hauraton
IT'S RUNNING WELL

GET THE **WINNER ON THE FIELD.**

Every year several tons of microplastic found in artificial turf pitches are washed into the ocean. **SPORTFIX** CLEAN retains microplastic from artificial turf.

1st Place for **SPORTFIX** CLEAN Environmental Technology Award 2019

HAURATON has won the Environmental Technology Award Baden-Württemberg 2019 in the category Emission Reduction, Treatment & Separation with the filter channel SPORTFIX CLEAN.

Important contribution to a clean environment

The demand for artificial turf sports pitches is very high: every year around 3,000 new pitches are built worldwide, 1,000 of them in Europe. Many of these pitches are filled with synthetic gran-ules which can be released into the environment via various means. The award-winning SPORTFIX CLEAN channel provides a solution to this problem. „Our solution can not only be installed in new pitches, but can also be retrofitted to existing pitches and thus do a great deal for the environment“, emphasised HAURATON Managing Director Marcus Reuter. „As a specialist in drainage systems, it is important for us to contribute to a clean environment and to promote research and development. The award is a great pleasure and encourages us to pursue further ideas for new environmental technologies.“

ENVIRONMENTAL TECHNOLOGY AWARD
BADEN-WÜRTTEMBERG 2019
1ST PRIZE
CATEGORY 3
EMISSION REDUCTION, TREATMENT & SEPARATION

Pleased with the 1st place Environmental Technology Award:
With this award, Franz Untersteller (Environment Minister of Baden-Württemberg, 2nd from right) honours practical ideas and products for clean water.
The HAURATON drainage specialists are pleased about the award and recognition of the many years of development work for SPORTFIX CLEAN: Managing Director Marcus Reuter (right), Senior Consultant and Idea generator Fabian Reuter (3rd from right) and Product Developer and Drainage Expert Claus Huwe (left).

What is microplastic? 4

Microplastic in artificial turf 5

SPORTFIX CLEAN functionality / inspection + maintenance 7

SPORTFIX CLEAN for football pitches and sports fields 8

SPORTFIX CLEAN for playing fields in athletics facilities 10

SPORTFIX CLEAN filter substrate channel 12

Installation 18

SPORTFIX CLEAN particle trap element 20

SPORTFIX CLEAN snow trap channel 24

Reference project Bühl 28

FAQ 30

What is Microplastic?

1. Definition & sources of microplastic

Microplastics are plastic paritcles that are five milli-metres and smaller. The particles are often so tiny that they are hardly visible to the human eye. This is why the description „invisible microplastics“ is often used in the media.

When it comes to microplastics, many people initially think of microplastics in cosmetics, including:
- Peeling
- Shower gel
- Shampoo

The biggest polluters are not known to many at all: The abrasion of billions of tyres in road traffic and the countless artificial sports fields form two of the largest sources of microplastic pollution in our oceans and atmosphere. HAURATON has developed the DRAINFIX CLEAN product range for the filtraion of microplastics from road runoff containing the abrasion of car tyres.

1.1 Microplastics and sustainability

Plastic is usually made from fossil raw materials such as crude oil. However, there are now also plastics made from renewable raw materials such as sugar cane or corn. These are called bio-based plastics.
Although bio-based plastics release less CO_2 during production than fossil-based plastics, critical aspects must also be taken into account. On the one hand, competition with food crops is a cause for concern, and on the other hand the end product is always a plastic that requires professional, cost-intensive disposal.

The conditions for composting biodegradable plastics are very costly to achieve, which is why the products often have to be energetically recycled. This makes them no more sustainable than conventional plastics according to the Federal Environmental Agency.

So-called bio- or CO_2-neutral plastics have so far not been more sustainable than conventional plastics. This is another reason why it is ecologically important to retain plastic par-ticles from discharge into the environment.

2. Microplastic in artificial turf

„In comparison with natural grass pitches, artificial turf pitches offer many more extensive usage possibilities.
Without artificial turf pitches, it would not be possible to guarantee a sufficient supply of football programmes, especially in larger towns and communities“, the German Football Association (DFB) declared in a statement.

The advantages of artificial turf are many and varied:

- according to the DFB, approx. 2,500 hours of use per year on artificial turf, compared to 800 hours on natural grass
- constant training conditions all year round (easy to get rid of snow in winter)
- hardly any pitch closures due to unplayability
- easy to clean and low maintenance

2.1 The Problem:

Plastic granulate & synthetic blades of grass are released into the environment

Despite the many advantages of artificial turf pitches mentioned above, the main difference to natural turf is that various granulates are added as infill materials to achieve the most natural playing conditions possible. These infill materials, as well as the grass fibres themselves, are distributed in the immediate vicinity of the grass pitch over the course of its service life. Unlike natural grass, they do not decompose there, but accumulate in the upper soil layers, can be carried on into water bodies and reach the ground water.

In order to prevent a large proportion of the environmentally harmful effects of microplastic particles from artificial turf surfaces, deposits of ...

1. **plastic/rubber granulate** (also called infill material), can be minimised with a retention system.
2. **synthetic grass fibres,** which break off during play because they are exposed to recurring stresses, should also be retained.

A look inside a SPORTFIX CLEAN channel: infill material, here cork, and broken plastic straws collect on the filter substrate. The debris is continuously retained on the filter surface and can be removed during maintenance of the channel system.

What is Microplastic?

2.3 Alternative infill materials for artificial turf systems

Cork
The renewable raw material cork is currently very popular as infill material. But the use of cork on artificial turf pitches also has some disadvantages. In addition to the higher purchase prices, it must also be replaced more frequently which further increases running costs. Cork is also lighter, which means that there is a risk of large-scale washout during heavy rainfall events. As a result, regular maintenance of the pitches is necessary. The playing properties of rubber infill material are very similar to those of cork and the basic artificial turf structure can be retained.

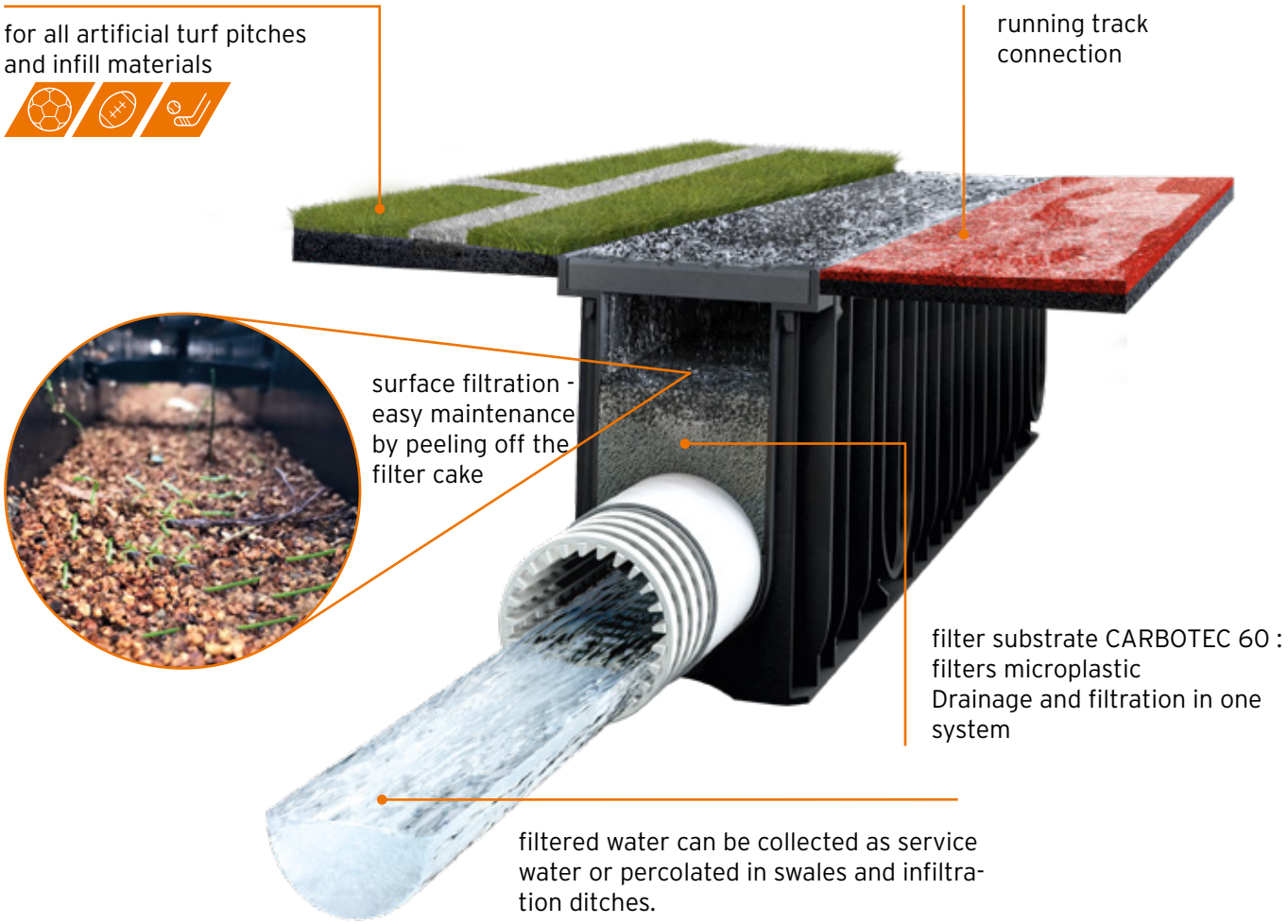
Sand
Another approach is to replace the granulate with sand filling. This option is relatively inexpensive for operators to implement. The lower cushioning effect of the sand can increase the risk of injury to players and change the ball rolling behaviour. In addition, the abrasive sand increases the abrasion of the artificial turf fibres and thus leads to larger quantities of microplastic discharge.

Unfilled artificial turf pitches with greater fibre density
Turf systems that manage completely without infill material are more expensive to purchase and offer only limited ball rolling properties similar to natural turf. Although no synthetic infill is used, the more densely woven blades offer a higher potential for abrasion and thus the formation of microplastic particles.

3. Microplastic through abrasion of running tracks

Microplastic is not only produced on artificial turf pitches, but also on tartan tracks in athletics.
EPDM granules are scattered in a PUR (polyurethane) ayer as the wearing surface. This granulate loosens during use, especially in the first 1-2 years of use, and is carried by rain into the adjacent areas. It is therefore important to create appropriate retention possibilities here too in order to retain microplastics from water and the environment.

SPORTFIX CLEAN - **Functionality: Surface filter, CARBOTEC** 60



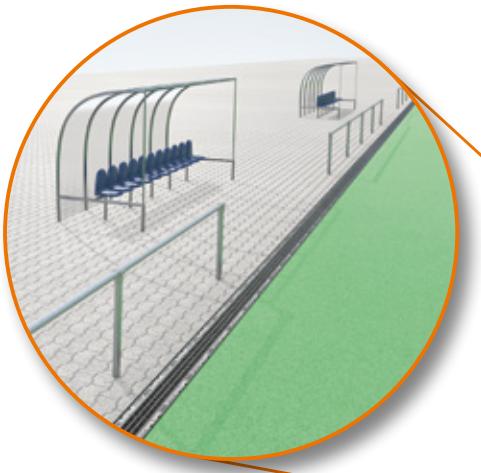
SPORTFIX CLEAN - **Inspection + maintenance**

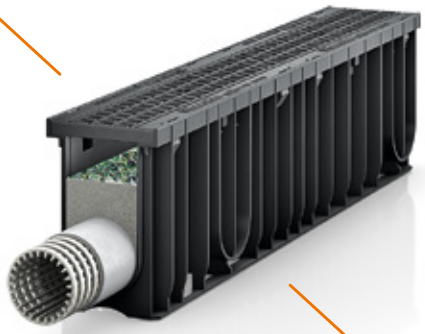
The particle trap bucket of the trash boxes ensures that even in the event of heavy rainfall, the particles are retained. An inspection should be carried out every six months to ensure that the discharged water is drained off.

Due to the working principle of surface filtration, the microplastic remains on the surface. Therefore, maintenance is possible at any time simply by peeling off the upper layer. The remaining substrate can still be used. Only small amounts of new substrate are needed to replenish the amount removed during peeling. For this purpose, as for installation, a levelling device can be used to ensure the correct substrate height. The amount of maintenance required depends on the actual input into the channel. The filter surface is designed so that long maintenance intervals of 3 - 5 years are usually achieved.

The material removed during maintenance must either be disposed of properly or can be reused if appropriate cleaning or site maintenance machines are used.

SPORTFIX CLEAN for football pitches and sports fields



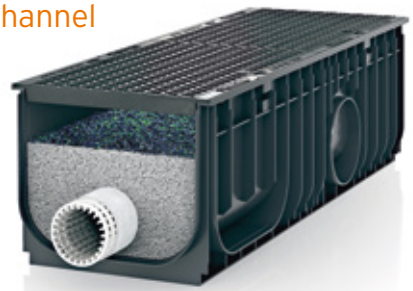


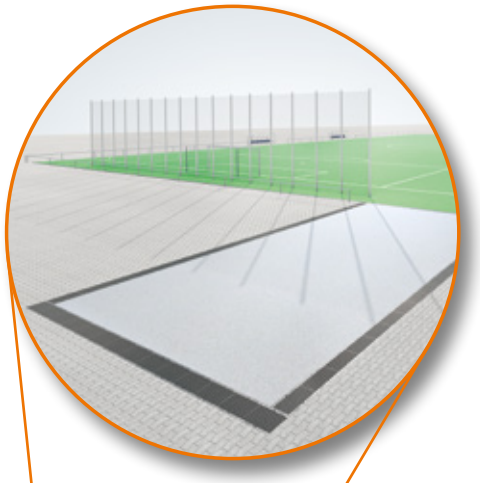
SPORTFIX CLEAN filter substrate channel
Installation around the perimeter of the playing field
Details starting on page 12

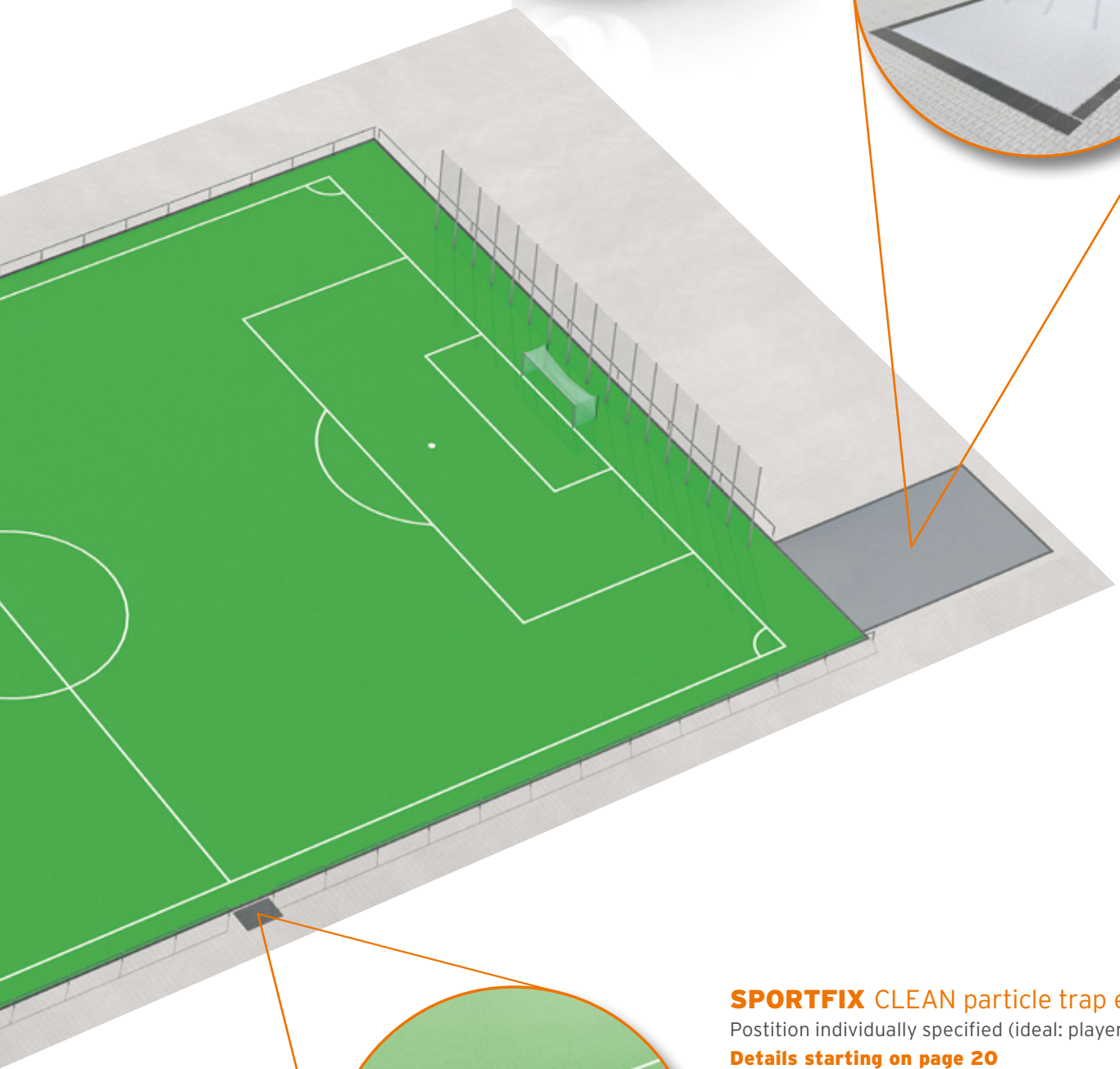
SPORTFIX CLEAN snow trap channel

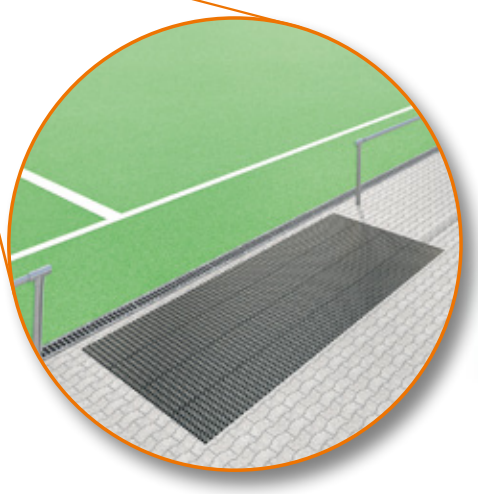
Installation on the edge of the pitch

Details starting on page 24





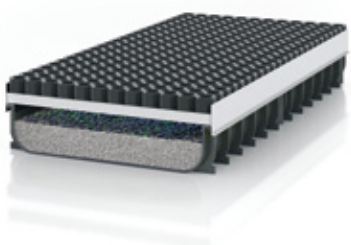




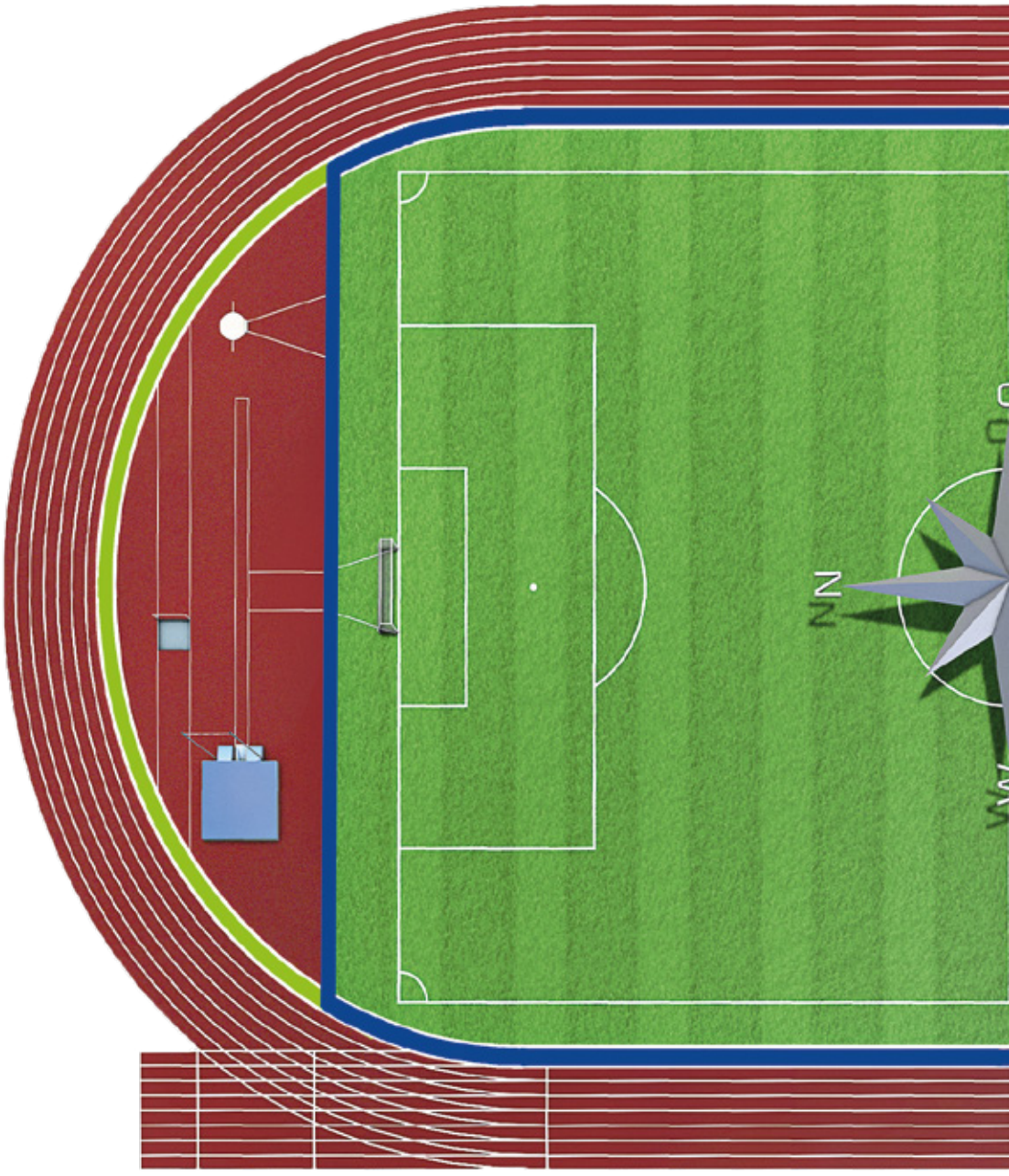
SPORTFIX CLEAN particle trap element

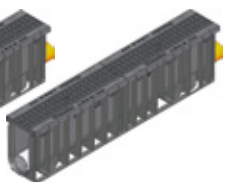
Postition individually specified (ideal: player exit)

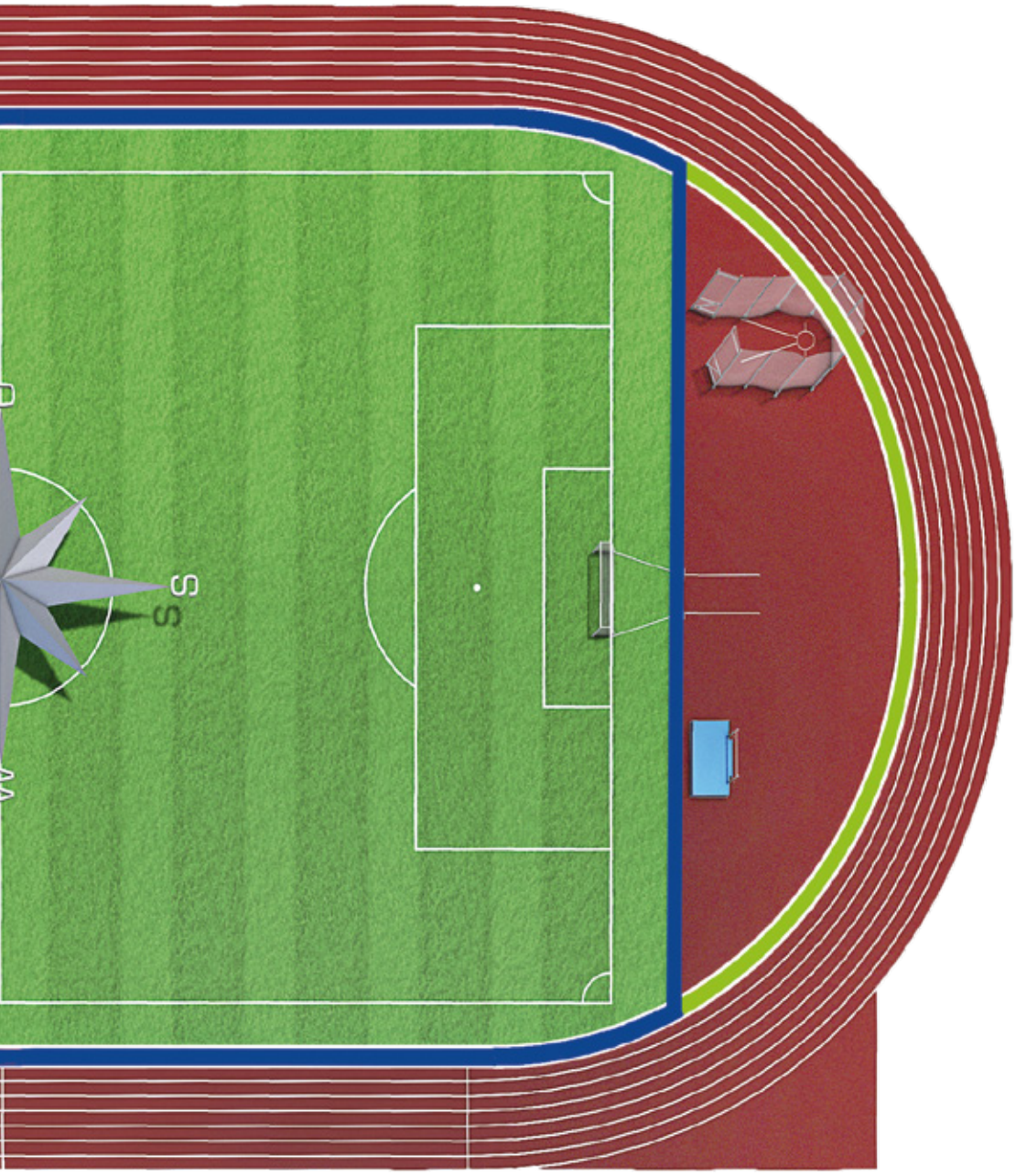
Details starting on page 20



SPORTFIX CLEAN
for playing fields in athletics facilities



	SPORTFIX CLEAN 100 filtration channel			**SPORTFIX** slotted channels	
	 starting piece	 intermediate piece	 trash box	 slotted channel	 inspection box
For use in section	A			B	
Details on page	12			on request	



Special feature of athletics facilities

Products from the comprehensive range for athletics facilities drain all types of arenas quickly and reliably. In addition to the special requirements of running track surfaces and pitches, the international World Athletics guidelines are also taken into account.

The combination of the specialised channel systems enables microplastics from artificial turf pitches and running track abrasion to be retained in a mixed system.

You can find all products in our current SPORT catalogue.

YOUR BENEFITS WITH **SPORTFIX** CLEAN filter substrate channel

IDEAL FOR SPORTS FIELDS

- flexible adaptation to any size of space due to an overall length of 1 metre
- also available as system with clamping of field hockey turf
- use along the playing field also possible in certified athletics facilities

= FLEXIBILITY

PRE-ASSEMBLED READY FOR INSTALLATION

- channel and grating = one component
- filter pipe and filter substrate provided per metre ready for installation
- easy handling on the construction site

= TIME SAVINGS

HIGH-GRADE MATERIAL

- **RECYFIX** - stable and almost unbreakable
- 100% recycled channel body (and also 100% recyclable)
  → 100 % environmentally friendly
- elastic and particularly robust material

= QUALITY & PERFORMANCE ASSURED

HIGH EFFECTIVENESS

- large filter surface for the collection of particle loads (10 m^2 per 100 m channel run)
- high remobilisation protection of particles caught in the system
- proven cleaning performance of 98.5%
- overflow protection with filter for heavy rain events

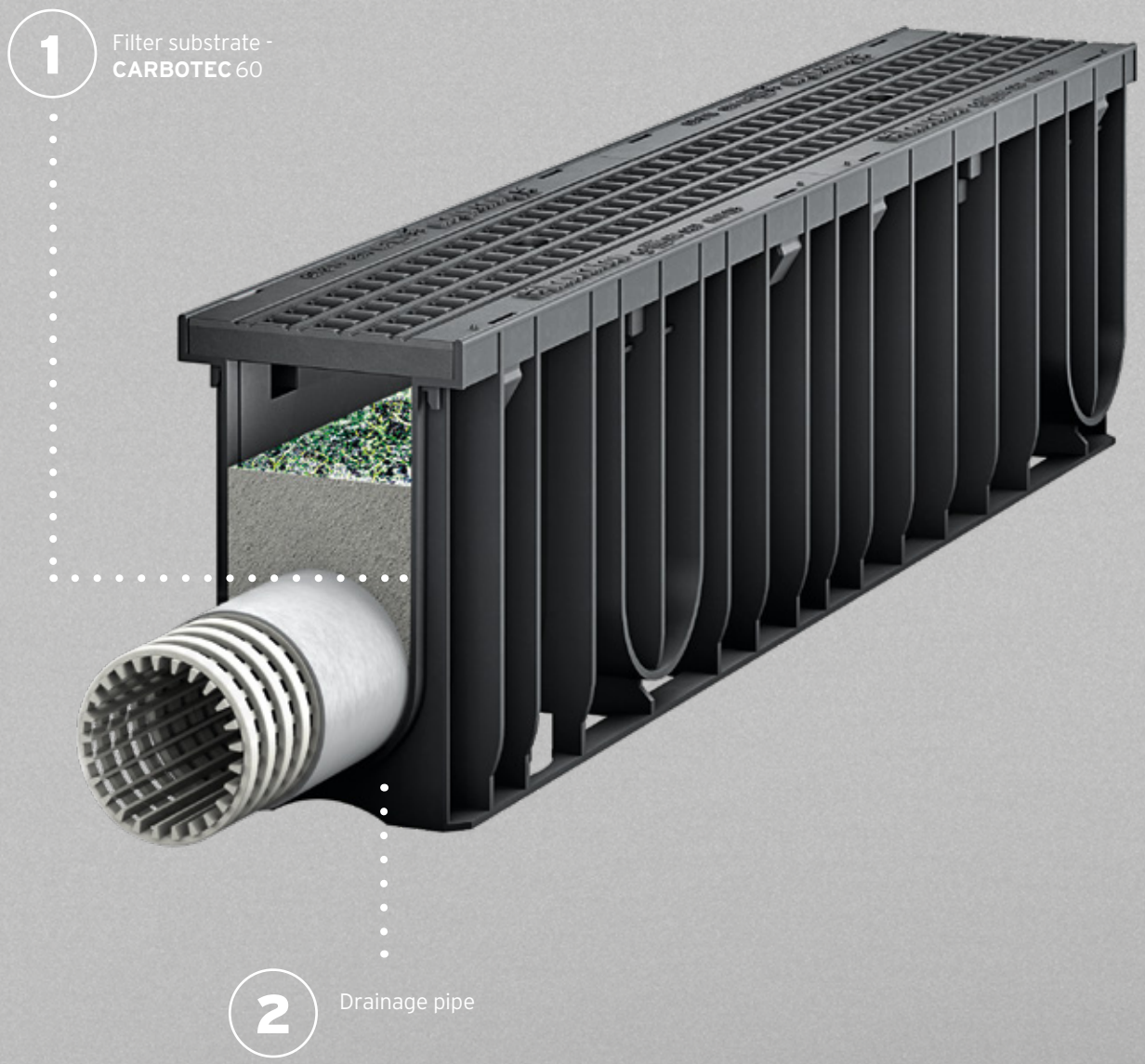
= PERFORMANCE ASSURED

ENVIRONMENTALLY FRIENDLY

- reliably retains microplastics from artificial turf and running track surface
- filters heavy metals and other pollutants such as PAH
- purified water can seep into the ground water or be collected in a cistern for reuse as service water

= QUALITY & PERFORMANCE ASSURED

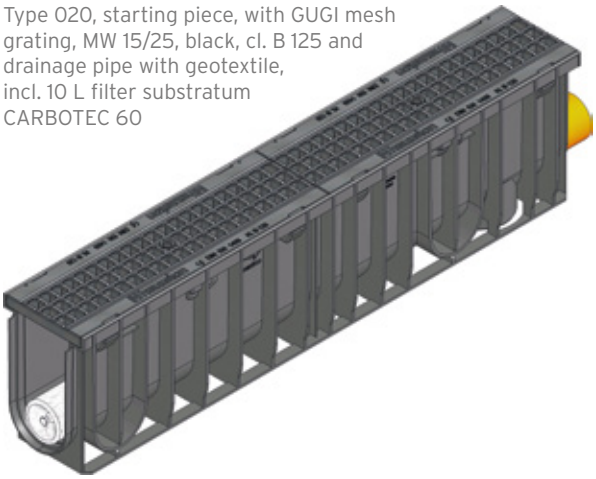
IDEAL FOR ...
sports surfaces with artificial turf or running track.

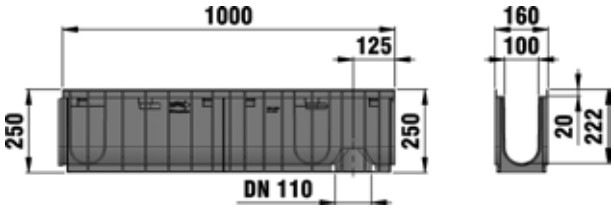


SPORTFIX CLEAN filter substrate channel

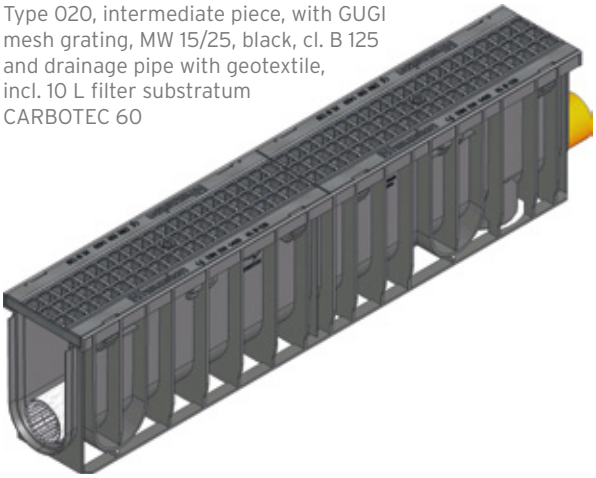
SPORTFIX CLEAN 100 filtration channel

Type 020, starting piece, with GUGI mesh grating, MW 15/25, black, cl. B 125 and drainage pipe with geotextile, incl. 10 L filter substratum CARBOTEC 60





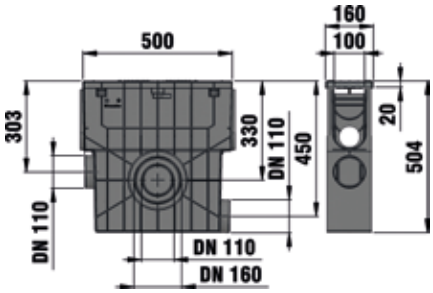
Type 020, intermediate piece, with GUGI mesh grating, MW 15/25, black, cl. B 125 and drainage pipe with geotextile, incl. 10 L filter substratum CARBOTEC 60



	Länge mm	Breite mm	Höhe mm	Lichter Rinnen-querschnitt cm²	Einlauf-querschnitt cm²/m	Gewicht kg	Artikel Nr.
Type 020, starting piece, with GUGI mesh grating, MW 15/25, black, cl. B 125 and drainage pipe with geotextile, incl. 10 L filter substratum CARBOTEC 60	1000	160	250	192	444	5,89	7701
Type 020, intermediate piece, with GUGI mesh grating, MW 15/25, black, cl. B 125 and drainage pipe with geo-textile, incl. 10 L filter substratum CARBOTEC 60	1000	160	250	192	444	5,50	7702

SPORTFIX CLEAN filter substrate channel

SPORTFIX CLEAN 100, **accessories**



Trash box with GUGI-mesh grating MW 15/25, made of PA, black, cl. B 125, locked, with particle catching bucket

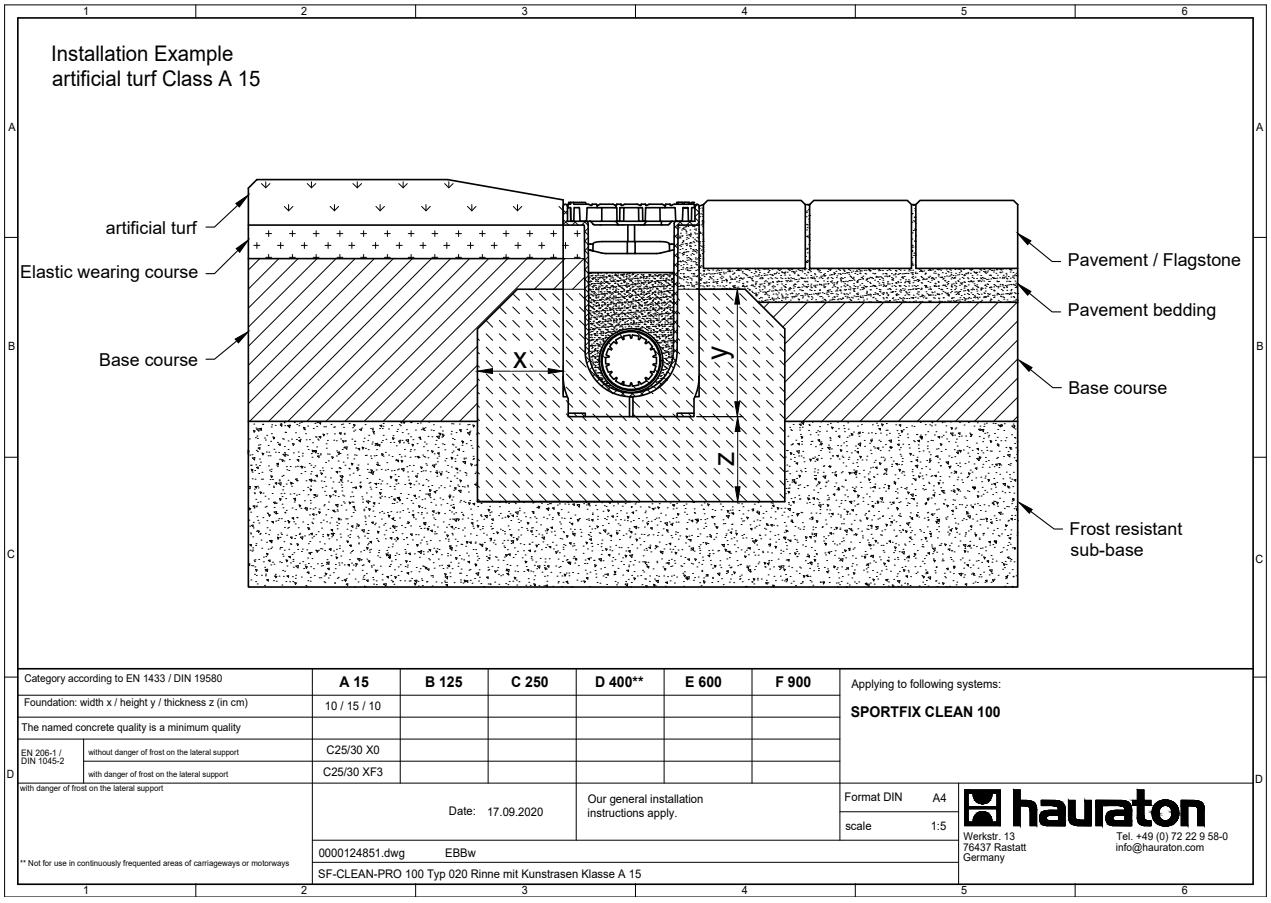
Drainage pipe DN/OD 70, with geotextile

Levelling device

End cap closed, made of PP, type 020

	Länge mm	Breite mm	Höhe mm	Gewicht kg	Artikel Nr.
Trash box with GUGI-mesh grating MW 15/25, made of PA, black, cl. B 125, locked, with particle catching bucket	500	160	504	5,28	7700
Drainage pipe DN/OD 70, with geotextile	1000	-	-	0,19	7709
Levelling device	-	-	-	0,61	7730
Filter substratum, bagged goods, 10 l	-	-	-	15,00	7710
End cap closed, made of PP, type 020	-	160	250	0,12	7711

SPORTFIX CLEAN installation



Category according to EN 1433 / DIN 19580		A 15	B 125	C 250	D 400**	E 600	F 900
Foundation: width x / height y / thickness z (in cm)		10 / 15 / 10					
The named concrete quality is a minimum quality							
EN 206-1 / DIN 1045-2	without danger of frost on the lateral support	C25/30 X0					
	with danger of frost on the lateral support	C25/30 XF3					
with danger of frost on the lateral support							

Applying to following systems:
SPORTFIX CLEAN 100

** Not for use in continuously frequented areas of carriageways or motorways

Date: 17.09.2020

Our general installation instructions apply.

Format DIN A4
scale 1:5

0000124851.dwg EBBw
SF-CLEAN-PRO 100 Typ 020 Rinne mit Kunstrasen Klasse A 15

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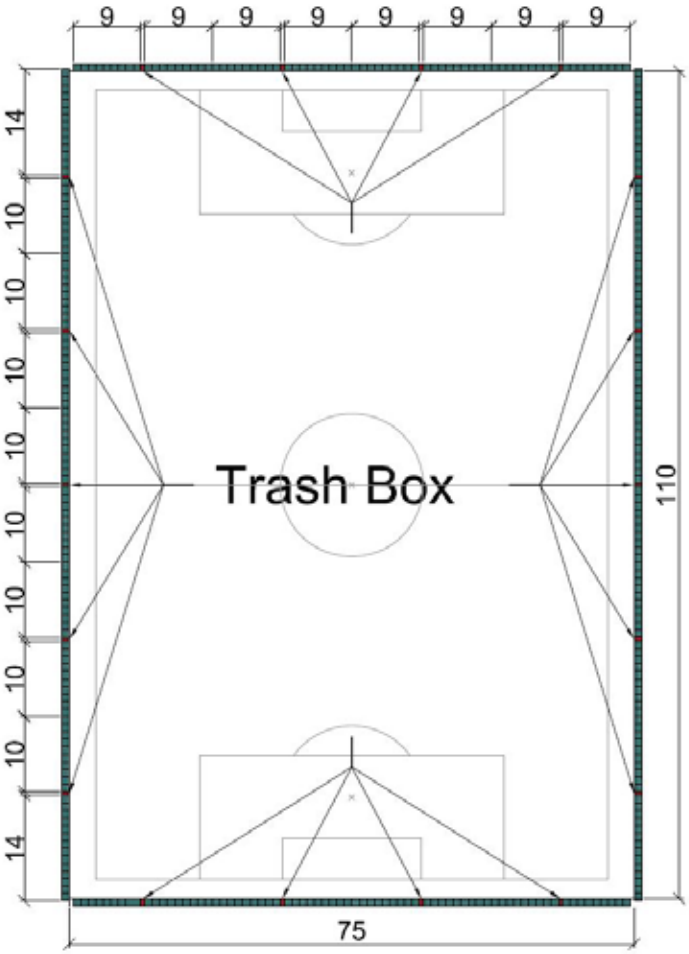
76437 Rastatt
Germany
Tel. +49 (0) 72 22 9 58-0
info@hauraton.com

SPORTFIX CLEAN installation plan



→long side of the football pitch:

- ☐ 4 x end cap
- ☐ 10 x trash box (0,5 m)
- ☐ 4 x SPORTFIX CLEAN - starting piece
- ☐ 212 x SPORTFIX CLEAN - intermediate piece

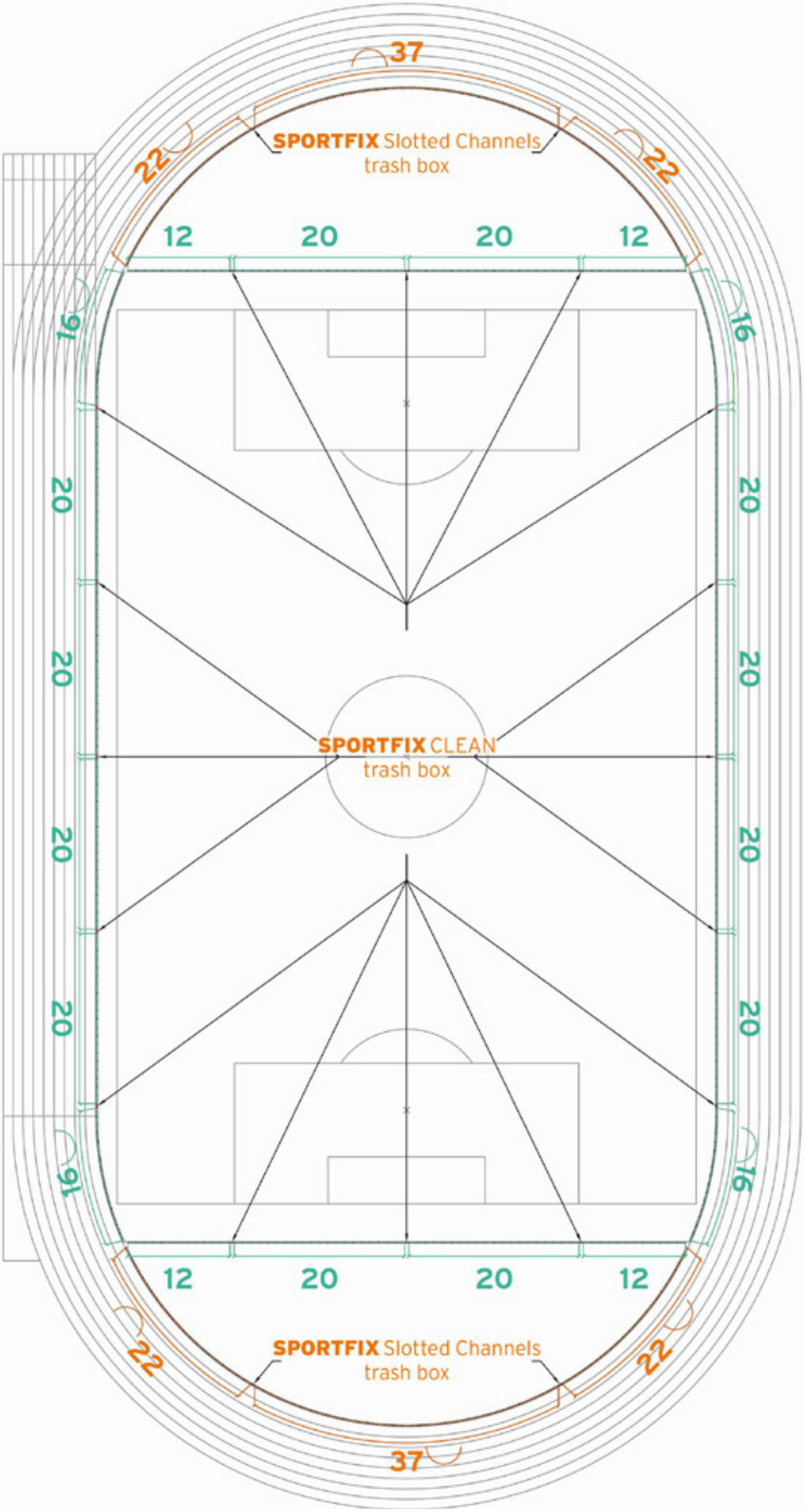
→short side of the football pitch:

- ☐ 4 x end cap
- ☐ 8 x trash box (0,5 m)
- ☐ 4 x SPORTFIX CLEAN - starting piece
- ☐ 136 x SPORTFIX CLEAN - intermediate piece
- ☐ 14 x drainage pipe DN/OD 75 (0,2 m)

SPORTFIX CLEAN 100
Typ 020 channel / trash box incl.:

- ☐ GUGI-Grating made of PA-GF, MW 15/25, class B 125
- ☐ Drainage pipe DN/OD 75, with geotextile
- ☐ 356 x 10 l bags - CARBOTEC 60 filter substrate

SPORTFIX CLEAN
SPORTFIX Slotted Channels



Quick and Easy Installation of **SPORTFIX** CLEAN

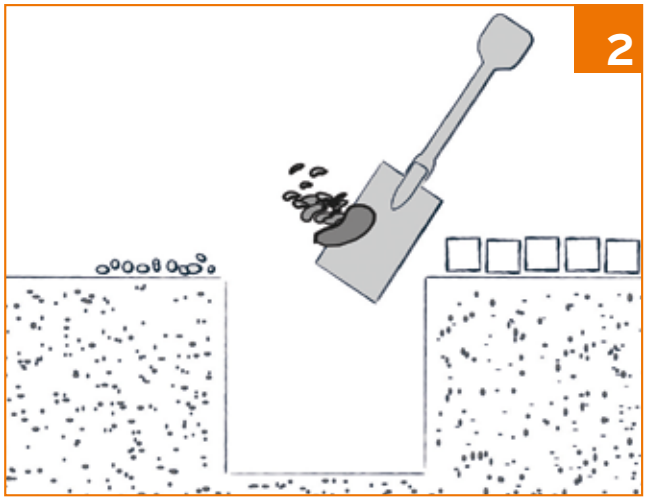
1

Necessary before beginning:

- ☐ Determine the position of the trash boxes according to the installation plan
- ☐ Open pipe connection on one side of trash boxes, otherwise do not carry out any further processing
- ☐ Store filter pipes and substrate in a dry place until installation

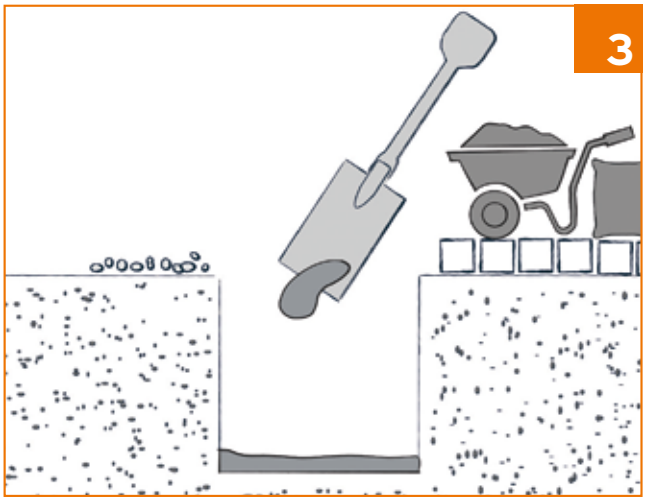
☑ **Thought of everything?**

2



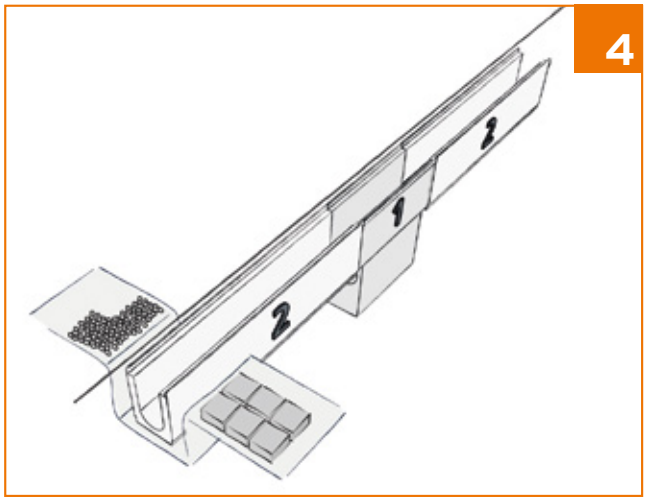
☐ Dig a ditch 36 cm wide and 36 cm deep, 60 cm deep at the position of the trash boxes.

3



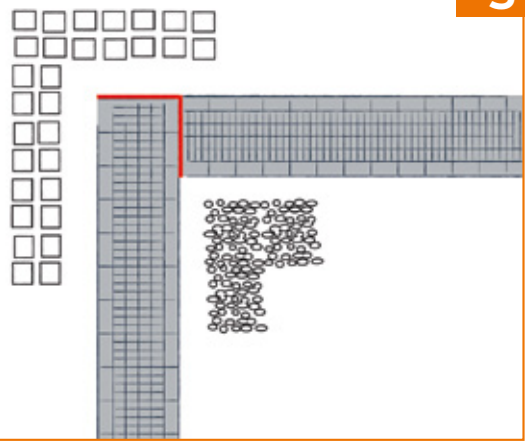
☐ Fill and distribute evenly with earth-moist concrete C 25/30 to a height of about 10 cm.

4



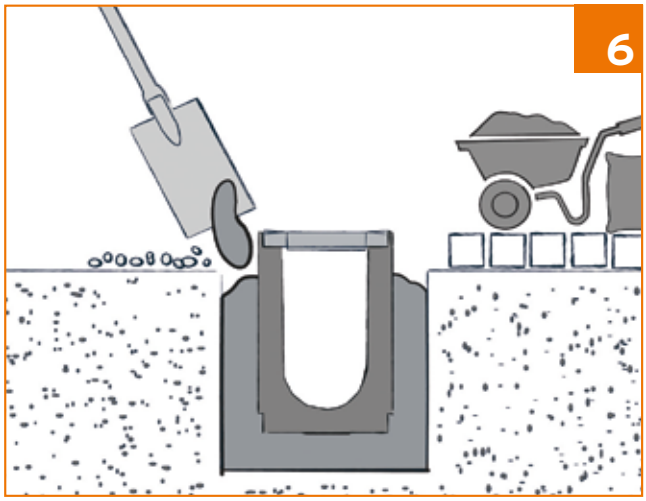
☐ Tighten the guide line 3 mm below finished height and place the trash boxes - pay attention to the pipe connection. Beginning at the trash box, install 10 m of channels in both directions.

5



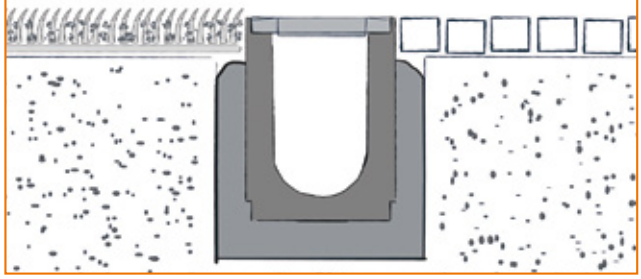
☐ Close the last channel with an end cap in each corner of the playing field.

6



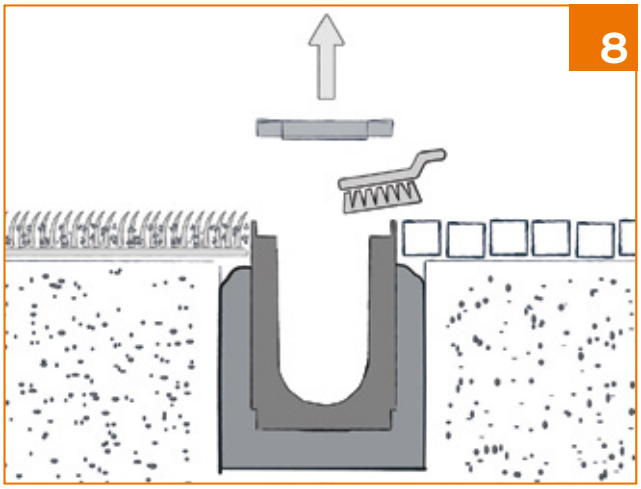
☐ Create a backrest at the side of the channels made of concrete C 25/30 up to 13 cm below the upper edge of the channel.

7



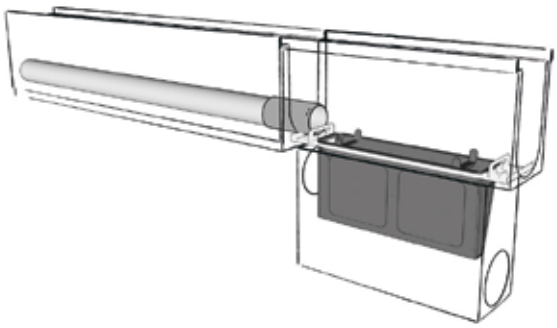
☐ Lay adjacent surfaces. The infill material of the artificial turf and the upper edge of the channel should be at the same level.

8



☐ Open the gratings and put them aside with the locking handle and screws. Sweep out the channel and empty the sludge trap bucket.

9

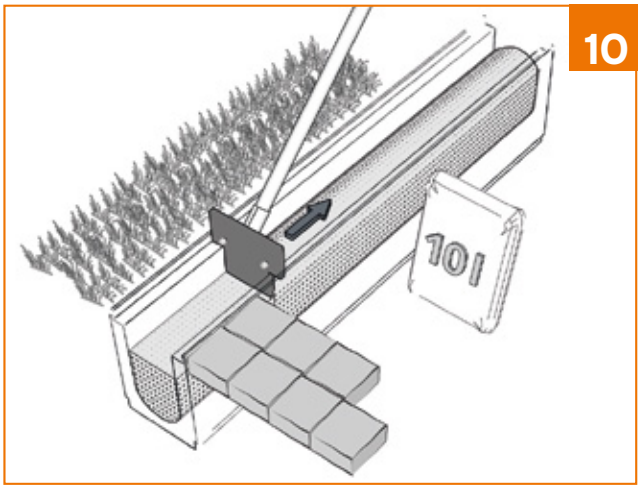


☐ Insert an open filter pipe into the trash box with the socket in front until it stops. Connect further open pipes with a socket. Connect the pipes with an additional socket in the middle between two trash boxes. The filter pipes closed on one side are to be placed in the corners as closure.

Professional Tip

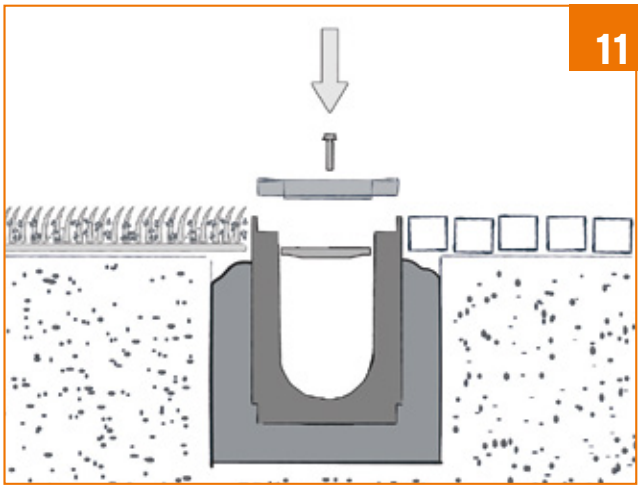
- **Note on screw connection:** Tighten the screw with four turns after positioning
- Store excess substrate in a dry place until the first maintenance

10



☐ Fill in filter substrate (approx. 10 l per channel element) and level with the aid of the levelling device.

11



☐ Clean the recesses, reinsert the locking handle and gratings and screw back in place.

YOUR BENEFITS WITH **SPORTFIX** CLEAN particle trap element

IDEAL FOR SPORTS FIELDS

- infill material and artificial grass blades from the players' shoes and clothing are brushed off and collected
- can be flexibly adapted to local conditions through modular installation
- depending on the substrate, outlet can be used as seepage or pipe connection
- less debris in changing rooms, cars and washing machines

= COST SAVINGS / FLEXIBILITY

HIGH-GRADE MATERIAL

- **RECYFIX** - stable and almost unbreakable
- 100% recycled channel body (and also 100% recyclable)
  → 100 % environmentally friendly
- sturdy mesh grating for support and reinforcement
- metal angle housing on both sides for connecting various surface coverings

= QUALITY & PERFORMANCE ASSURED

ENVIRONMENTALLY FRIENDLY

- reliably retains microplastics from artificial turf and running track surface
- filters heavy metals and other pollutants such as PAH
- purified water can seep into the ground water or be collected in a cistern for reuse as service water

= QUALITY & PERFORMANCE ASSURED

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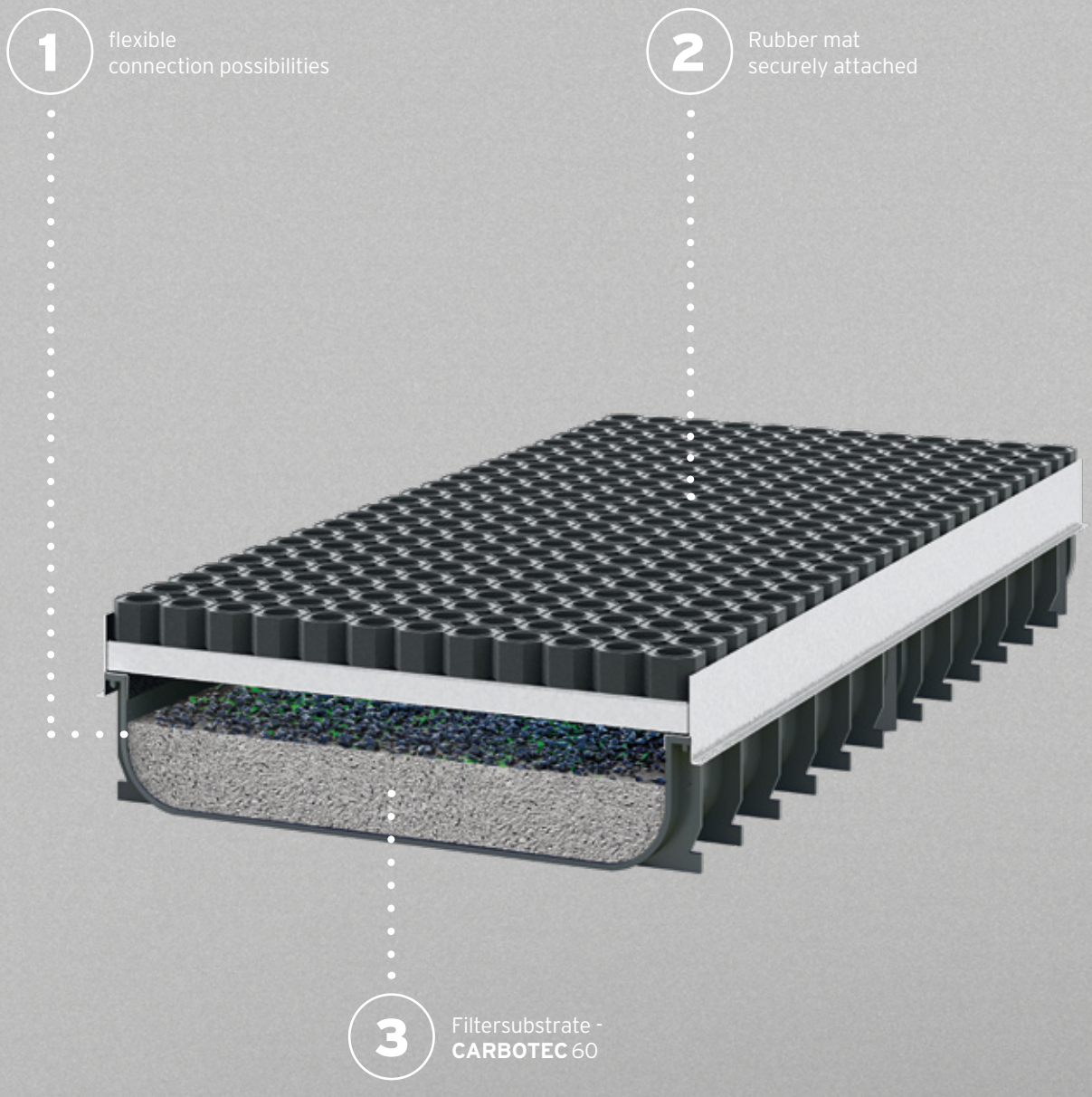
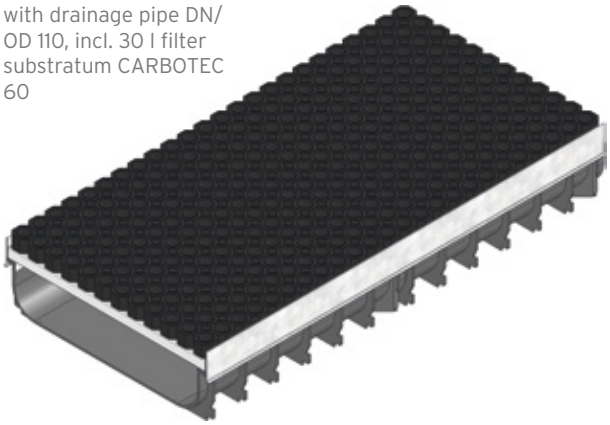
IDEAL FOR ...
the player exit of artificial turf pitches.

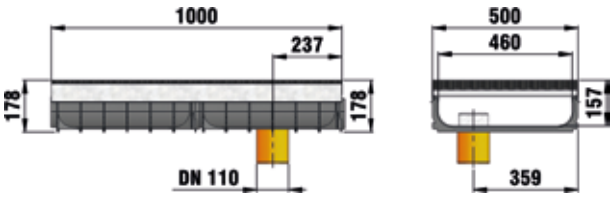


SPORTFIX CLEAN particle trap element for player exit

SPORTFIX®CLEAN particle trap for player exit

with drainage pipe DN/ OD 110, incl. 30 l filter substratum CARBOTEC 60

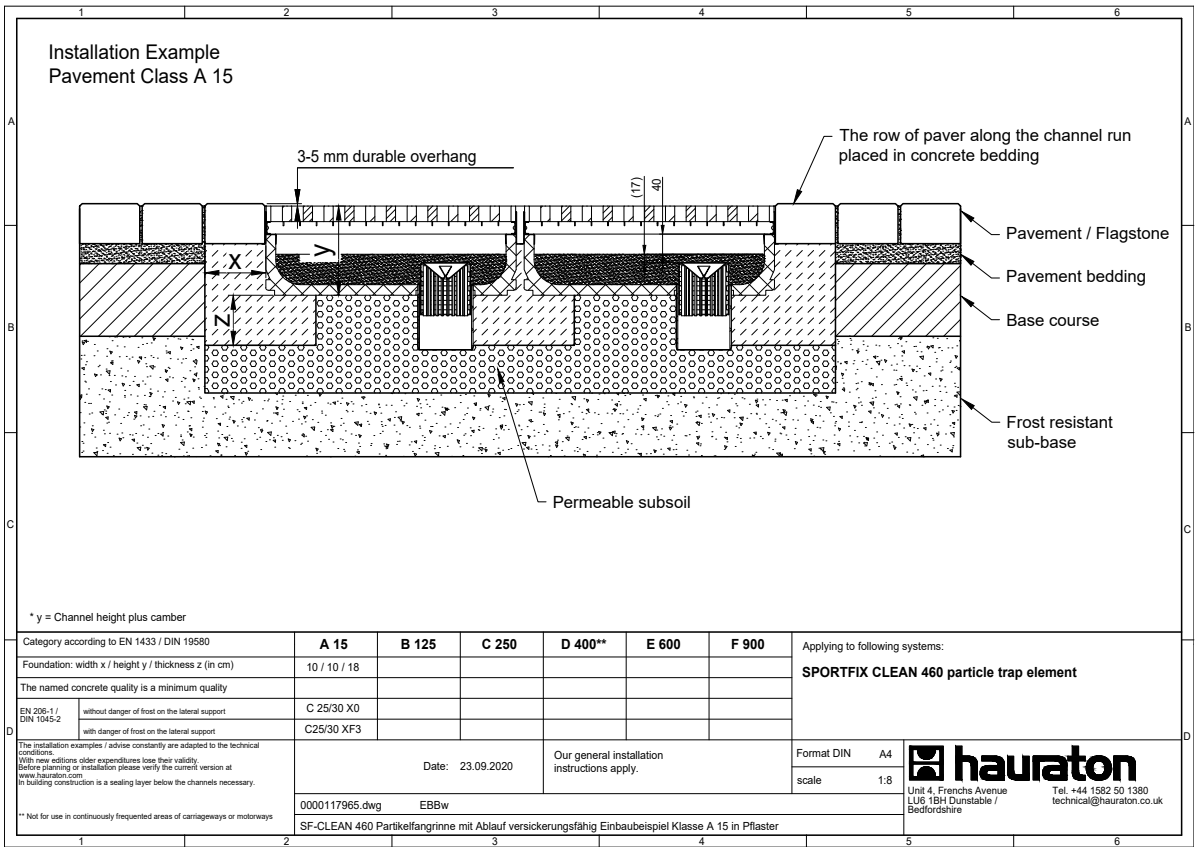




End cap

	Länge mm	Breite mm	Höhe mm	Lichter Rinnen-querschnitt cm²	Einlauf-querschnitt cm²/m	Gewicht kg	Artikel Nr.
Particle trap with drainage pipe DN/OD 110, incl. 30 l filter substratum CARBOTEC 60	1000	500	-	-	-	21,77	7712
Particle trap incl. 30 l filter substratum CARBOTEC 60	1000	500	-	-	-	19,30	7733
End cap	-	500	173	0,50	-	0,50	7248

SPORTFIX CLEAN particle trap element installation



Category according to EN 1433 / DIN 19580		A 15	B 125	C 250	D 400**	E 600	F 900
Foundation: width x / height y / thickness z (in cm)		10 / 10 / 18					
The named concrete quality is a minimum quality							
EN 206-1 / DIN 1045-2	without danger of frost on the lateral support	C 25/30 X0					
	with danger of frost on the lateral support	C25/30 XF3					

Applying to following systems:
SPORTFIX CLEAN 460 particle trap element

The installation examples / advise constantly are adapted to the technical conditions.
With new editions older expenditures lose their validity.
Before planning or installation please verify the current version at www.hauraton.com
In building construction is a sealing layer below the channels necessary.

** Not for use in continuously frequented areas of carriageways or motorways

Date: 23.09.2020

Our general installation instructions apply.

Format DIN A4
scale 1:8

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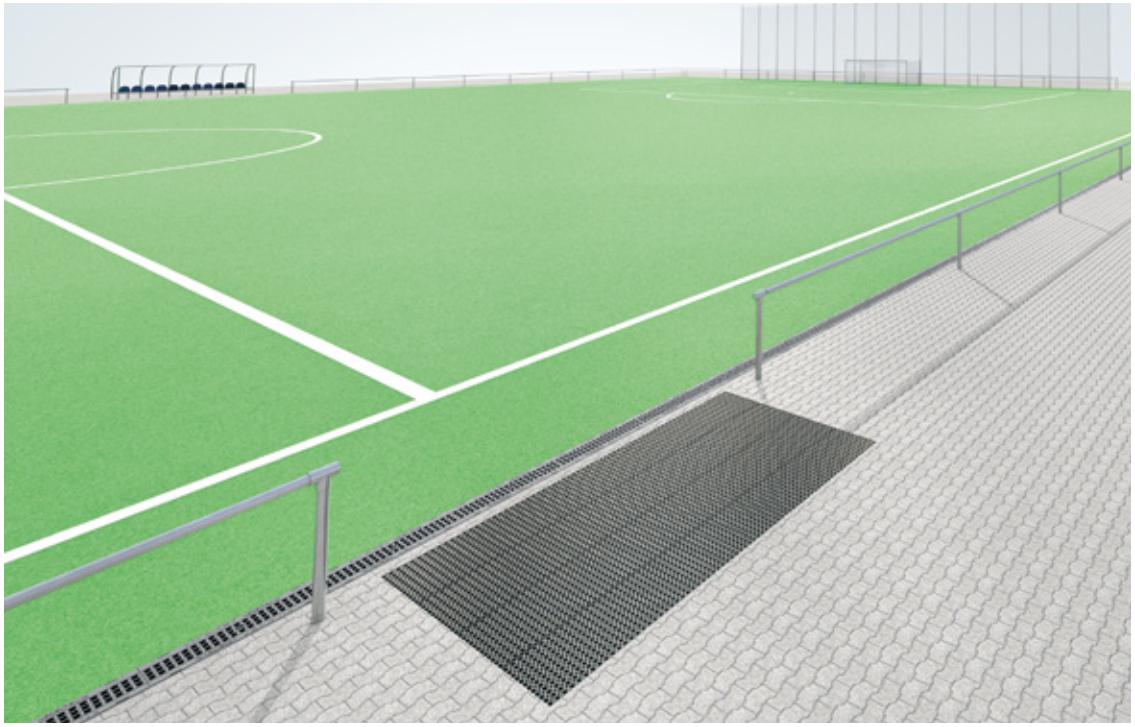
0000117965.dwg EBBw

SF-CLEAN 460 Partikelfangrinne mit Ablauf versickerungsfähig Einbaubeispiel Klasse A 15 in Pflaster

SPORTFIX CLEAN particle trap element installation plan



Location and size can be individually adapted to the local conditions.
We recommend a minimum size of 3 x 2 m.

YOUR BENEFITS WITH **SPORTFIX** CLEAN snow trap channel

EFFICIENT AND INDIVIDUAL

- 1 metre overall length allows for flexible pitch sizes
- collection point size can be easily adapted according to snowfall and local conditions
- can be combined with mobile sheet piling or other windbreak devices in case of high risk of drifting
- is not an obstacle when not being used in summer

= FLEXIBILITY & PERFORMANCE ASSURED

PRE-ASSEMBLED READY FOR INSTALLATION

- channel and grating = one element
- filter pipe and filter substrate provided per metre ready for installation
- easy handling on construction site

= TIME & COST SAVINGS

HIGH-GRADE MATERIAL

- **RECYFIX** - stable and almost unbreakable
- 100% recycled channel body (and also 100% recyclable)
  → 100 % environmentally friendly
- elastic and particularly robust material

= QUALITY ASSURED

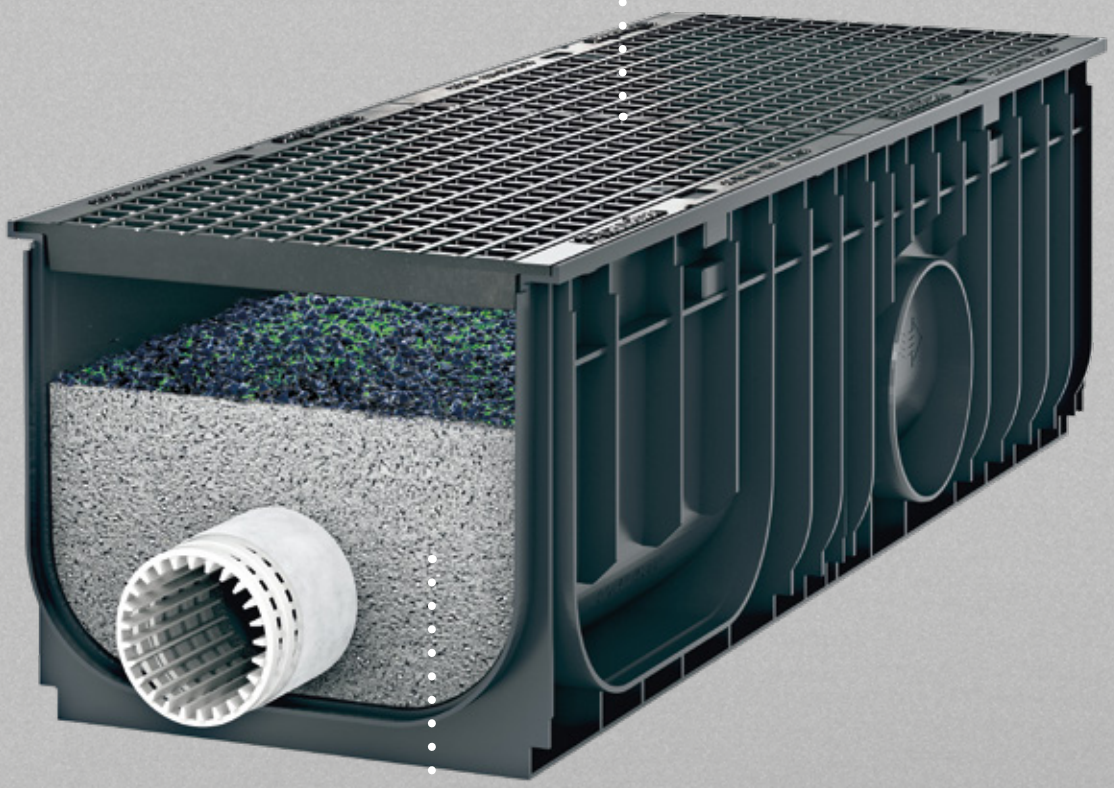
ENVIRONMENTALLY FRIENDLY

- reliably retains microplastics from artificial turf and running track surface
- filters heavy metals and other pollutants such as PAH
- purified water can seep into the ground water or be collected in a cistern for reuse as service water

= QUALITY & PERFORMANCE ASSURED

IDEAL FOR ...

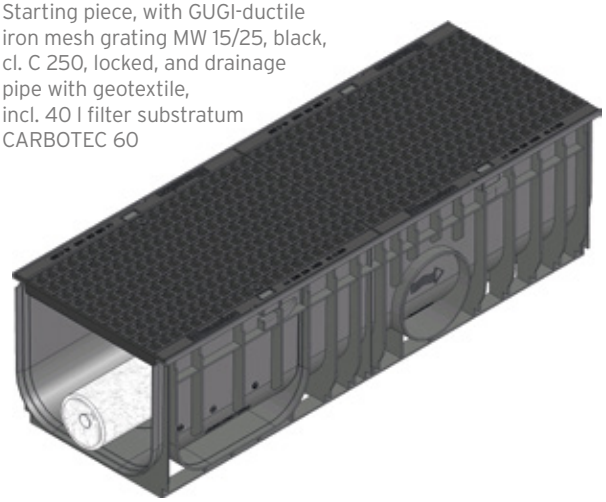
sports facilities with artificial turf in regions with heavy snowfall to collect the microplastics carried away during snow removal.

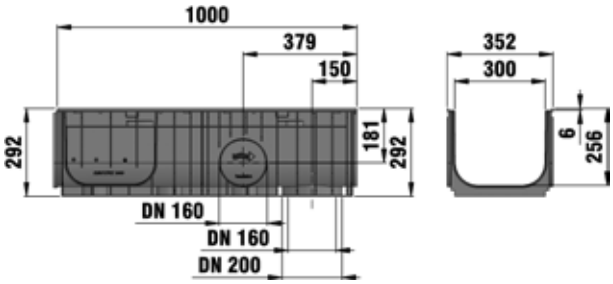


SPORTFIX CLEAN snow trap channel

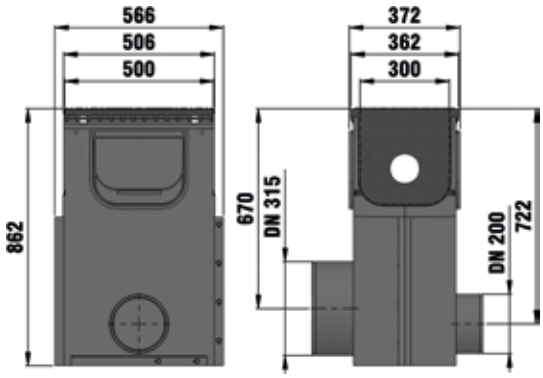
SPORTFIX®CLEAN 300 snow trap channel

Starting piece, with GUGI-ductile iron mesh grating MW 15/25, black, cl. C 250, locked, and drainage pipe with geotextile, incl. 40 l filter substratum CARBOTEC 60





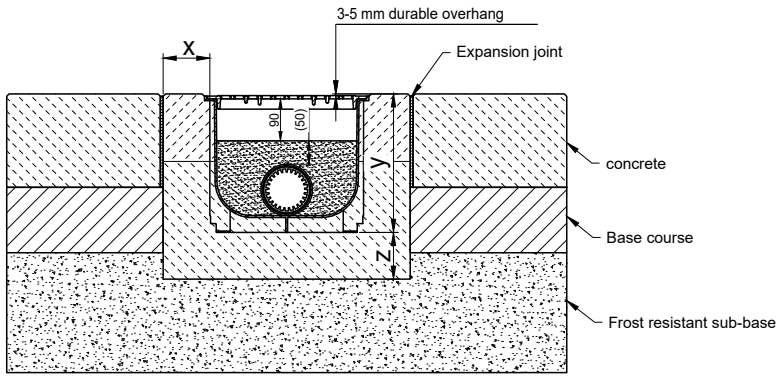
Trash box with ductile iron grating closed, KTL, class C 250, locked, with galvanised bucket, with end cap and hole DN/OD 110



	Länge mm	Breite mm	Höhe mm	Lichter Rinnen-querschnitt cm²	Einlauf-querschnitt cm²/m	Gewicht kg	Artikel Nr.
Starting piece, with GUGI-ductile iron mesh grating MW 15/25, black, cl. C 250, locked, and drainage pipe with geotextile, incl. 40 l filter substratum CARBOTEC 60	1000	352	292	725	1322	31,80	7716
Intermediate piece, with GUGI-ductile iron mesh grating MW 15/25, black, cl. C 250, locked, and drainage pipe with geotextile, incl. 40 l filter substratum CARBOTEC 60	1000	352	292	725	1322	31,80	7717
End piece, with GUGI-ductile iron mesh grating MW 15/25, black, cl. C 250, locked, and drainage pipe with geotextile, incl. 40 l filter substratum CARBOTEC 60	1000	352	292	725	1322	31,80	7718
Trash box with ductile iron grating closed, KTL, class C 250, locked, with galvanised bucket, with end cap and hole DN/OD 110	500	362	862	-	-	47,73	7715

SPORTFIX CLEAN snow trap channel installation

Installation Example
Concrete Class A 15 - C 250



* y = Channel height plus camber

Category according to EN 1433 / DIN 19580		A 15	B 125	C 250	D 400**	E 600	F 900
Foundation: width x / height y / thickness z (in cm)		10 / * / 10	10 / * / 10	10 / * / 15			
The named concrete quality is a minimum quality							
EN 206-1 / DIN 1045-2	without danger of frost on the lateral support	C30/37 XF4, XM1	C30/37 XF4, XM1	C30/37 XF4, XM1			
	with danger of frost on the lateral support	C25/30 XF3	C25/30 XF3	C25/30 XF3			

Applying to following systems:
SPORTFIX CLEAN 300 snow trap channel

The installation examples / advise constantly are adapted to the technical conditions.
With new editions older expenditures lose their validity.
Before planning or installation please verify the current version at www.hauraton.com
In building construction is a sealing layer below the channels necessary.

** Not for use in continuously frequented areas of carriageways or motorways

Date: 16.09.2020

Our general installation instructions apply.

Format DIN A4
scale 1:8

0000117927.dwg EBBw

SF-CLEAN StaL 300 Schneeafangrinne Einbaubeispiel Klasse B125 in Beton

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SPORTFIX CLEAN – Snow removal as a discharge path for infill material

On artificial turf pitches, snow removal results in a considerable amount of microplastics. The particles mixed with snow accumulate on the snow collection areas. The snow melts and gradually releases the environmentally harmful particle load. The microplastics must therefore be collected and retained at this location. By using SPORTFIX CLEAN snow trap channel, these solids are filtered out of the melt water and retained.

Artifical Turf Pitch in Bühl:

SPORTFIX CLEAN **Channels retain microplastic and corc**

City of Bühl environmentally conscious

During the renovation of the former school and club sports field of the Baden city of Bühl, the existing hard pitch was converted into a modern artificial turf pitch. The project was implemented with a special focus on environmental compatibility.

In order to minimise the discharge of plastic particles, Bühl decided to use cork as infill material. To prevent infill material and broken particles of the artificial turf from escaping into the environment, 208 metres of SPORFIX CLEAN were installed around the sports field during the conversion. The filter system retains the discharged microplastics and at the same time provides surface dra-ninage. Accumulating water is quickly and reliably drained and filtered from the sports field.

Reliable function and less maintenance

The SPORTFIX CLEAN channel filter system offers a high degree of safety for the operator. The maintenance effort is very minimal. The filter system can be in use for decades and functions safely and reliably. The long maintenance intervals are a great advantage for the operator. SPORTFIX CLEAN was awarded the Environmental Technology Prize from the state of Baden-Württemberg in 2019.

Easy installation - reliable drainage and infiltration

The old drainage system and the surface covering were first removed from the existing hard court. Once the subgrade had been created - as the basis for the channel runs - the SPORTFIX CLEAN channels were installed. The channel elements are light and therefore very easy to handle. They consist of recycled composite material and are extremely robust and insensitive to breakage.

1. Trash boxes were set and connected to the channel
2. Channel runs were installed along the edge of the pitch on the concrete foundation
3. Channel stabilised with haunched concrete
4. Fitting pieces of channels and gratings were produced with standard tools directly on the construction site

5. Prefabricated drainage pipe was inserted starting at the trash boxes
6. Mineral filter substrate was filled in, removed with a strickle and brought to a uniform level
7. The gratings were inserted and screwed together using a locking handle system

After the drainage pipes on the pitch had been completed, the artificial turf surface could be laid and the cork granulate applied.

The channel filter in operation

In Bühl the channels were installed on both side-lines of the pitch. The channel body with grating and the textile-coated drainage pipe are part of the system together with the patented filter material CARBOTEC 60. The frost-resistant, mineral sub-strate retains the plastic particles washed out by precipitation. This is surface filtration.

On the Bühl sports field, the filter area at the edge of the playing field totals over 20 square metres. This allows large quantities of solids to be absorbed and retained. Function is guaranteed even during heavy rainfall events. The channel filter is also dry-running, which means that it is not continuously filled with water. Decomposition processes and the release of pollutants are thus prevented.

FAQ

1. Does the operating principle of SPORTFIX CLEAN distinguish between microplastics (plastic fine abrasion) and plastic components (infill materials)?

The primary distinction in the treatment of microplastics is between the form of origin and the components. The focus is on the size of the particles that occur on artificial turf pitches. The patented filter substrate CARBOTEC 60 has a specific, defined grading curve and follows the principle of surface filtration. This is intended to filter out as many types and shapes of plastic particles as possible. The principle of surface filtration has already proven itself in the drainage of traffic areas. Primarily, substances of the fine grain group AFS63 (filterable solids with a grain size of > 0.45 µm and </=63 µm) are to be retained, which is excellently achieved by the filter substrate CARBOTEC 60.

2. Why is microplastic from artificial turf so harmful?

The harmfulness of microplastics is a much-debated topic. Plastic particles have already been detected in zooplankton, the smallest link in the marine food chain. This is how it gets into our food. In addition, microplastics offer a high potential for binding pollutants due to their large surface area. These pollutants can include heavy metals (zinc, copper or lead). These are also reliably retained by the CARBOTEC 60 filter substrate and the purified water can be reused without hesitation for irrigation of green areas or as service water.

3. What maintenance costs per year were determined?

Assuming the expected input of approx. 300 kg of microplastics per year, evenly distributed over the corresponding filter surface, maintenance every 3 - 5 years is assumed. This figure can be derived from many years of experience in the treatment of rainwater with HAURATON's DRAINFIX CLEAN system at numerous sites in operation.

4. If a site with cork infill is planned, is a filter channel even needed?

Yes, even if cork is used as infill material instead of plastic, it is recommended to install a filter channel to effectively retain microplastic. In addition to the infill material, the abrasion of the blades of the artificial grass is a source of microplastics that must be retained.

5. The pitch has a gradient towards the sidelines. Is it sufficient to install channels only there?

Yes, this is possible because the long sidelines are also where most of the mechanical discharge takes place. However, we recommend installation on all four sides of the pitch, so that the discharge through wind and maintenance can be absorbed.

6. There are artificial turf suppliers who do without infill material completely. What is the filter channel then still needed for?

One square metre of artificial turf weighs around 2.5 kilograms, unfilled types of turf with denser fibres weigh even more. The fibres wear out during use. After about 12 - 15 years, the artificial turf must be replaced because the fibres have become too short. This means that several kilograms per square metre of abrasion are generated by the blades of grass alone, which must be filtered out, collected and retained.

Space for Your Notes

hauraton
IT'S RUNNING WELL

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