

CIVILS

LANDSCAPING

AQUA

SPORT

CIVILS

Surface water drainage systems for civil projects



Our benefits with products from **HAURATON**:

„The selection of a surface drainage system is an important consideration on most infrastructure projects. Here you can count 100% on several decades of HAURATON experience manufacturing reliable and durable components.“





Customer benefits

How you profit from HAURATON.

4



FASERFIX®SUPER

Drainage channels for extreme loads and high dynamic forces.

10



FASERFIX®KS

Stable and efficient drainage channels for commercial and public sectors.

50



FASERFIX®BIG **NEW**

Heavyweight channel system for optimum durability when under extreme dynamic forces.

98



RECYFIX®PLUS X

Drainage channels with a protective edge for areas with higher traffic flows.

140



RECYFIX®NC **NEW**

Engineered to be lightweight yet extremely stable.

158



RECYFIX®SUPER

Light and robust drainage channels for industrial and public areas.

174



RECYFIX®HICAP®

High capacity drainage system for the highest load category.

184



FASERFIX®POINT

Durable point drainage for public and commercial areas.

218



Bespoke solutions

FASERFIX channels designed to meet particular project requirements.

224

My benefit as a SPECIFYING ARCHITECT when I choose HAURATON:

„During the design and planning process the HAURATON Sales Team provide me with extensive support. This saves me time and ensures all environmental standards are met.“



individual design support



meet all required standards



My benefit:
security

Security in planning

HAURATON provides architects' with the greatest possible planning security. Our products and processes are continually monitored and are subject to stringent quality requirements.

Standards, approvals and warranty

- Channels certified to DIN EN 1433
- Test certificates from internationally recognised institutions
- CE-marking
- Quality certification in accordance to DIN EN ISO 9001:2008



My benefit as a CIVIL ENGINEER when working with HAURATON:

„With a reliable hydraulic calculation supplied by HAURATON in that vital preplanning stage, I can be sure the proposed drainage scheme will work correctly.“



stable and durable channels



professional hydraulic calculation



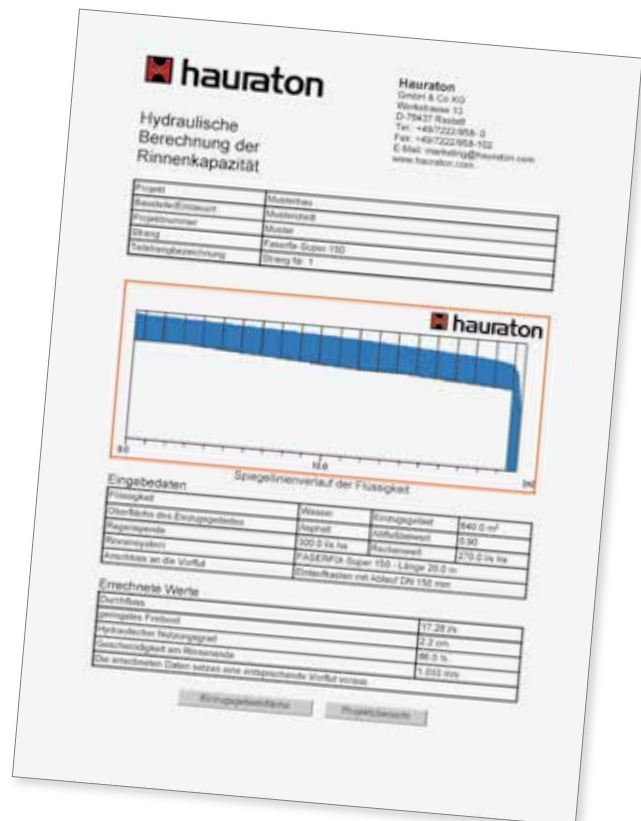
My benefit:
security

Security in the hydraulic calculations

HAURATON supports Civil Engineers and Planners
by providing layouts and hydraulic calculations for their
surface water drainage schemes.

Hydraulic

- hydraulic calculation
- specially developed calculation programme
(In cooperation with the University of Prague)



hauraton

Hydraulische Berechnung der Rinnenkapazität

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Projekt	Mutterbau
Beschreibung	Mutterbau
Projektnummer	00000
Ort	Stuttgart
Drainage	Fläche Super 130
Teilbereichsberechnung	Drainage Nr. 1

hauraton

Spiegelverlauf der Flüssigkeit

Eingabedaten	
Flüssigkeit	Wasser
Querschnitt des Eintragungsgebietes	Eintragungsgebiet 640.0 m²
Eintragungsrate	Eintragungsrate 0.90
Rinnenquerschnitt	100.0 l/s/m
Eintragungsrate	Eintragungsrate 270.0 l/s/m
Eintragungsrate an die Vorflut	Eintragungsrate 270.0 l/s/m
Eintragungsrate	Eintragungsrate 270.0 l/s/m

Errechnete Werte	
Eintragungsrate	Eintragungsrate 17.28 l/s
Eintragungsrate	Eintragungsrate 2.2 m/s
Eintragungsrate	Eintragungsrate 55.5 l/s
Eintragungsrate	Eintragungsrate 1.00 l/s

Die errechneten Daten setzen eine entsprechende Vorflut voraus

Eintragungsrate: Projektionsrate

My benefit as a CONTRACTOR when installing a HAURATON drainage system:

„On any construction site, time is money. I find HAURATON drainage channels very resistant to on-site damage. In addition, the HAURATON SIDE-LOCK boltless locking system usually saves me hours of work installing gratings.“



tough channels and gratings



SIDE-LOCK grating system



My benefit:
cost saving



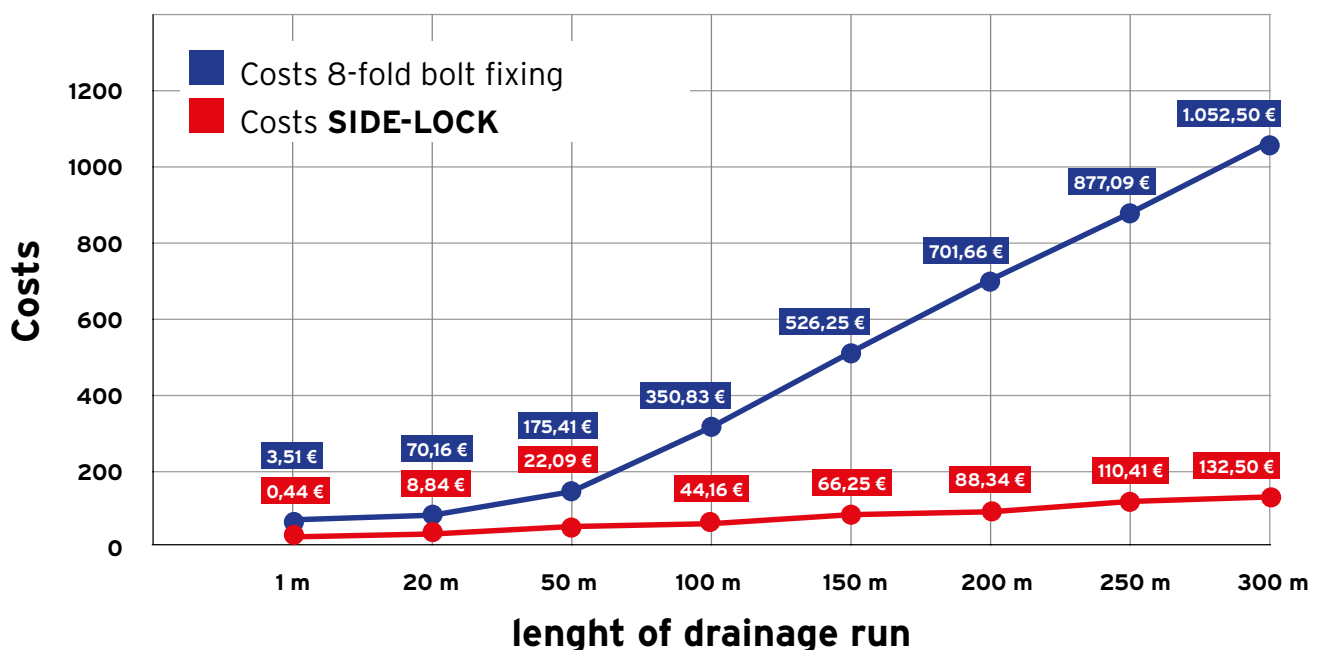
Practical test **SIDE-LOCK** – top efficiency is achieved with the boltless locking system

We measured the required time for the installation and replacement of the grating with the boltless locking system **SIDE-LOCK** against a conventional system with 8-bolt fastening per meter

The results:

- Duration of the process with SIDE-LOCK:
30 seconds
- Duration with a 8-fold bolt fixing grating:
4 minutes and 12 seconds
- That results in a time saving of 3 minutes and 42 seconds per linear meter when using SIDE-LOCK.

The diagramm shows this huge difference, which becomes even more obvious when you multiply the time factor with an hourly rate of € 40,00



Here you find the movie **SIDE-LOCK**:

or visit
www.hauraton.com





CIVILS

LANDSCAPING

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SPORT

LANDSCAPING

The drainage range for domestic use and landscaping



Our benefits with products from **HAURATON**:

„Corrosion-free channel systems from HAURATON provide for satisfied customers. Permanently resistant, effective installation and great design. Is there anything else you desire?“





Customer benefits

How you profit from HAURATON.

4



RECYFIX®PRO

Corrosion-free drainage system for private and public areas.

10



RECYFIX®PLUS

Drainage channels with sophisticated look for public and commercial areas.

30



RECYFIX®STANDARD

Drainage channel for domestic applications around the house and garden.

56



DACHFIX®

Reliable water retention system for terraces, façades and flat roofs.

76



Slotted Channel

Slotted channels for design-sensitive applications

102



FASERFIX®STANDARD

Solid drainage channel for easy self-installation, predominantly in private areas.

124



RECYFIX®POINT FASERFIX®POINT

Point drainage for yards, garages and patios.

138



RECYFIX®GREEN

Turf honeycomb for infiltration of rainwater in parking areas.

146



LINEFIX®

Effective border edging for garden and park areas.

154



Technical information for applied materials

Resistances for the materials PE-PP, PA and stainless steel.

162

My benefit as planner with **HAURATON**:

„Security in design and material - that's all I expect from a good drainage channel.“



award-winning



durable



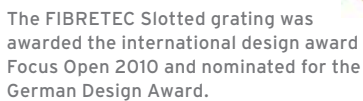
meet all standards



My benefit:
Security

Security during planning process

HAURATON offers architects as partners a maximum planning security. Products and processes are constantly monitored and are subject to stringent quality requirements.

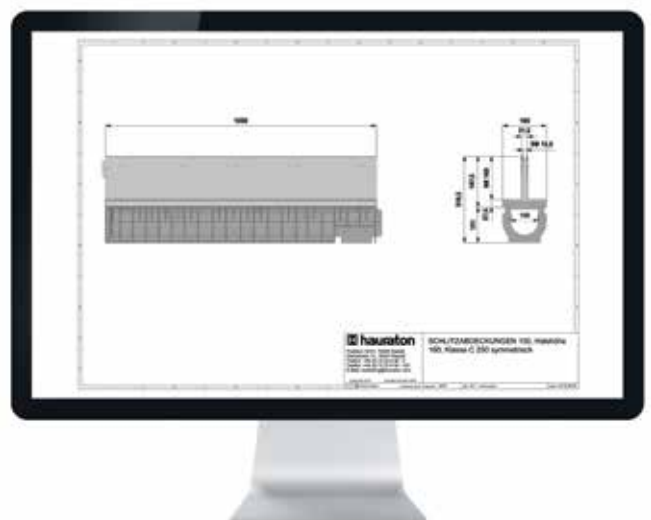


Standards, approvals and warranties

- Channels certified according to DIN EN 14333
- Testing certificates from external institutes
- CE-Labels
- Quality certification in accordance with DIN EN ISO 9001:2008

Planning support

- DWG drawings for all products on the internet for total planning security
- Specification assistant with detailed search function to find the optimal products for various applications



My benefit as Landscape Gardener with **HAURATON**:

„There are plenty of activities going on at site. With the unbreakable channel, I am able to save costs and hassle. Moreover, due to its extremely light weight, the channel is highly back-friendly. ”



quick installation



absolutely stable



My benefit:
Cost savings

Lightweight for easy, quick and cost-efficient installation.



- highest stability with minimized weight
- much lighter than conventional channels made of mineral materials. In comparison: one polymere channel weighs as much as 2.5 m RECYFIX 100
- very easy to transport and install



1 m NS 100 Channel incl. grating = **4 kg**
1 m NS 200 Channel incl. grating = **8 kg**

RECYFIX® – stable and unbreakable:

- high-tech material development by a well-known Research Institute for Recycling-Plastic
- durable resistance against frost, de-icing salt and UV radiation
- elastic and ultra-strong material
- stable already during installation, compacting of paved surfaces along the channel is possible - no breakage means that the construction schedule can be met.
- withstands in daily use high traffic loads and temperature differences



My benefit as a dealer with **HAURATON**:

„I can provide my customers with a channel, which is quickly and easily loaded into a car; and I profit from a higher stockturn.“



optimized stock handling



low transport costs



My benefit:
Better gross margin

Better gross margin through optimizing stock handling and low transport costs.

- easy loading without staff and fork lift
- pre-assembled, no spare parts on stock
- less pallet storage lots required





CIVILS

LANDSCAPING

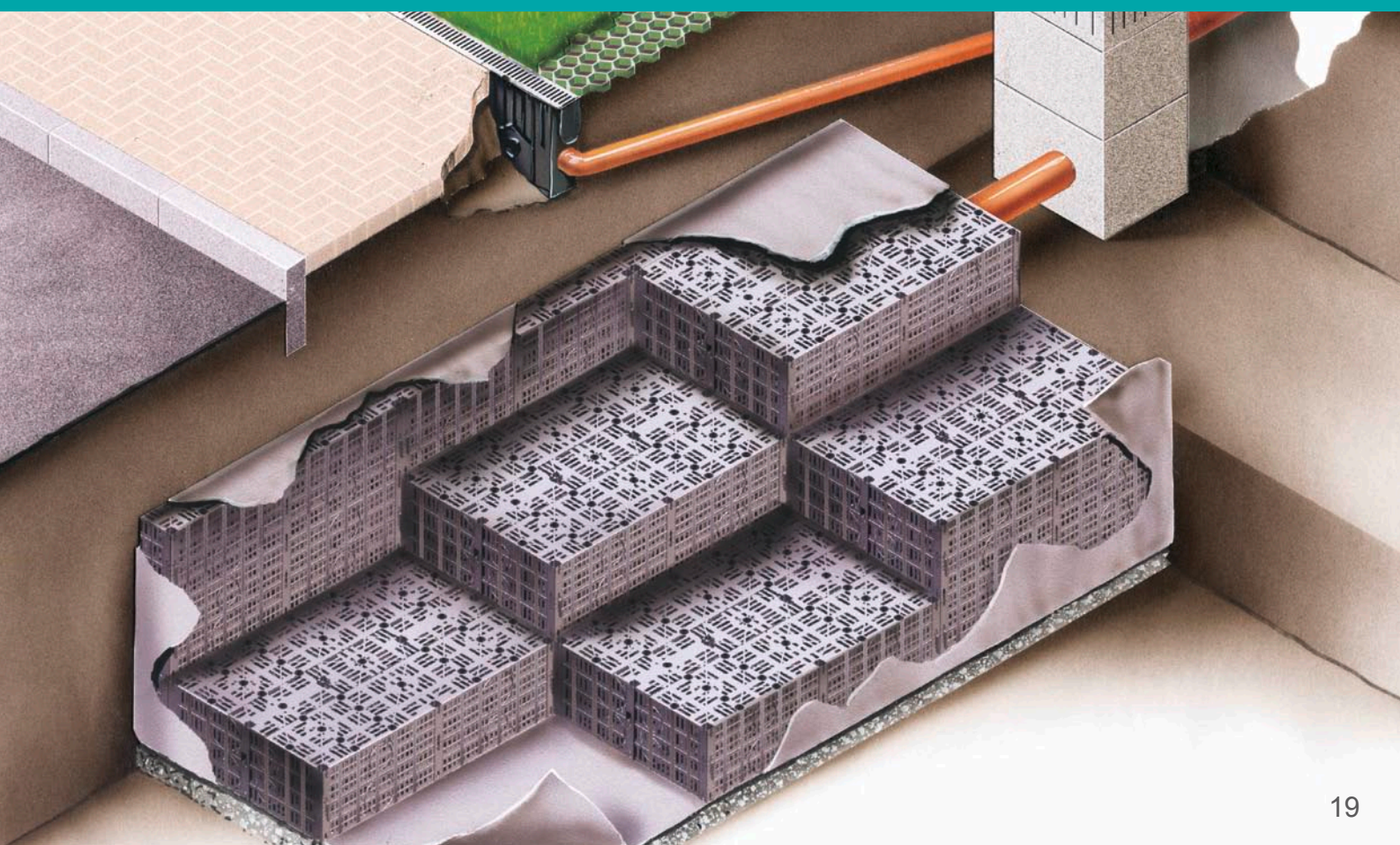
AQUA

SPORT

AQUA

THE RANGE FOR INFILTRATION SOLUTION

 **hauraton**
IT'S RUNNING WELL



THE RANGE FOR INFILTRATION SOLUTION

EFFECTIVE INFILTRATION SYSTEMS SUPPORT THE NATURAL WATER CYCLE AND PROVIDE SUSTAINABLE SUPPORT FOR VITAL RESOURCES.

Water is one of the most valuable resources on earth. Water means life. However, in densely populated countries the natural water cycle is significantly affected by ground surfaces being sealed off. Natural infiltration of rainwater is reduced more and more, resulting in the ground-water level sinking and ground drying out.

In order to counteract these developments we require systems that store rainwater at the place of precipitation and then release it gradually back into the natural cycle. With our infiltration products we offer an intelligent way of achieving this. The HAURATON storage elements are suitable for installation underneath traffic areas in trading and housing estates as well as under drives with passenger car usage in private residential areas. The areas above the system remain usable.

HAURATON supports the design team by providing calculations for the sizing of the infiltration system and construction details, ensuring long-term functionality of the installation. With the help of our expert knowledge and advice for installation and servicing, contractors find it easy to deliver perfect results.

HAURATON works in accordance with the regulations for infiltration systems and offers customers a service based on the latest state of technology.



THE HAURATON DESIGNER PACKAGE



DRAINFIX®BLOC
STABLE, SAFE AND EXTREMELY STRONG



DRAINFIX®TWIN
HIGH VOLUME IN THE SMALLEST SPACE

CIVILS

LANDSCAPING

AQUA

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SPORT

The Product Range for Sports Venues

Version 4.2



The product range for stadiums and sports venues

Modern construction products designed specifically for use in sports venues

The modern German sports arenas have an excellent reputation all over the world. Top-level international competitions such as the Football World Cup or the 2009 World Athletic Championships were held in Germany and showed that our stadiums provide ideal conditions for competitors and fans alike.

HAURATON has been involved with events outside Germany too: at other international sporting events including the Euro Football Championship in Poland and the Ukraine and the 2009 World Handball Championship in Croatia it has been Hauraton's responsibility to install products that will drain playing surfaces reliably. Our specially designed product range for sports facilities is evidence of our extensive competence in this field and has not failed to impress designers, engineers, clients and contractors alike.

HAURATON is member of IAKS





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	3. CHANNELS FOR ARTIFICIAL TURF FIELDS	34	
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SPORTFIX®

Perfect drainage - safe past the post.

The comprehensive product range for all sports facilities

Requirements

Water has to be quickly and reliably removed from sports fields and competition areas. The drainage channels that are used have to comply with the latest standards and also meet IAAF requirements. Sports facilities should be designed and equipped to prevent serious injury to sports persons if falls or accidents occur.



Solution

The SPORTFIX range offers products that meet these requirements, e.g. drainage channels made from 100 % recycled PE-PP, soft kerbs with elastic rubber padding, sand traps, water jump kit kits and distribution shafts.

Application areas

- ☐ Sports facilities with synthetic running tracks
- ☐ Sports facilities with artificial grass surfaces
- ☐ Hockey pitches
- ☐ Jumping pits
- ☐ Water jump kits
- ☐ Mini pitches
- ☐ Tennis courts
- ☐ Playgrounds
- ☐ Swimming pools



Side drainage for running tracks



Slotted channel in the middle of the pitch



SPORTFIX slotted channel in the Estádio da Luz



Temporary cable duct in Arsenal FC's Emirates Stadium in London

Bespoke solutions

Estádio da Luz, Lisbon, Portugal: slotted channel with raised turf edge for unimpeded transition to the pitch.

In the stadium which is home to the famous Lisbon football club Benfica the whole interior area was drained using HAURATON SPORTFIX channels. All transitions to the pitch had to be visually unobtrusive and unimpeded – that was the briefing to the team designing the stadium for the final of the Euro Championship. The solution was provided by a SPORTFIX slotted channel designed and manufactured with a turf edge at exactly the same height as the green drainage mats. This product provides a neat separation of the pitch from the surrounding areas and yet is virtually invisible. It goes without saying that surface water is reliably drained away.

Temporary cable duct running the length of the pitch.

FASERFIX SUPER channels with the boltless locking system SIDE-LOCK enable TV cables to be installed very quickly. This guarantees technical reliability while at the same time minimising the risk of tripping over loose cables.



Some HAURATON SPORT references out of thousands:

- Easy Credit Stadium in Nuremberg, Germany
- Ceahlăul Stadion in Piatra Neamț, Romania
- Stadium Zvezdinskij in Moscow, Russia
- Red Star Stadium in Belgrade, Serbia
- PGE Arena in Gdansk, Poland
- National Stadium in Warsaw, Poland
- Stadium in Wrocław, Poland
- Multi-function Arena in Poznań, Poland
- Cenard Stadium in Buenos Aires, Argentina
- Khalifa Stadium in Doha, Qatar

- Stadium in Rennes, France
- MM Arena in Le Mans, France
- Cardiff City Stadium, UK
- Wembley Stadium in London, UK
- FC Emirates Stadium (Arsenal) in London, UK
- ...

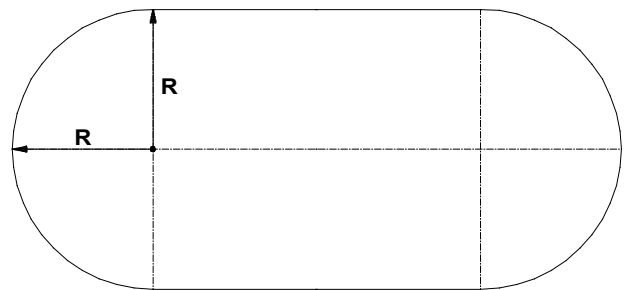
Basic principles in sports ground construction

Overview of different types of sports ground, the demands placed on them and the equipment they include.

DIN 18035 defines the requirements in terms of construction and equipment for sports grounds. Part 3 of this standard describes drainage requirements for sports facilities. In the case of athletics venues a distinction is made between four different types of arena (A to D), each of which is subdivided according to the equipment at the sports venue. The type A arena features the most deluxe equipment, while the type D arena has the simplest construction.

International competition rules define the dimensions and geometries of athletics arenas as well as the actual rules of competition.

Drainage channels are installed where the running track adjoins the inner area. For this reason the shape of the running track is especially significant. The most commonly found version is an arc-shaped track. Less frequently used are the double bend track versions.



The types of arena are independent on the geometries (arc, double bend). The field area is normally oriented north/south.

Sample arena:

- 1 Main pitch 68 m x 105 m
- 2 Eight lanes
- 3 High jump area in the segmented section (south)
- 4 Pole vault area with two run-up directions (north and south)
- 5 Long jump area with two run-up directions (north and south)
- 6 Shot put area with two throwing directions (north and south)
- 7 Hammer throw area with two throwing directions (north and south)
- 8 Javelin area with two throwing directions (north and south)
- 9 Includes water jump kit for steeplechase



Designers' service package

HAURATON develops innovative products and supports designers of sports venues in the planning and realisation of their projects.

Individual design support

You can contact our field sales staff at any time for expert and qualified advice. On request we will produce CAD-based installation plans for you. We are happy to work out solution proposals for your specific drainage requirements. We also have experience of designing solutions for renovation projects.

Specifications

We are happy to work out project-specific tender proposals for your building project. We need detailed information on the on-site situation for this purpose. Why not give us a call?

Installation advices

General installation advices are available for all products in the HAURATON sport range. These instructions are always included when we ship our products, but we are also happy to send them out in advance.

FASERFIX SUPER channels, RECYFIX channels

FASERFIX SUPER and RECYFIX channels are the perfect solution for draining grandstands and external facilities! FASERFIX SUPER channels are available in nominal widths from 100 to 500 mm and RECYFIX channels from 100 to 300 mm. Gratings are available in different designs and load classes in accordance with EN 1433.

For more information please refer to our catalogues **CIVILS** and **LANDSCAPING**.

Advantages for designers

- ✓ Compliance with all international guidelines as set out by the IAAF
- ✓ Individual design support
- ✓ Service free of charge: hydraulic calculations, installation plans, project-specific tender proposals
- ✓ Latest product information and reference database available online



Members of our team will be pleased to pay you a visit at your office or on site to provide expert advice.

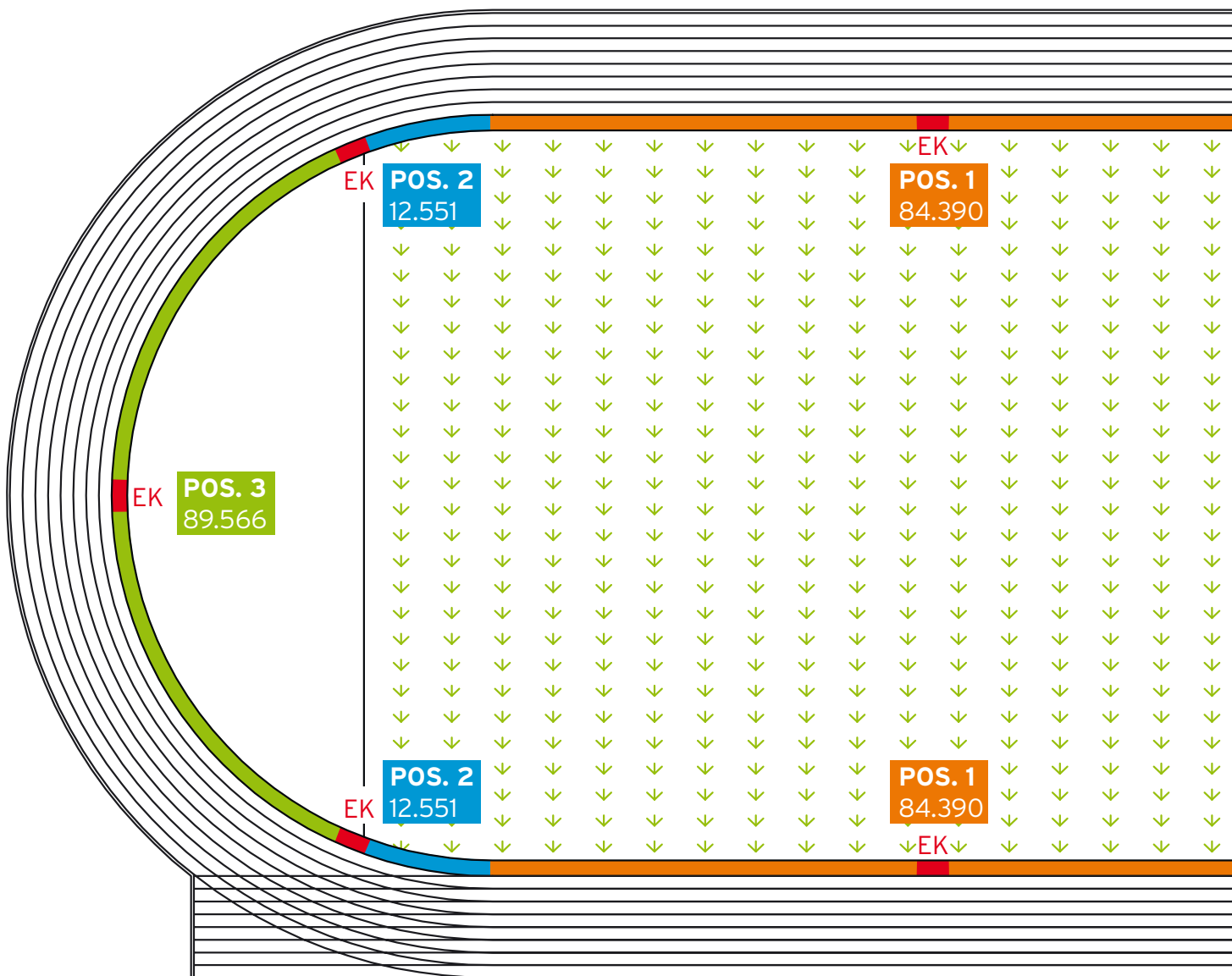
Drainage channels, layout plan

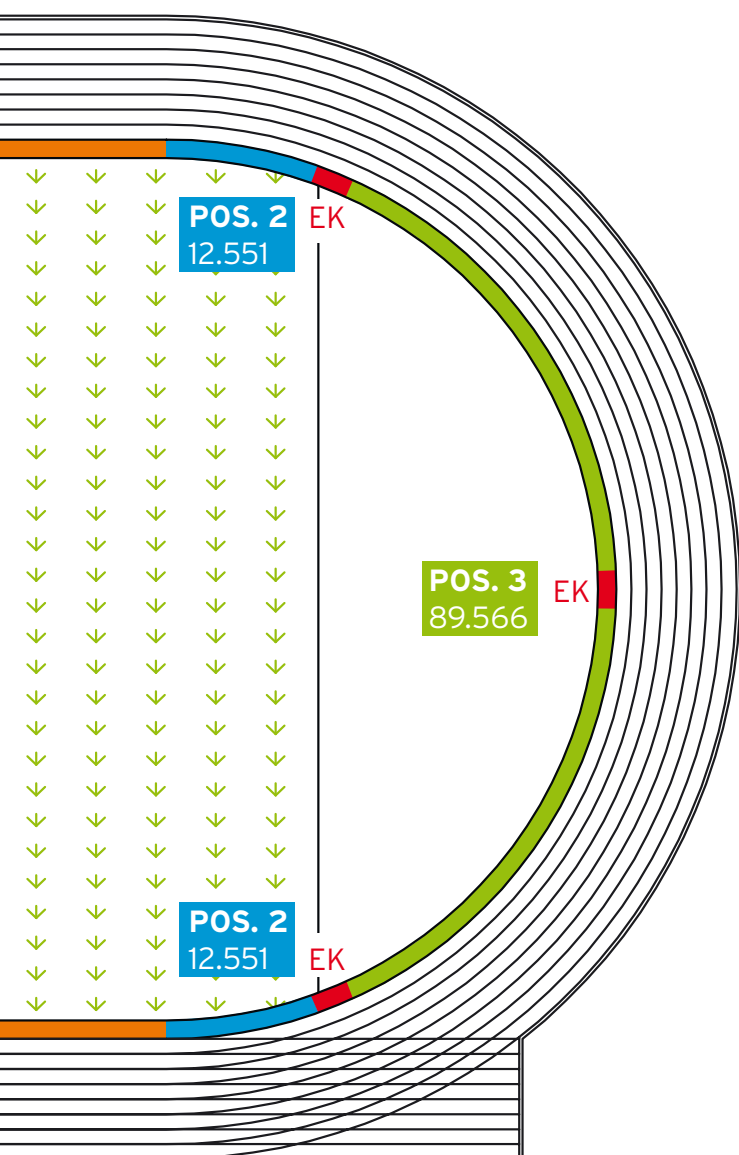
IAAF accredited facilities

Sports facilities for international competitions have to be according the strict guidelines of IAAF to be accepted for the Olympics and all other official championships.

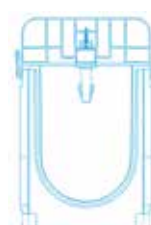
HAURATON provides products for running track drainage which fulfill all demands of IAAF and which allow to create exactly a 400 m running track. That means the SPORTFIX Channels can be used as track limitation. On these sports facilities all achieved records will be acknowledged.

Sample running track which is according the IAAF guidelines





Pos 1



Pos 2



Pos 3

Parts list

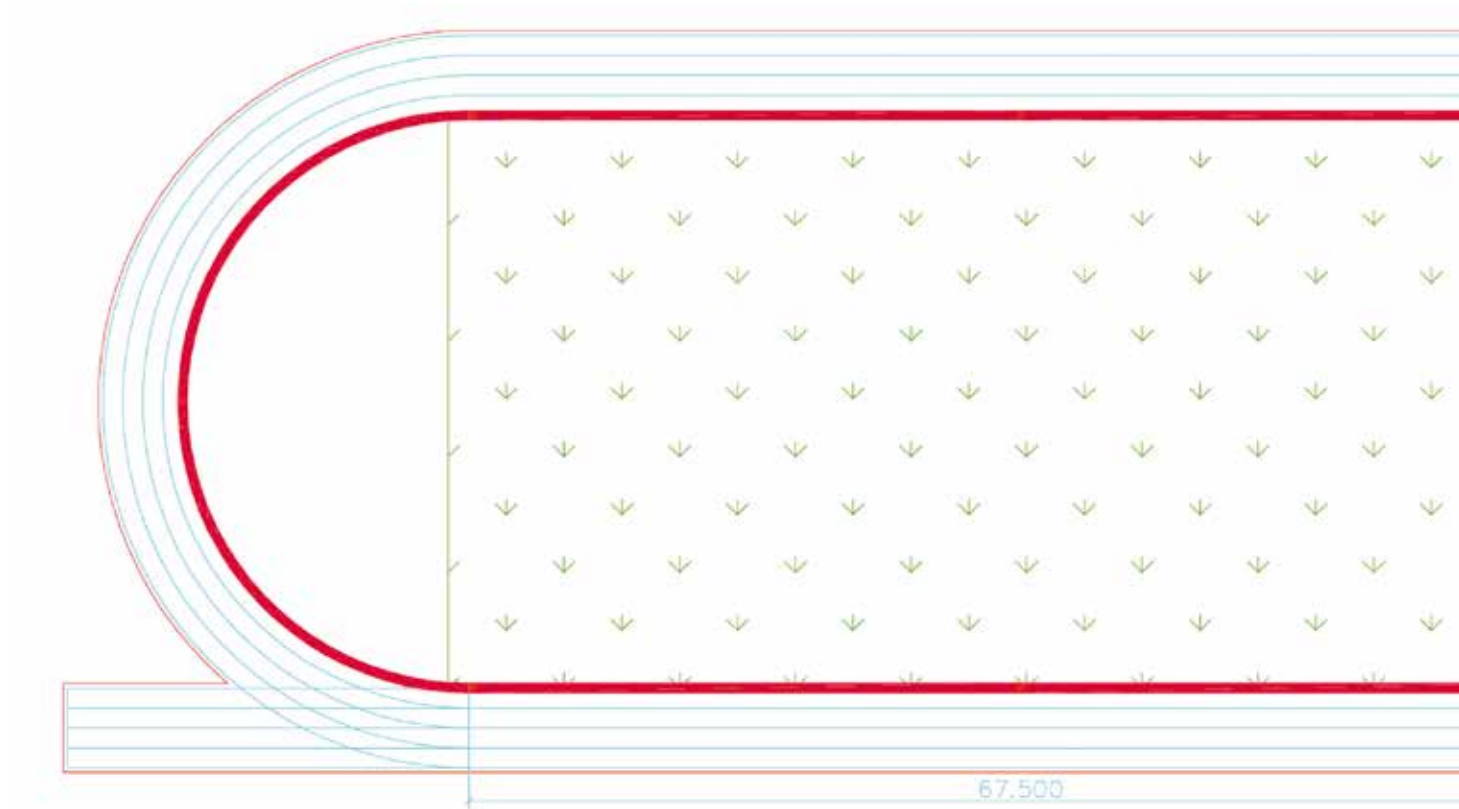
Number	Designation	Product code
Pos 1		
168	SPORTFIX SUPER Slotted Channel with upstand	7820
169	SPORTFIX plastic blank cover, straight	7563
2	SPORTFIX type O trash box	7830
2	SPORTFIX access cover	7785
Pos 2		
50	SPORTFIX SUPER Slotted Channel with upstand	7820
52	SPORTFIX plastic blank cover, curved	7564
4	SPORTFIX type O trash box	7830
4	SPORTFIX access cover	7785
Pos 3		
178	SPORTFIX SUPER slotted channel	7810
179	SPORTFIX blank cover, curved	7564
2	SPORTFIX type O trash box	7830
2	SPORTFIX access cover	7785

Drainage channels, layout plan

School sport and public facilities

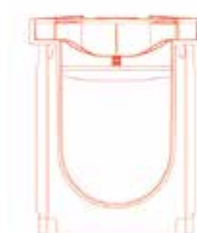
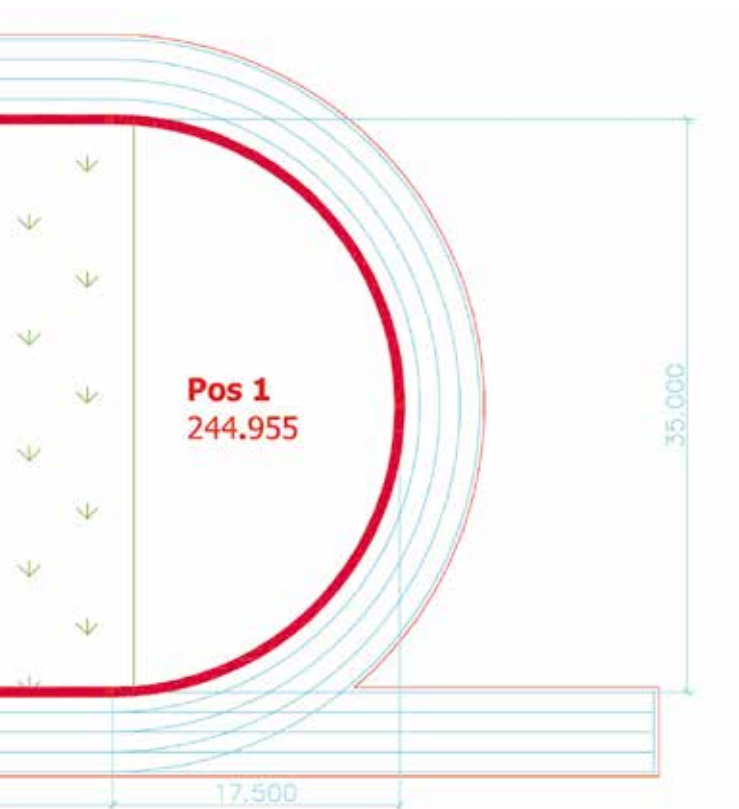
School sport and public sports facilities need not fulfill the IAAF guidelines. Therefore HAURATON can provide alternative products for the track drainage. These products have also top quality but less technical features.

Sample running track for school sport and public facilities



In this sample layout a school sports facility with a running track length of 250 m is shown.

There are hardly limitations in the length of the running track. Just get in touch with us to find out which and how many channels are requested for your sports facility.



Pos 1

Parts list

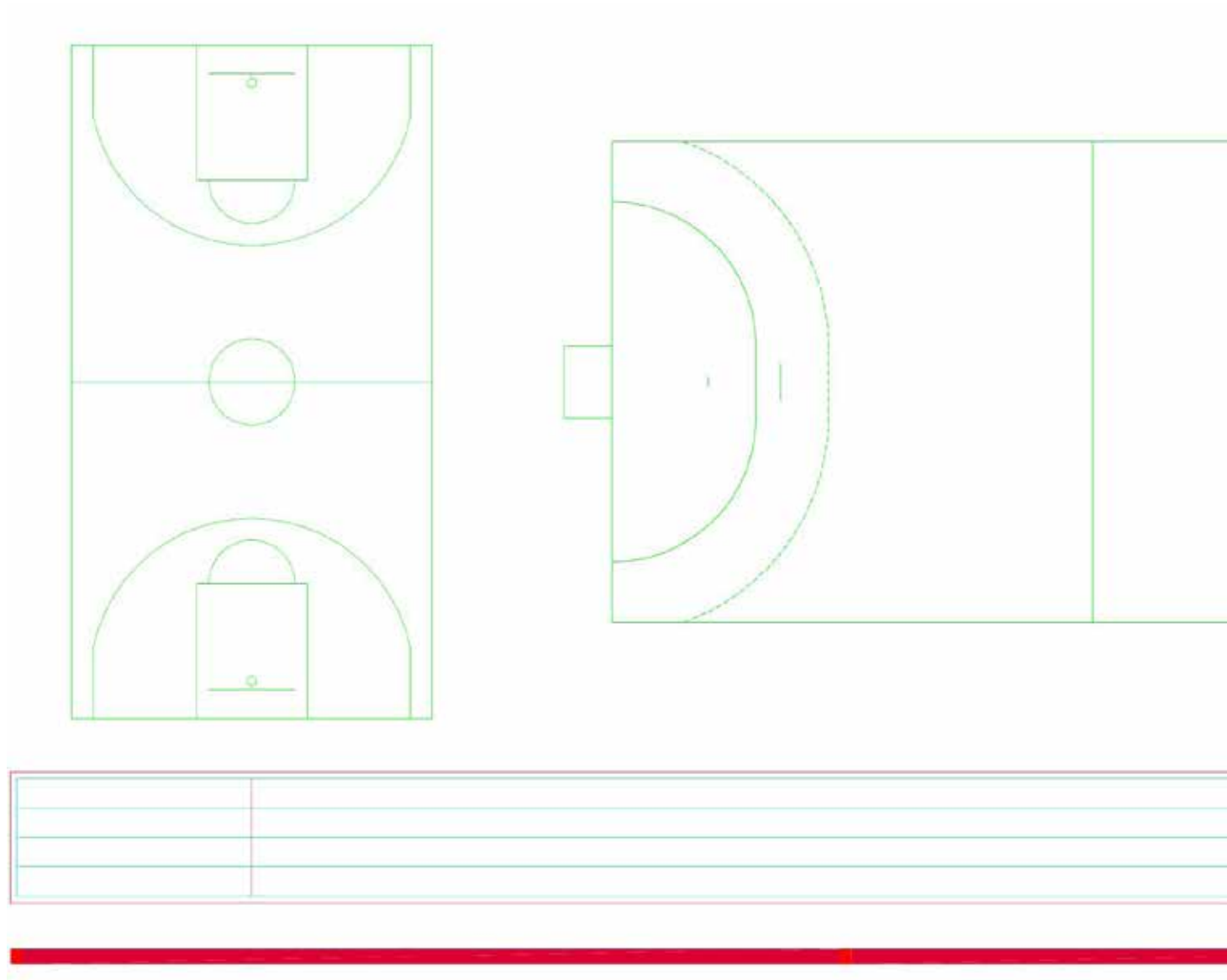
Number	Designation	Product code
Pos 1		
244	RECYFIX PRO 100 Type 010 with FIBRETEC Slotted grating SW 9, black	47060
8	RECYFIX PRO 100 Trash box with mud bucket and FIBRETEC Slotted grating SW 9, black	47054

Drainage channels, layout plan

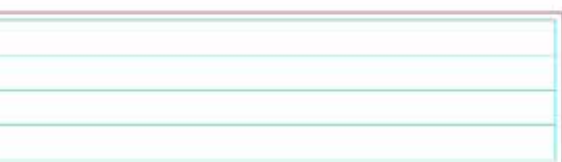
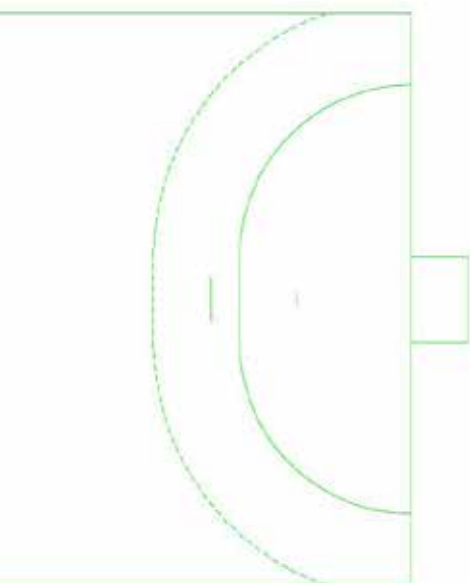
Small sports facilities

Small sports facilities without a complete running track can be drained with standard drainage channels.

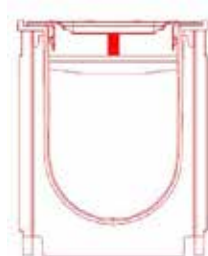
Sample running track for small sports facilities



In this sample layout a small sports facility with a running track length of 70.5 m is shown.



Pos 1
70.500



Pos 1

Parts list

Number	Designation	Product code
Pos 1		
69	RECYFIX STANDARD 100 Channel Type 010 with slotted grating, galvanised, cl. A 15, locked	40296
3	RECYFIX STANDARD 100 Trash box with mud bucket and slotted grating, galvanised, cl. A 15, locked	40256

Tricks and hints

Installation

SPORTFIX plastic covers are installed with **3 mm spacing** (= thickness of a folding wooden rule).

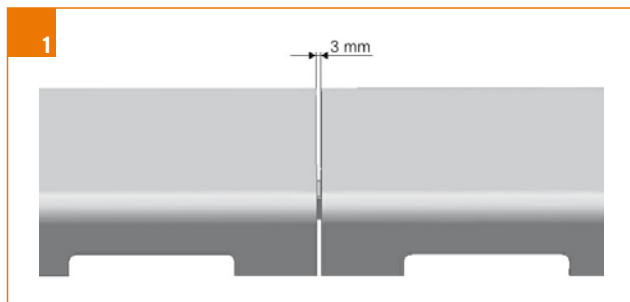


Figure 1: Spacing

Covers are installed in a clockwise direction. The gratings centre one another by means of the black connecting springs. SPORTFIX blank covers have four spring-loaded steel clamps on their underside; these are used to clip the grating into the slotted channel.

Cut to length

SPORTFIX plastic covers can be shortened easily using a wood saw. The cut **must not be made through the side inlet openings**; if necessary, two gratings should be shortened in such a way as to achieve the required length without any cuts in the inlet area.

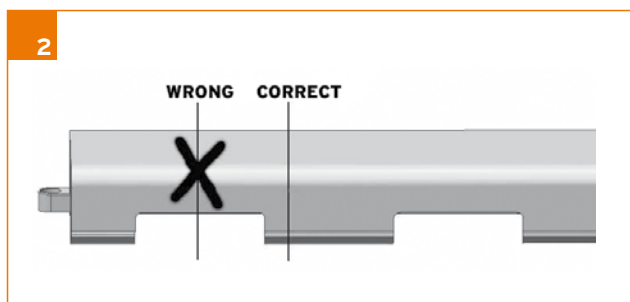


Figure 2: Cutting a plastic cover to length

Installing and connecting different channel types

When installing SPORTFIX channels and SPORTFIX slotted channels there is a height difference at the joining point that needs to be evened out. Using the raised slot in the slotted channel, which joins up superbly with the running track surface, this channel must be set deeper by the thickness of the running track surface (approx. 15 mm).

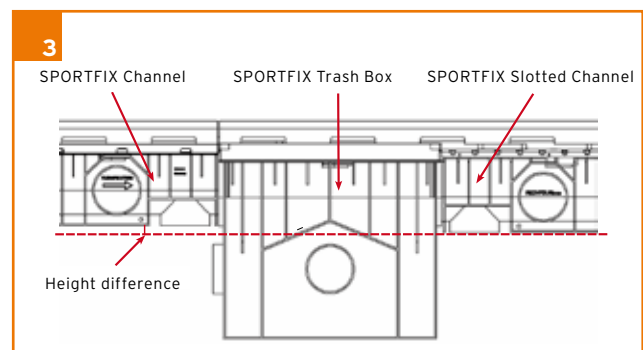


Figure 3: Evening out a height difference

Height adjustment is carried out with the help of an inlet box; the two runs of channel are connected to either side of the inlet box and an inspection cover is installed if necessary (see diagram).

SPORTFIX® drainage solutions



Installation

General installation Instructions

For all channels installed in sports facilities our general installation instructions are valid. We will hand out the latest version of installation advices for every order.

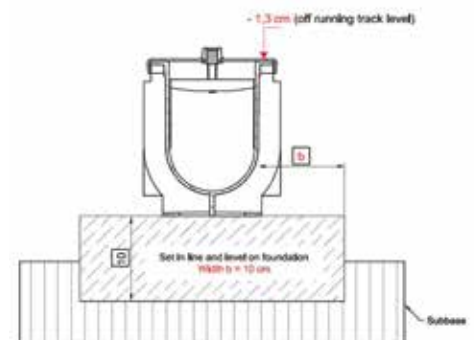
Pictured installation documentation

To get an idea of the correct installation of SPORTFIX Channels you find following a pictured installation documentation.

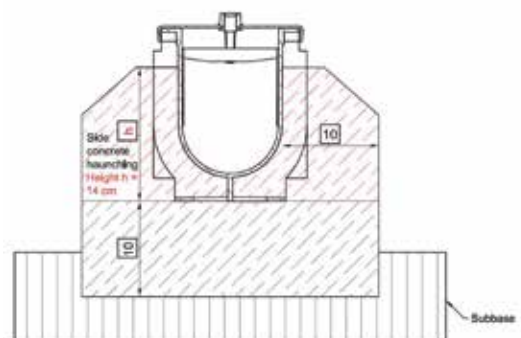
Step 1: Foundation on subbase



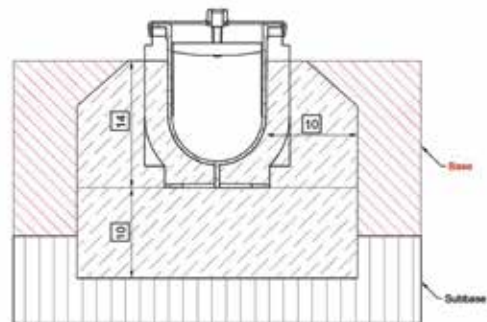
Step 2: Lining and levelling



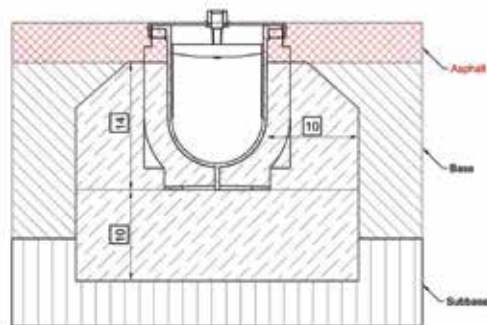
Step 3: Concrete haunching



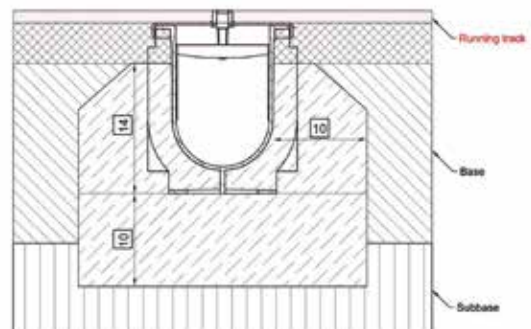
Step 4: Base for surfacing



Step 5: Asphalt



Step 6: Running track surface



Step 7: Open drainage slots

