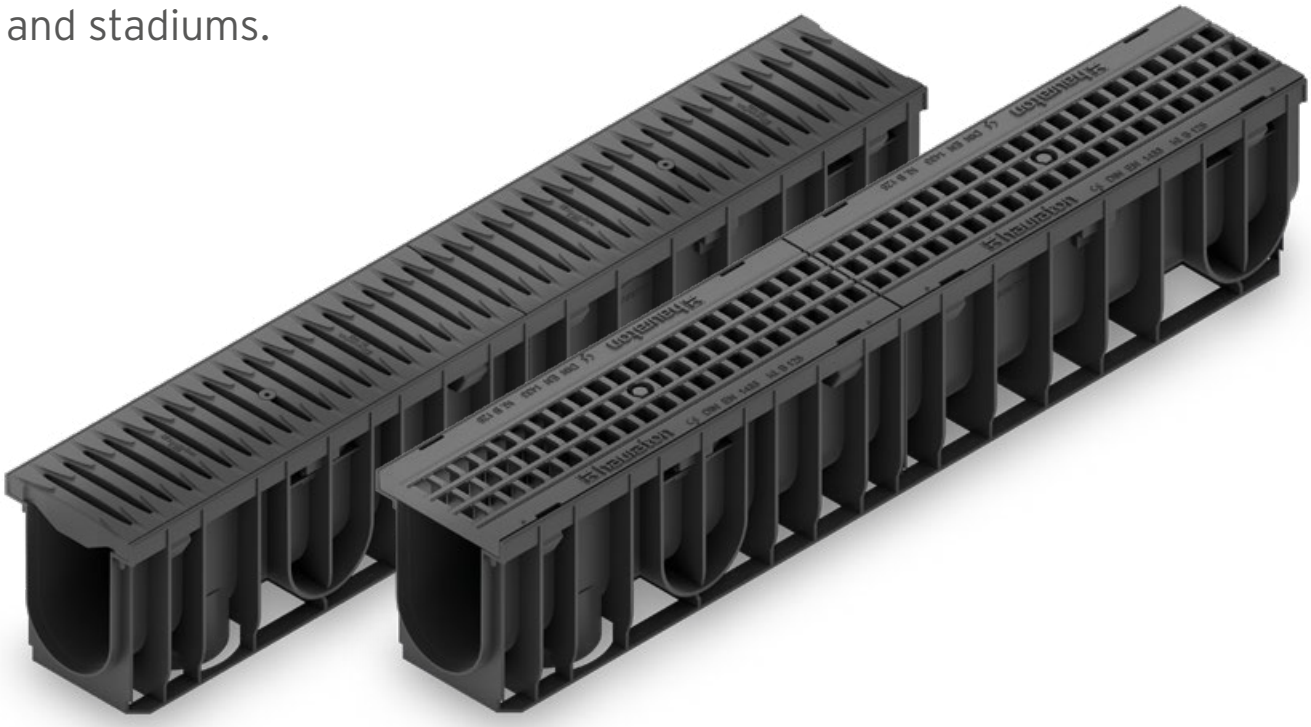


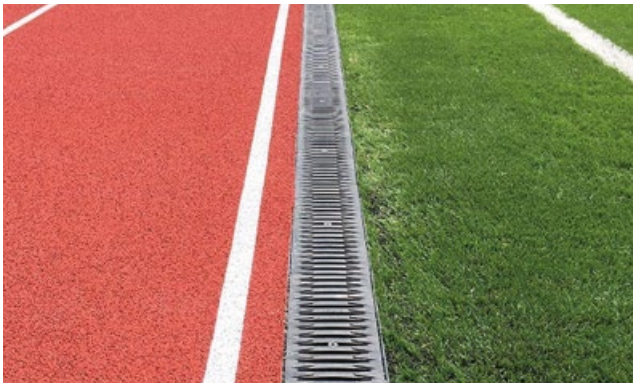


Segment	A			B			C		
Product	Channel	Sump Unit	Blind Cover	Channel	Sump Unit	Blind Cover	Channel	Sump Unit	Blind Cover
Item No.	10813	10815	10811	10803	10815	10801	10813	10815	10811
Length	1000 mm	500 mm	1000 mm	1000 mm	500 mm	1000 mm	1000 mm	500 mm	1000 mm
Height	182 mm	485 mm	70 mm	182 mm	485 mm	70 mm	182 mm	485 mm	70 mm
Weight	3.10 kg	4.36 kg	1.50 kg	3.10 kg	4.36 kg	1.50 kg	3.10 kg	4.36 kg	1.50 kg

SPORTFIX PRO with FIBRETEC Design or GUGI Composite Gratings

The all-rounder for draining sports fields and stadiums.





FIBRETEC Design mesh grating also available in many other colours

Composite GUGI mesh gratings

Your benefits with SPORTFIX PRO

The **SPORTFIX PRO** drainage system offers reliable rainwater management for a wide range of applications. The channel body made of recycled polypropylene is extremely robust, easy to transport and quick and easy to install.

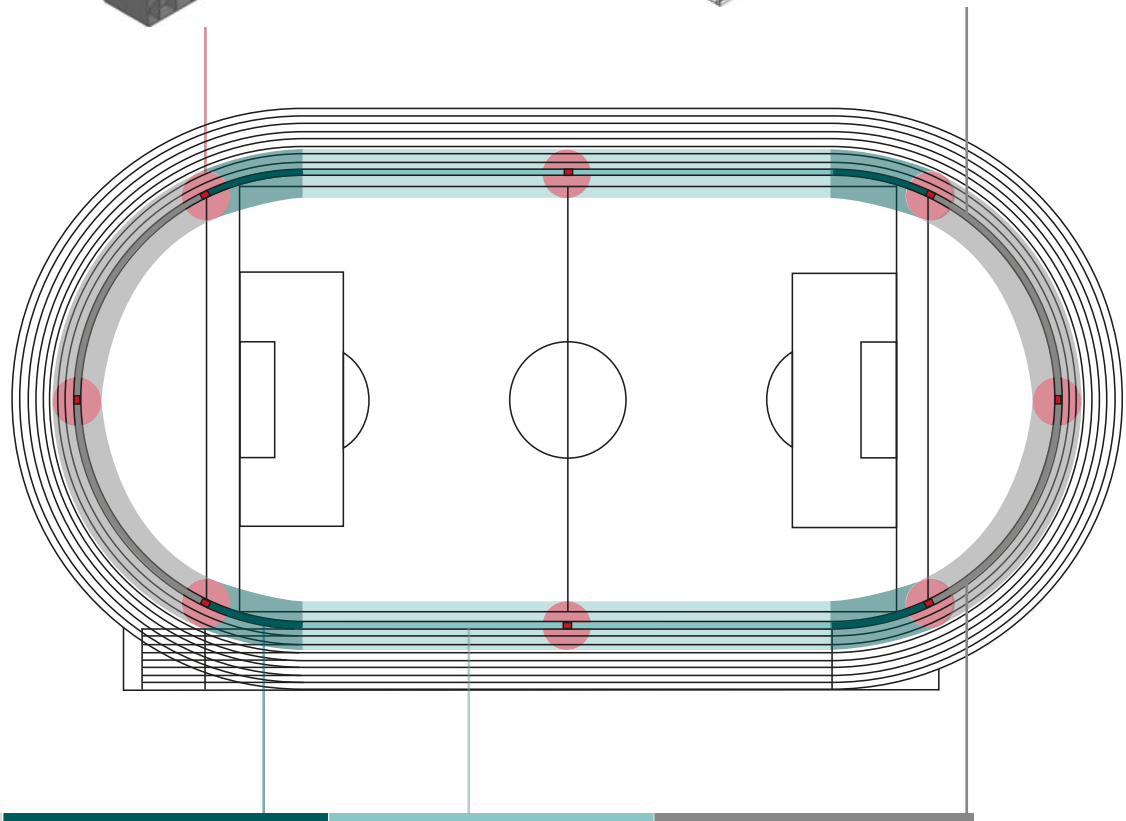
- The material is resistant to frost, de-icing salt, UV radiation and corrosion
- Integrated edge frame for greater safety
- Installation in straight and curved sections of tracks without cutting channels thanks to the tongue and groove system
- Cutting to length or angle easily possible on site

Learn more about the SPORTFIX PRO on our website.

hauraton.com/en-int/products/sportfix/sportfix-pro/

Sump Unit

Optional 400 m Set
Aluminium Blind Cover



Segment	A		B		C		
Product	Channel	Sump Unit	Channel	Sump Unit	Channel	Sump Unit	Blind Cover
Item No.	7510	7515	7510	7515	7810	10825	7085
Length	1000 mm	500 mm	1000 mm	500 mm	1000 mm	500 mm	400 m
Height	200 mm	504 mm	200 mm	504 mm	184 mm	500 mm	50 mm
Weight	4.66 kg	5.85 kg	4.66 kg	5.85 kg	5.80 kg	7.19 kg	450 kg

Channels for the segment area with adjacent playing field

Channels for the segment area with adjacent playing field

Channels for the segment area (running track surface on both sides)

The lengths of the individual channel sections must be selected on a project-specific basis.

SPORTFIX CLEAN

Rainwater treatment provided by filter substrate channel – retains microplastics from artificial turf pitches.

You can find more information about the SPORTFIX CLEAN on our website.

hauraton.com/en-int/products/surface-water-treatment/sportfix-clean/

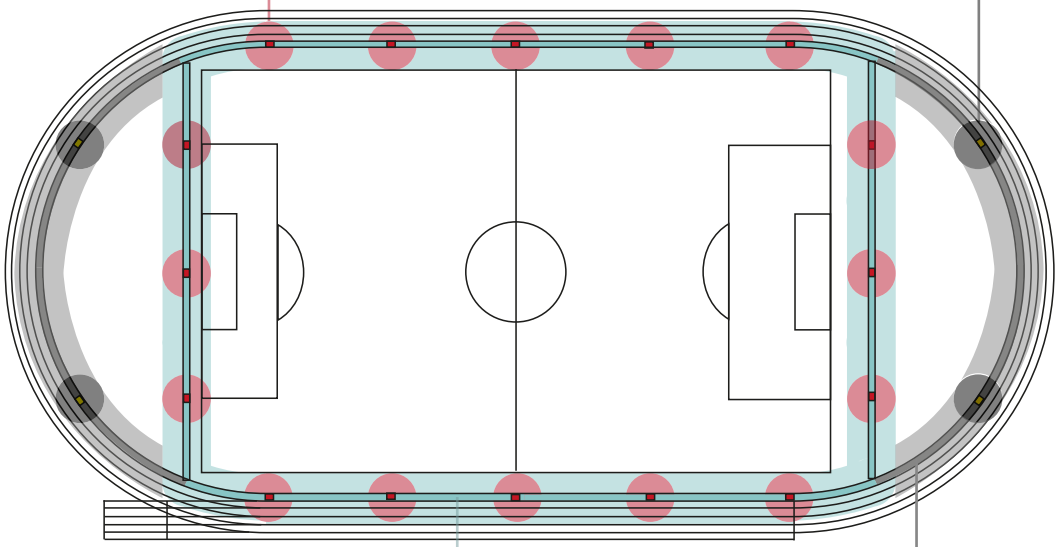
Our solution – Your benefits with SPORTFIX CLEAN

Drainage systems for artificial turf pitches must provide reliable drainage and infiltration. The infill material and broken blades of grass (= microplastics) must be collected before the water enters a sewer system or groundwater (in the event of infiltration).
The **SPORTFIX CLEAN** filter system is the effective solution for retaining microplastics and infill material on artificial turf pitches. The **CARBOTEC** filter substrate reliably filters out particles with the smallest grain sizes of up to 0.45 µm (0.00045 mm). The filter substrate consists of natural, inorganic components and reliably cleans rainwater from artificial turf pitches.

- Safe linear drainage all around the artificial turf surface
- Large filter area for absorbing particle loads (10 m^2 per 100 metres of channel run, depending on the construction of the sports field, the filter area adds up to 30 - 40 m^2)
- With compliant dimensioning, 95 % of all rain events are fully captured
- Proven cleaning performance of over 97 %
- Also available as a system with clamping for hockey turf
- Permanent retention and filtering of particulate pollutants, e.g. track abrasion as microplastics
- Low additional costs and long maintenance intervals (every 3 - 5 years the collected particles must be peeled off, the filter substrate remains intact)
- High remobilisation protection of particles trapped in the system
- Awarded the Environmental Technology Award Baden-Württemberg 2019

Sump Unit

SPORTFIX SLOTTED CHANNEL
Sump Unit



Segment	B		C		
Product	Channel	Sump Unit	Channel	Sump Unit	Blind Cover
Item No.	7702	7700	10806	10825	7085
Length	1000 mm	500 mm	1000 mm	500 mm	400 m
Height	250 mm	504 mm	184 mm	500 mm	50 mm
Weight	5.89 kg	5.28 kg	5.80 kg	7.19 kg	450 kg

SPORTFIX CLEAN
with one side of the pitch

SPORTFIX SLOTTED CHANNEL
with double-sided track

The Cleaning Principle SPORTFIX CLEAN

Every year, several tons of microplastics are washed into the ocean from artificial turf pitches.
SPORTFIX CLEAN retains artificial turf microplastics.

Important contribution to a clean environment

The demand for artificial turf sports pitches is very high: around 3,000 new pitches are built worldwide every year, 1,000 of them in Europe. Many of these pitches are filled with plastic granules, which, together with breakage and abrasion of artificial turf fibres, can enter the environment via various routes.

Microplastics in artificial turf

„Compared to natural turf pitches, artificial turf pitches offer significantly more extensive possibilities of use. Without artificial turf pitches, it would not be possible to guarantee anywhere near an adequate range of football pitches, especially in larger cities and municipalities," said the German Football Association (DFB) in a statement.

The benefits of artificial turf are numerous:

- According to the DFB, approx. 2,500 hours of use/ year on artificial turf, compared to 800 hours on natural turf
- Constant training conditions all year round (easy to clear snow in winter)
- Hardly any pitch closures due to unplayability, easy to clean and low maintenance

The problem: Plastic granules and synthetic blades of grass end up in the environment

Despite the many advantages of artificial turf pitches mentioned above, the main difference to natural turf is that different granules are added as infill materials in order to achieve the most natural playing feeling possible. These fillers and also the grass fibres themselves are distributed in the immediate vicinity of the turf pitch over the course of their useful life.
In contrast to natural lawns, they do not decompose there, but accumulate in the upper soil layers, can be carried into bodies of water and reach the groundwater.

In order to prevent most of the environmentally harmful effects of microplastic particles from artificial turf surfaces, the emissions ...

1. of the plastic/rubber granules used for infill (also known as infill material) must be minimised by means of a retention system.

2. of synthetic grass fibres, that break off due to wear and tear during play must also be retained.

Even though rubber granules are now banned as infill materials, substitute materials bring their own issues. For example, sand and olive pits increase the abrasion of turf fibres (= more discharge) and cork should not shift into the groundwater. Therefore, it makes sense to retain turf fibres and infill material in all cases.

Microplastics due to abrasion of running tracks

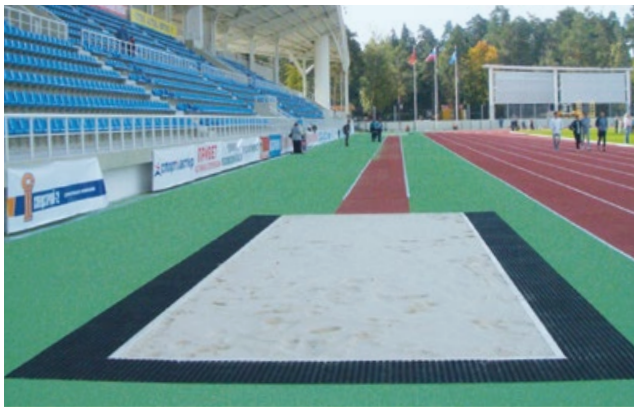
Microplastics are not only produced on artificial turf pitches, but also on tartan tracks in athletics. As a wear layer, EPDM granules are interspersed in a polyurethane layer.
These granules dissolve during use, especially in the first 1 - 2 years of use, and are carried by rain into the adjacent areas. It is therefore important to create appropriate retention options here as well to retain microplastics from water bodies and the environment.

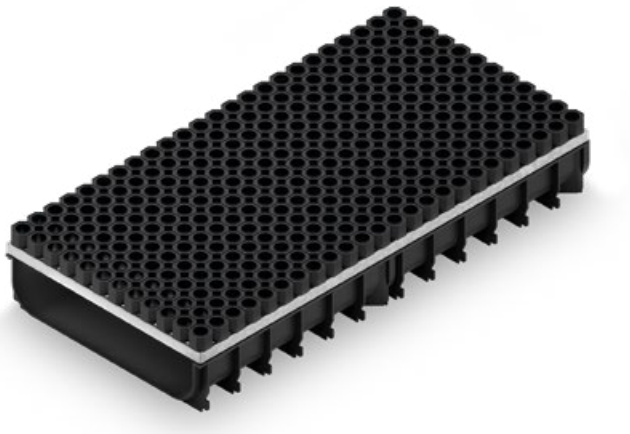
SPORTFIX
Sand Trap Channels & Soft Kerbs

HAURATON supply reliable drainage systems as well as products specially designed for projects in sports facility construction, such as Sand Trap Channels and Soft Kerbs.

SPORTFIX Sand Trap Channels & SPORTFIX Soft Kerbs

SPORTFIX Sand Traps for long jump and triple jump pits or shot put facilities require appropriate separation from other surface coverings. **SPORTFIX Soft Kerbs** are fitted with rubber padding to reliably protect athletes from injury. At the same time, Sand Trap Channels retain thrown sand so that it cannot clog the pores of the adjacent elastic surface covering. Both products can be adapted to the respective layout of the facility.



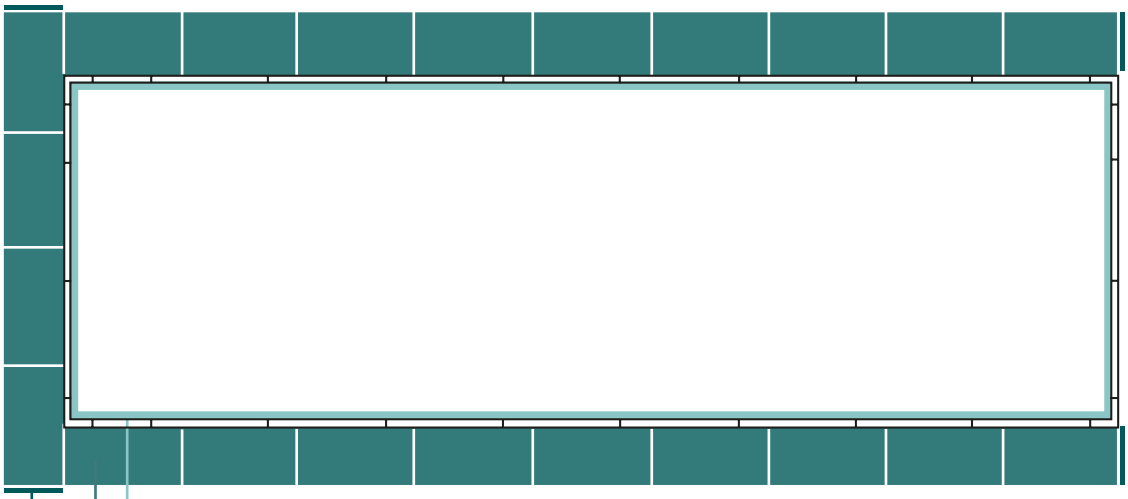


SPORTFIX Sand Trap Channels provide a secure barrier to other surfaces

SPORTFIX Soft Kerbs border the running track and protect athletes from injuries in the event of a fall

Find out about other products on our website.

hauraton.com/en-int/products/sportfix/



Product	Quantity	Item No.	Weight kg/Unit
SPORTFIX Soft Kerb, white, height 400 mm, 1 m	20	7203	53.0
SPORTFIX Soft Kerb, white, height 400 mm, 0.5 m	4	7204	25.6
SPORTFIX Soft Kerb corner piece, white, height 400 mm, 0.25 x 0.25 m	2	7209	28.6
SPORTFIX Sand Trap Channel	22	7740	16.8
End cap **SPORTFIX Sand Trap Channel**	4	7248	0.5

The exact quantities can be individually adapted to the size of your planned system.

SPORTFIX Water Jump and Hurdles

Equipment for stadiums from a single source.

HAURATON – Your Expert for Sports Construction

Sports stadiums require special equipment to provide the appropriate infrastructure to host a wide variety of events. Whether it's a **Water Jump** and **Hurdles** for obstacle courses or distribution chambers to bring power to where it is needed, **HAURATON**'s products can be combined as needed to plan the layout of the stadium according to the requirements and conditions on site.

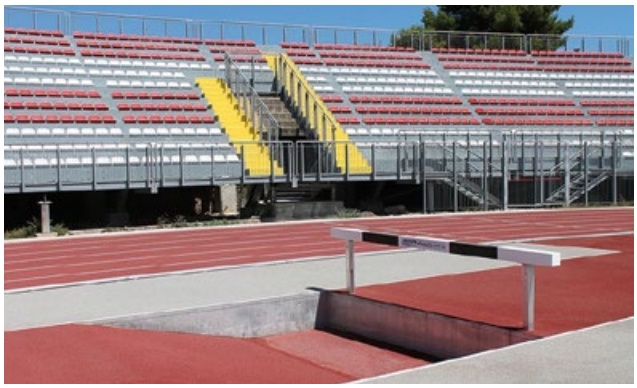
HAURATON sports building products have been used in many major sports venues worldwide, e.g. at international sporting events such as the European Football Championship in Poland and Ukraine or the Football World Cups in Brazil or Russia.

As a member of the International Association of Sports and Leisure Facilities, the **HAURATON** drainage experts are familiar with all applicable standards and guidelines, practical requirements and current trends.

The benefits:

- Everything from a single source
- Plannable construction process
- World Athletics Certified Products

Water Jump with height-adjustable Hurdle, Ostrava, Czech Republic

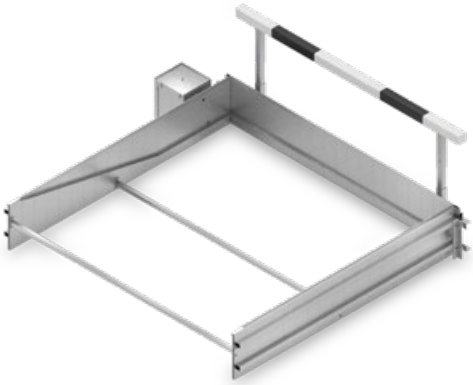


Water Jump with height-adjustable Hurdle, Bartetta Stadium, Italy

Water Jump with inlaid cover, Kranj Stadium, Slovenia

Find out about other products on our website.

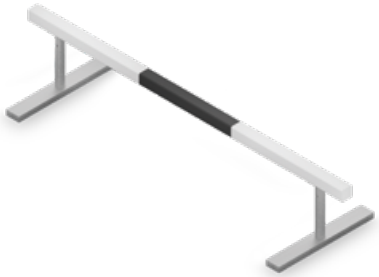
hauraton.com/en-int/products/sportfix/



Your benefits with SPORTFIX Water Jump

The **SPORTFIX Water Jump** is a kit for the water basin including a hurdle. The dimensions correspond to the guidelines of the World Athletics.

- Aluminium kit, including Hurdles, for quick installation and easy transport
- With supply shaft for water inlet and drain
- Hurdle included: Hurdle is suitable for all relevant competitions, as it can be adjusted to three heights



Your benefits with SPORTFIX Hurdles

SPORTFIX Hurdles are designed for the obstacle course. Thanks to their height adjustability, the Hurdles can be used at competition level, e.g. in sports facilities for World Athletics Championships, European Championships or in local athletics facilities.

- Set of four Hurdles for obstacle course
- Height adjustable for different competitions
- Complies with World Athletics guidelines
- Can also be used in conjunction with the Water Jump kit

Drainage Solutions for the Football Pitch

Perfectly playable football pitches thanks to reliable drainage.

Rainwater management for sports fields – safety, functionality, sustainability

A modern football pitch must not only enable top sporting performances, but also function reliably in the rain. Permanent playability, safety for the players and the protection of the adjacent infrastructure depend to a large extent on efficient rainwater management. The requirements are clear:

- Rapid drainage of the playing surfaces to avoid puddles and the risk of injury.
- Hydraulic performance for heavy rainfall events according to KOSTRA data and municipal specifications.
- Environmental aspects such as seepage, retention and storage of particles, microplastics or fillers from artificial turf surfaces.
- Durability and ease of maintenance of the drainage systems, even under high loads due to match operations, maintenance equipment and crowds.

This makes rainwater management an essential building block for the sustainability and profitability of a sports facility.

Natural grass

Football pitches with natural grass usually do not need a separate drainage system, as the precipitation can seep through the turf. Depending on the design, however, there may be a slope of the surrounding areas towards the turf and thus still require a drainage channel around the edge of the pitch.

Artificial turf systems and infill materials

Artificial turf pitches are always used when the intensity of use of a natural turf can no longer be reproduced. Longer periods of use in all weather conditions are easily feasible with a modern artificial turf field. To weigh down, stabilise and straighten the turf fibres, infill granules are used. EPDM can be on existing pitches, but on new fields cork, olive stones or sand are more likely to be used. Regardless of the filling, artificial turf is exposed to permanent abrasion, which manifests itself in a maximum service life of 10 – 15 years. Then the turf fibres are too shortened to achieve the quality of the game.

Cork

The renewable raw material cork is currently very popular as an infill material. But the use of cork on artificial turf pitches also has some disadvantages. In addition to the higher purchase prices, it also has to be replaced more frequently, which further drives up running costs.
Cork is also lighter, which reduces the risk of large-scale washout in the event of heavy rainfall events. This makes regular maintenance of the pitches necessary.
The playing properties of rubber infill material come very close to cork and the basic artificial turf structure can be retained.

Sand

Another approach is to replace the granules with sand filling. This option is relatively inexpensive for operators to implement. The lower impact absorption effect of the sand can increase the risk of injury to the players and change the ball rolling behaviour. Furthermore, the abrasive sand increases the abrasion of the artificial turf fibres and thus leads to larger quantities of microplastics from artificial turf fibres.

Cork

Sand

SPORTFIX CLEAN -
Rainwater treatment by filter substrate channel retains microplastics from artificial turf pitches

Drainage systems for artificial turf pitches must provide reliable drainage and infiltration. The infill material and broken blades of grass (= microplastics) must be collected before the water is discharged into a sewer system. The **SPORTFIX CLEAN** filter system is the effective solution for the retention of microplastics and infill material on artificial turf pitches.

Drainage with microplastic retention: **SPORTFIX CLEAN**

SPORTFIX PRO -
The all-rounder for the drainage of sports fields and stadiums

Even with natural grass pitches, the adjacent spectator areas must be reliably drained. With the **SPORTFIX PRO** and a wide range of gratings, this can be achieved for every project.

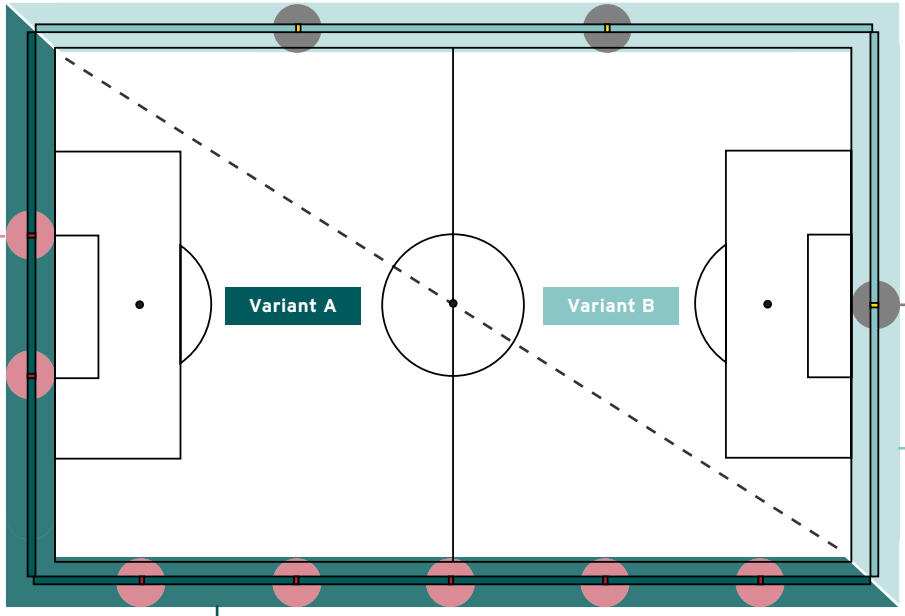
Drainage with **SPORTFIX PRO**

Effective drainage for every football pitch

A safe playing field for every football club

Sump Units

Sump Units



Segment	Variant A | SPORTFIX CLEAN		Variant B | SPORTFIX PRO	
Product	Channel	Sump Unit	Channel	Sump Unit
Item No.	7702	7700	7520	7845
Length	1000 mm	500 mm	1000 m	500 m
Height	250 mm	504 mm	200 mm	504 mm
Weight	5.89 kg	5.28 kg	4.89 kg	5.89 kg

Drainage Solutions for the Hockey Field

Optimal playing conditions for top-class hockey.

Comprehensive rainwater management with HAURATON

Hockey pitches – whether in the club or professional sector – place the highest demands on functionality, safety and sustainability. In addition to the play area itself, reliable rainwater management is crucial for the long-term value retention of the facility as well as for environmental and resource protection.

Hockey turf is made without granules in the professional sector and has a high water requirement. A pitch is watered with tens of thousands of litres of water before the match and at halftime.

Challenges in hockey field construction

- **High load:** Through intensive training and games, the drainage system is permanently exposed to high mechanical stresses.
- **Fine particles & microplastics:** In artificial turf surfaces, blade abrasion or fine particles can be washed out by rain.
- **Heavy rainfall events:** Increasingly extreme weather conditions require systems that drain quickly, but also enable retention and infiltration.
- **Sustainability:** Operators are increasingly relying on solutions that store water locally and reuse it to irrigate green spaces.

Artificial turf pitches without irrigation

In addition to irrigated artificial turf pitches, many clubs and municipalities rely on dry artificial turf surfaces. These systems do not require constant irrigation and are therefore particularly economical to operate and resource-saving.

Properties

- **Playability without water:** The surface structure is designed in such a way that the ball runs precisely even without a film of water and the athletes have optimal adhesion.
- **Surface structure:** Usually multi-layered with an elastic base layer, artificial turf fibres and quartz sand or elastic filling for stabilisation.
- **Areas of application:** Particularly popular for general sports, municipal facilities and multi-purpose use, as no elaborate irrigation technology is required.
- **Properties:** Multi-layer with elastic base layer and particularly dense and smooth artificial turf fibres for permanently good playing conditions.

Donghae Sunrise International Hockey Stadium, Gangwon-do, South Korea

Hockey pitches and their different challenges

Hockey pitches differ significantly in their structure - especially in their water requirements. These differences have a direct impact on drainage and rainwater management requirements.

Artificial turf without irrigation

- **Requirements:** Rainwater usually seeps away directly through the lawn. A retention system for blade abrasion is recommended due to the extremely densely woven lawn.

Artificial turf with irrigation

- **Requirements:** These playing surfaces are particularly common in the professional sector. In addition to retaining microplastics from blade abrasion, a filter system in the drainage system enables cleaning with subsequent storage for reuse of the applied water.

SPORTFIX CLEAN -
Rainwater treatment by filter substrate channel retains microplastics from artificial turf pitches

Drainage systems for artificial turf pitches must provide reliable drainage and infiltration. The infill material and broken blades of grass (= microplastics) must be collected before the water is discharged into a sewer system. The **SPORTFIX CLEAN** filter system is the effective solution for the retention of microplastics and blade abrasion on artificial turf pitches.

Drainage with microplastic retention: **SPORTFIX CLEAN**

SPORTFIX ROM -
The drainage solution for artificial turf on hockey fields

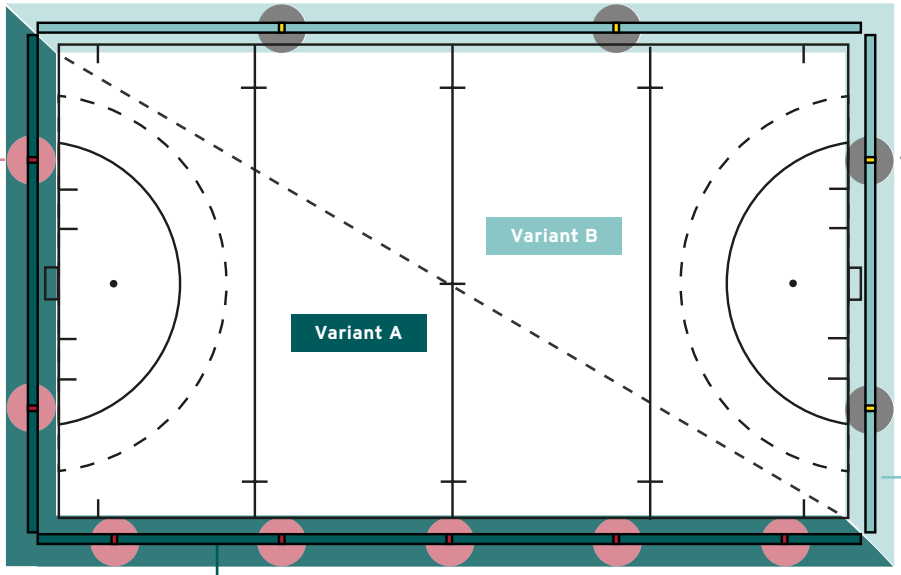
SPORTFIX ROM channels are especially suitable for the surface drainage of hockey fields. The system can be adapted to all sizes of un-tensioned artificial turf. The artificial turf is simply placed in the channel and clamped with the GUGI grating so that the lawn edges are securely fixed.

Drainage **SPORTFIX ROM** with clamping of the artificial turf

Hockey field at the National Stadium, Santiago, Chile

Sump Units

Sump Units



Segment	Variant SPORTFIX CLEAN	
Product	Channel	Sump Unit
Item No.	7701 / 7702	7700
Length	1000 mm	500 mm
Height	250 mm	504 mm
Weight	5.89 kg	5.28 kg

SPORTFIX CLEAN
with one side of the pitch

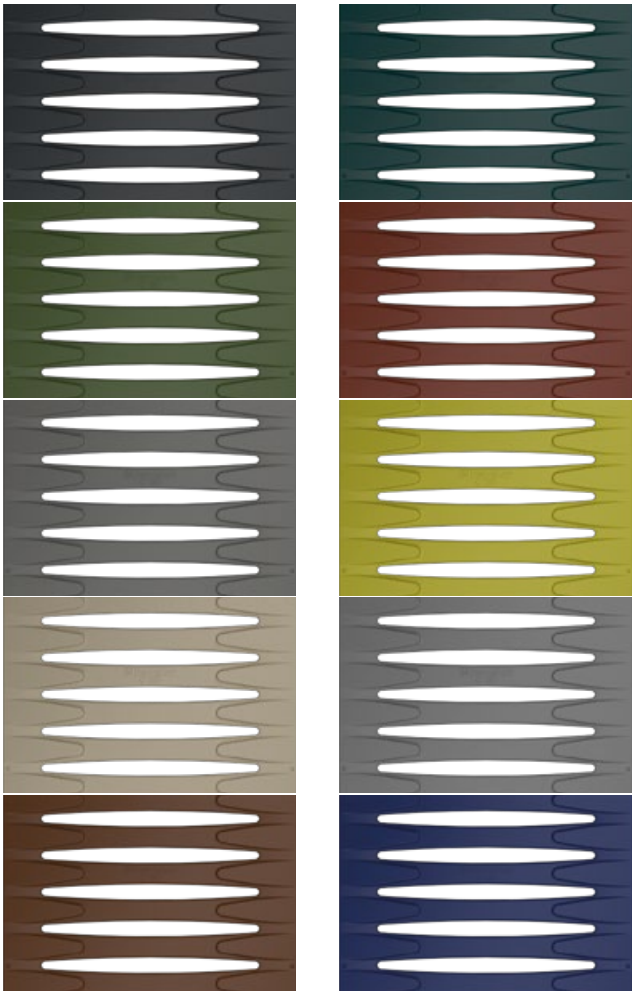
Variant SPORTFIX ROM	
Channel	Sump Unit
7862	7870
1000 mm	500 mm
200 mm	504 mm
4.53 kg	5.40 kg

SPORTFIX ROM for clamping
unfilled artificial turf

Playgrounds and Multifunctional Fields

Exercise fun for young and old.

Playgrounds and multifunctional fields are not about standards and installation plans, but about flexibility and individual design. This is where the **SPORTFIX PRO** channel scores with a variety of gratings in 11 colours:



FIBRETEC Design slotted grating

SPORTFIX PRO

SPORTFIX Soft Kerbs provide a border for the running track and protect athletes from injury in the event of a fall.

Case Study

Jedlik Anyos Gymnasium in Budapest

Drainage for Every Sport - in use Worldwide

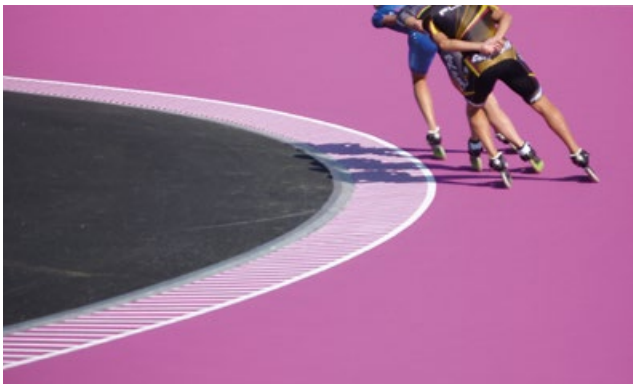
HAURATON systems ensure perfect playing field conditions, safety and sustainability on a wide variety of sports facilities.

Swimming pool in Holland

Whether swimming pools, tennis courts, skate parks or padel halls, rainwater management plays a decisive role wherever sports are played. With our wide range of products, we offer the right solution for every requirement: powerful, durable and standard-compliant. Thanks to international experience and a large number of successfully implemented projects, **HAURATON** drainage systems are the first choice for safe and functional sports surfaces worldwide.

Beach volleyball court in Ireland

Tennis court in Switzerland



Skating track in France

Skatepark in Slovenia

Aquapark in Croatia

Padel Hall in Holland

Handball Hall in Hungary

Cable Management in Sports Facility Construction

Revisionable, floor-laid systems for temporary or permanent organisation and routing of supply and information cables.

In large stadiums for football World Cups or Olympic Games, there is much more going on than 'just' sport. Television broadcasts must be ensured, time recording, lighting, loudspeakers, everything needs cables. **HAURATON** offer various cable routing systems for this purpose:

Our solution – Your benefits with SERVICE CHANNELS

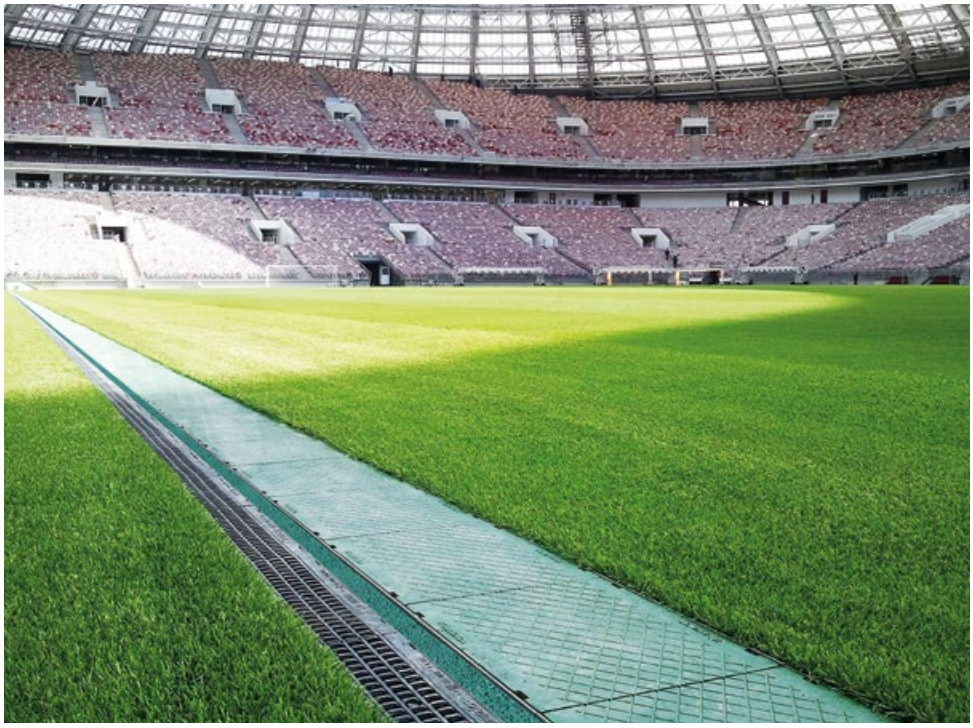
The **SERVICE CHANNELS** system is a proven solution for a wide range of applications for floor-laying cable and cable routing in outdoor and indoor areas. It enables invisible, barrier-free and trip-free cable routing and at the same time ensures quick and easy access to the laid cables and wires. **SERVICE CHANNELS** are suitable for different load classes and areas of application. Depending on the channel system, they can be loaded up to class E 600 and are therefore also designed for extreme load situations and high dynamic forces. **SERVICE CHANNELS** are available in two different materials: **FASERFIX** and **RECYFIX**.

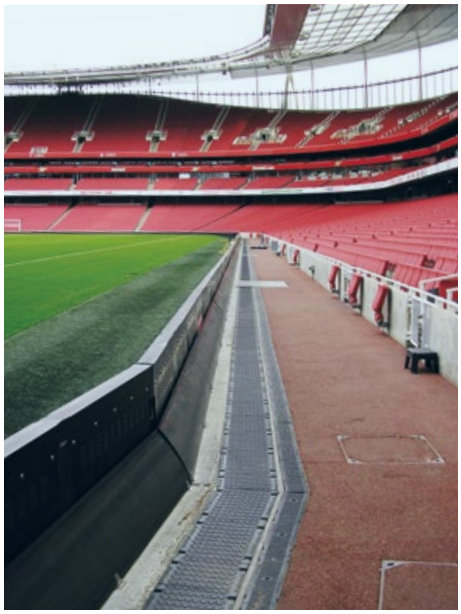
- Temporary or permanent
- Easily accessible

Your benefits with SPORTFIX distribution shaft

SPORTFIX distribution shafts are the ideal cable management system for large sports arenas or concert venues. The covers can be opened easily and quickly and can be accessed by commercial vehicles.

- Many different input and connection options
- Cover can be filled with running track surface or artificial turf to blend discreetly into the surrounding surface
- The durable material (PE) is resistant to frost, de-icing salt, UV radiation and corrosion
- With perforated plate for individual configuration of sockets
- Easy handling on site and efficient installation due to low weight
- Permanently installed underground





Our systems have already proven themselves in numerous stadiums.

Services

Comprehensive rainwater management is only possible if all trades are optimally coordinated.

Partner in all project phases

Our drainage experts from Technical Support will be happy to advise you personally. It is important to us to provide you with the best possible support in every phase of your project.

Our services at a glance:

- Support with general and project-specific questions
- Hydraulic power calculations
- Advice on product selection
- Preparation of installation plans
- On-site installation assistance
- Follow-up if further questions arise

Hydraulic power calculation

The functionality of a drainage system depends largely on the hydraulic performance of the installed drainage channels. To make it easier for you to decide on the type and installation of the drainage channels, **HAURATON** prepare a hydraulic performance calculation for your specific project.

Our Technical Support team only needs a few details, such as the size of the area to be drained, surface covering, rainfall and channel type. Simply enter this in the form below. After processing, you will receive a project dimensioning. Benefit from the many years of experience of the drainage experts.

Reliable & precise calculation

After providing the necessary data, you will receive a precise and reliable calculation.

Free professional support for your project

HAURATON provide you with this service and expert knowledge completely free of charge.

Perfectly tailored to HAURATON products

After receiving the project dimension, you can immediately continue your project planning.

Product-specific certificates

Are available for specific projects – please contact us.

Certified Quality and Compliance with Standards

Planning security with **HAURATON** quality.

Depending on the type of sports facility, various regulations must be observed. With sports products from **HAURATON** you are on the safe side - with conformity up to World Athletics specifications, even Olympic stadiums can be equipped with them.

The planning and construction of sports facilities are subject to strict specifications. Only if drainage systems meet the applicable standards and certificates, can safe, long-lasting, and compliant operation be guaranteed. **HAURATON** offer you this security: All products and systems comply with the relevant standards – tested, documented and internationally recognised.

Relevant standards and guidelines for sports areas

DIN 18035 – Sports fields
Part 1: Basics and Dimensions
Part 2: Irrigation
Part 3: Drainage
Part 7: Artificial turf systems

DIN EN 1433 – Drainage channels for traffic areas

DIN EN 15330-1 – Synthetic turf for sports surfaces

DWA-A/M-102 – Regulations for rainwater management

FIFA Quality Programme / World Rugby / FIH (Hockey) – International Requirements for Pitches and System Components

Sustainability at HAURATON.

For almost 70 years, **HAURATON** have been successful worldwide as a specialist in surface drainage and rainwater management. The topic of sustainability is particularly close to our hearts.

Our commitment to the environment – We are CSC certified.

At **HAURATON**, we rely on natural and recycled materials, produce with renewable energies and reduce CO_2 through short transport routes. From the selection of raw materials to the manufacturing process and disposal, we pay attention to the lowest possible energy consumption and the careful use of all resources. We are all the more pleased that our holistic approach to rainwater management has now been awarded gold certification by the CONCRETE SUSTAINABILITY COUNCIL (CSC).

FASERFIX SUPER, FASERFIX KS, FASERFIX POINT KS

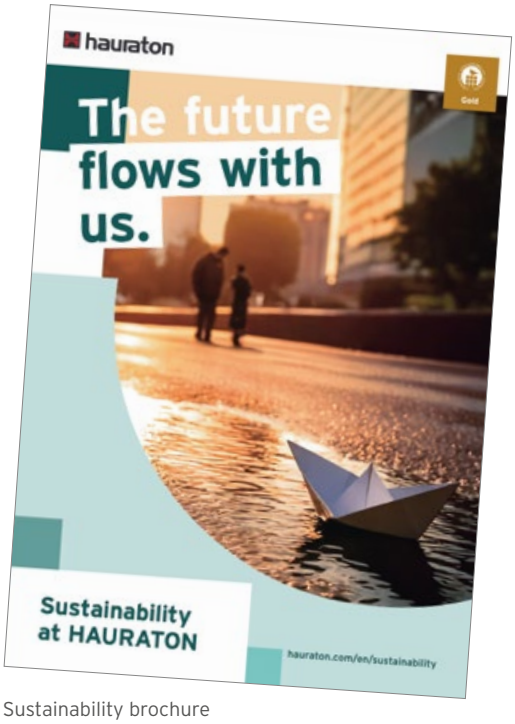
Gold for our **FASERFIX** concrete with natural fibres from basalt

Sustainability at HAURATON

Sustainability, environmental awareness and responsibility for the future are fundamental issues of our time and are particularly relevant for large-scale construction projects and concrete processing.
HAURATON have firmly integrated it into the corporate values and has thus made significant progress. This is also proven by our CSC certification in gold.

Learn more about sustainability at HAURATON and our sustainability brochure for download, can be found here:

hauraton.com/en-int/about-us/sustainability-at-hauraton/



Sustainability brochure at **HAURATON**

Short distances and efficient logistics

Our concrete raw materials are procured exclusively from local and regional producers. Almost half of all total orders from **HAURATON** are for local, nearby delivery facilities, which has an extremely positive effect on the CO_2 balance. **HAURATON** also already have the classic ISO 14001 certification.

With the certification of environmental management in accordance with DIN EN ISO 14001:2015, the careful use of environmental resources is the focus of all economic activities.

Use of recycled materials

For the production of our all-composite channel bodies, we use almost exclusively recycled polypropylene, which can also be recycled after use. Our **RECYFIX** channel bodies also bear the eco-label „Blue Angel".

RECYFIX – One material, many fans.

Facts and figures

Separate collection ensures clean material cycles
In our factory, 98.96 % of the waste generated is collected separately and sent for recycling. In this way, we help to ensure that valuable materials remain in the cycle and that natural resources are conserved.

Electricity from the roof provides energy for the machines
The entire roof at the factory in Ötigheim is equipped with photovoltaic modules. Generating electricity using photovoltaics can save around 280 tonnes of CO_2 * per year.

Water savings in concrete production
The production process of the **FASERFIX** channels is based on so-called hydration-optimised recipes. This ensures that only the quantities of water that are actually necessary are used in the production process, thus adequately protecting the resource of water.

* Basis of calculation: Emission factor electricity mix Germany with upstream chains 445 g/kWh
Source: Federal Environment Agency, estimated value for 2023

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