



CIVILS

LANDSCAPING

AQUA

SPORT

# Drainage Solutions for the Airport Industry



# RECYFIX®HICAP®

**Effectively drained - built modular.**

Drainage- and retention system for larger areas.

1

■ RECYFIX HICAP Channel 100 made of PE-PP channel body and inlet adaptor with integrated ductile iron grating

2

■ With the connecting plate the next nominal size is connected

3

■ RECYFIX HICAP Channel 150 made of PE-PP channel body and inlet adaptor with integrated ductile iron grating

4

■ T-connection for connection of leaks

5

■ RECYFIX HICAP Channel 200 made of PE-PP channel body and inlet adaptor with integrated ductile iron grating

6

■ RECYFIX HICAP Channel 300 made of PE-PP channel body and inlet adaptor with integrated ductile iron grating

7

■ RECYFIX HICAP Channel 680 made of PE-PP channel body and inlet adaptor with integrated ductile iron grating

8

■ End cap 100

9

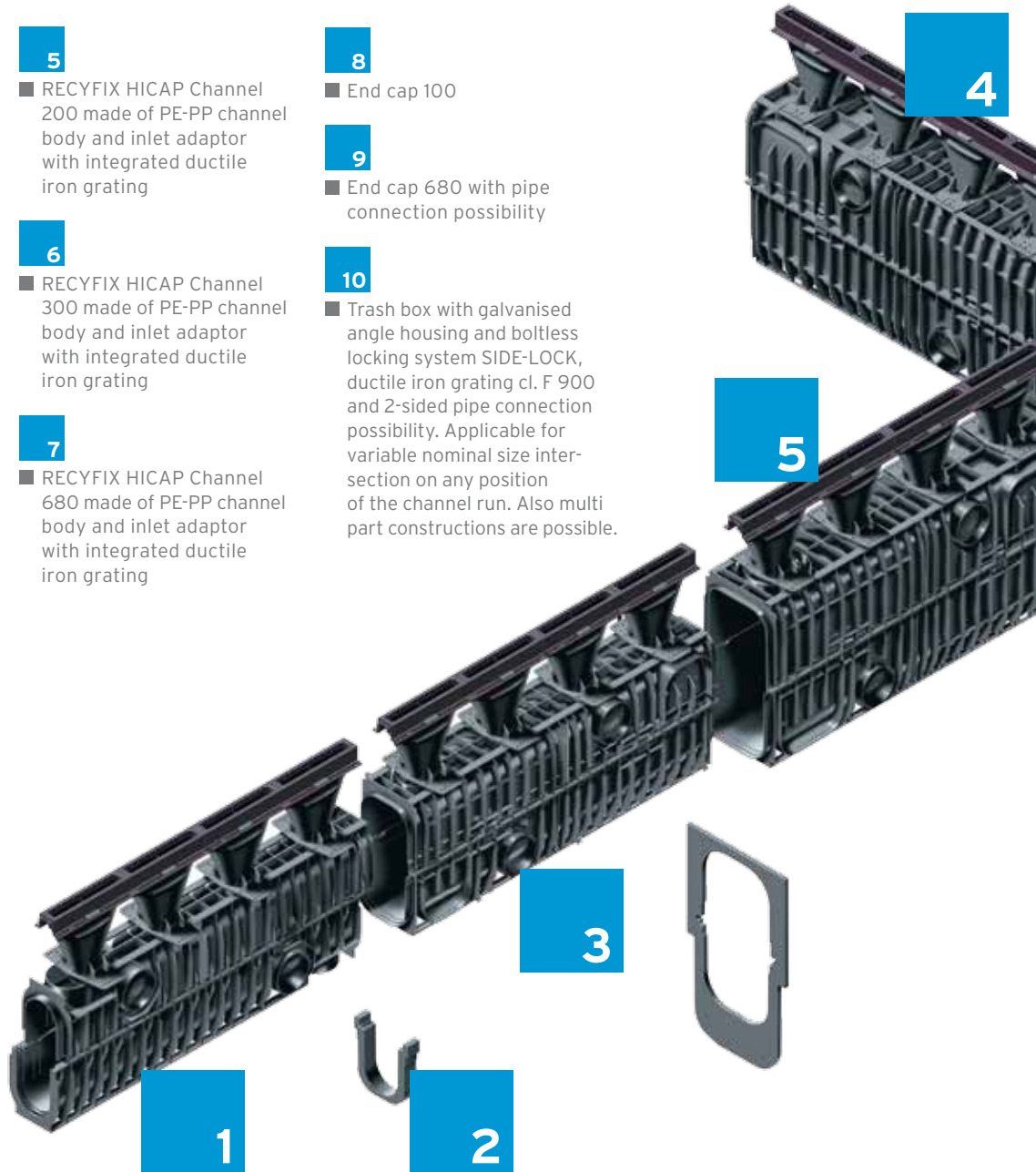
■ End cap 680 with pipe connection possibility

10

■ Trash box with galvanised angle housing and boltless locking system SIDE-LOCK, ductile iron grating cl. F 900 and 2-sided pipe connection possibility. Applicable for variable nominal size intersection on any position of the channel run. Also multi part constructions are possible.



8



1



2



3



5

## Types of slots

### RECYFIX®HICAP® F

Inlet adaptors made of PE-PP



Traffic



Pedestrian



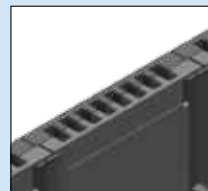
Industrial

### RECYFIX®HICAP® G

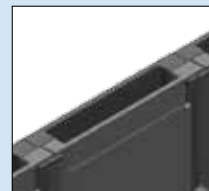
Inlet adaptors made ductile iron GGG-50



Traffic



Pedestrian \*



Industrial \*

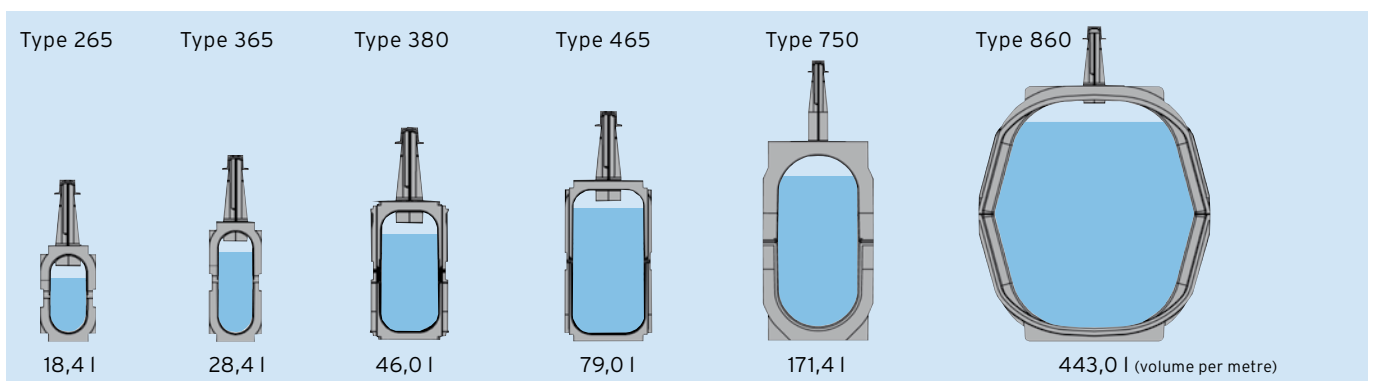
\* available from 2012



## At a glance:

- ✓ for highest loading capacities up to F 900
- ✓ easy handling and installation
- ✓ eco-friendly

### RECYFIX®HICAP®: channels with backwater volume



# RECYFIX®HICAP®F - Channels for Heathrow Airport in London

## Report from the field:

With 67 million travellers annually, Heathrow Airport in London is Europe's busiest airport. Worldwide it takes third place behind Atlanta and Chicago. This important hub in international air traffic is operated by BAA, British Airports Authority, the largest airport operator worldwide. 75 % of the British Airways fleet is based at Heathrow Airport.



At the southern section of the airport the British Airways service park was expanded. The construction site abutted right on the runway and taxiway. The demands on the new service site were immense: here airplanes of all types and sizes pass - including the Airbus A380, which was also a main reason for the reconstruction. The aircraft tugs alone weight 80 tons and, just as the airplanes, drive and turn on the traffic areas. The demands on the drainage systems are accordingly high.

### Project progress

In 1999 BAA was already supplied with FASERFIX SUPER channels for the Gatwick airport and installed in the British Airways hangars and Concorde maintenance hangars. One year later came the delivery of FASERFIX SUPER KS 100 channels for London City Airport.

The assigned engineering office was very satisfied with the quality and service. In 2003 BAA broached the topic of installation and handling of drainage systems. The main topic of the discussions was the extreme weight of the products and the associated high employment of machines during installation.

On multiple occasions HAURATON contacted various departments of BAA and presented the advantages of RECYFIX products (lightweight, easy handling, meets British "Health and Safety Regulations" = One-man-lift = max. 25 kg). Drainage channels from this line were presented in various meetings and BAA decided across the board to work with HAURATON in the area of RECYFIX.



### RECYFIX®HICAP® F - eco-friendly and ,easy to handle':

Another key criterion for BAA was recycling. Airport planning and operation are subject to stringent environmental requirements. Products made of recycled plastic are therefore especially suited.

Suppliers routinely need to present BAA with product innovations which offer cost savings in installation and maintenance. In 2006 the time came for HAURATON to present the new line RECYFIX HICAP. The feedback was very positive, with BAA immediately recognising the resulting advantage in installation and maintenance, and the installation at Heathrow was decided.

#### Installed:

- 380 m RECYFIX HICAP F 300
- 100 m RECYFIX HICAP F 200
- 100 m RECYFIX HICAP F 150



Lightweight elements, installed by one single worker.

### Other examples of RECYFIX®HICAP®



# FASERFIX<sup>®</sup> BIG

**Easy to install and drains quickly.**

For areas with industrial and heavy traffic loads.

## Reliable drainage - easy to install.

For maximum loads in heavy trafficked surfaces.

FASERFIX BIG channels meet the requirements of DIN EN 1433 and are suitable for the following load categories:



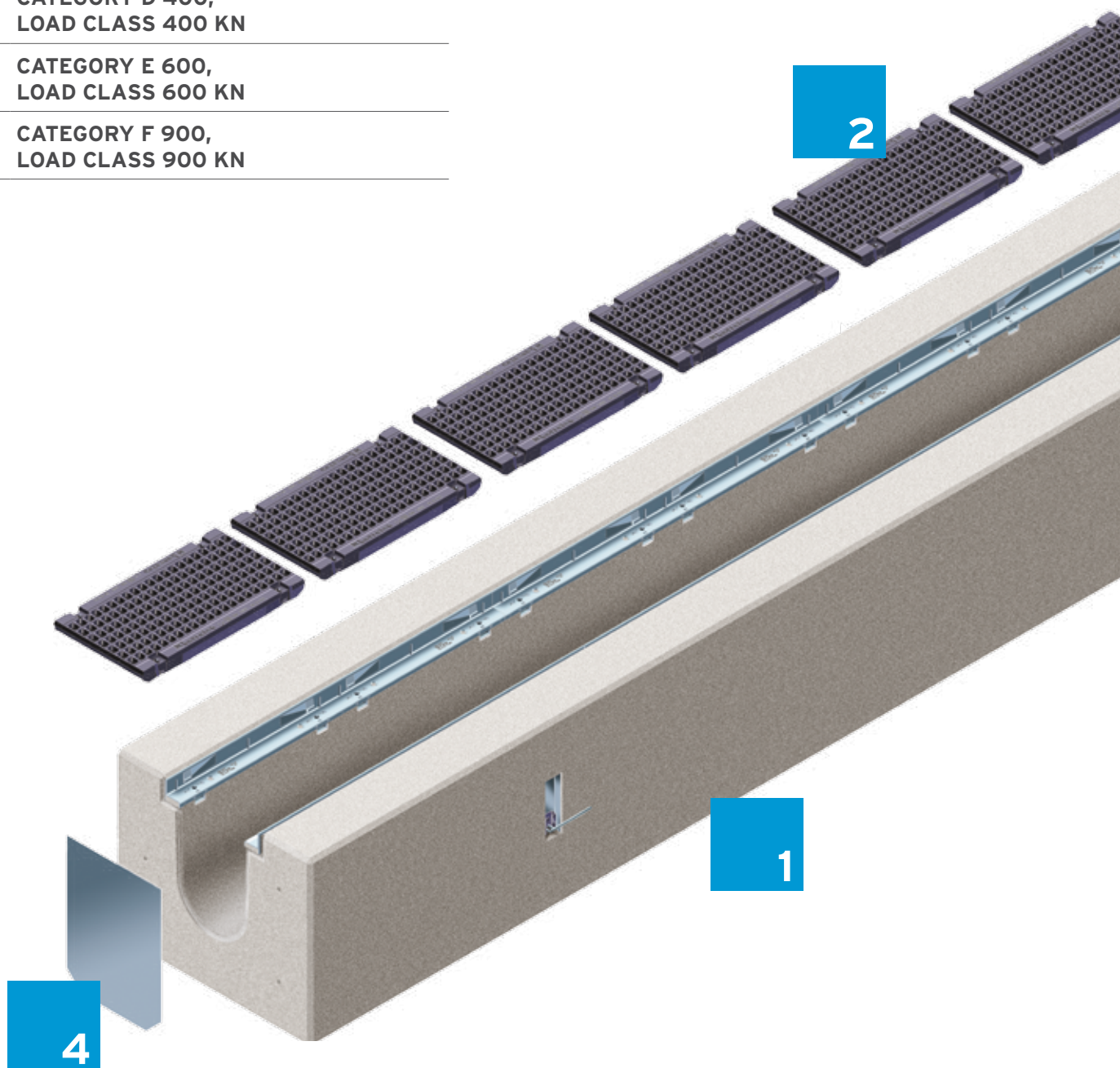
**CATEGORY D 400,  
LOAD CLASS 400 KN**

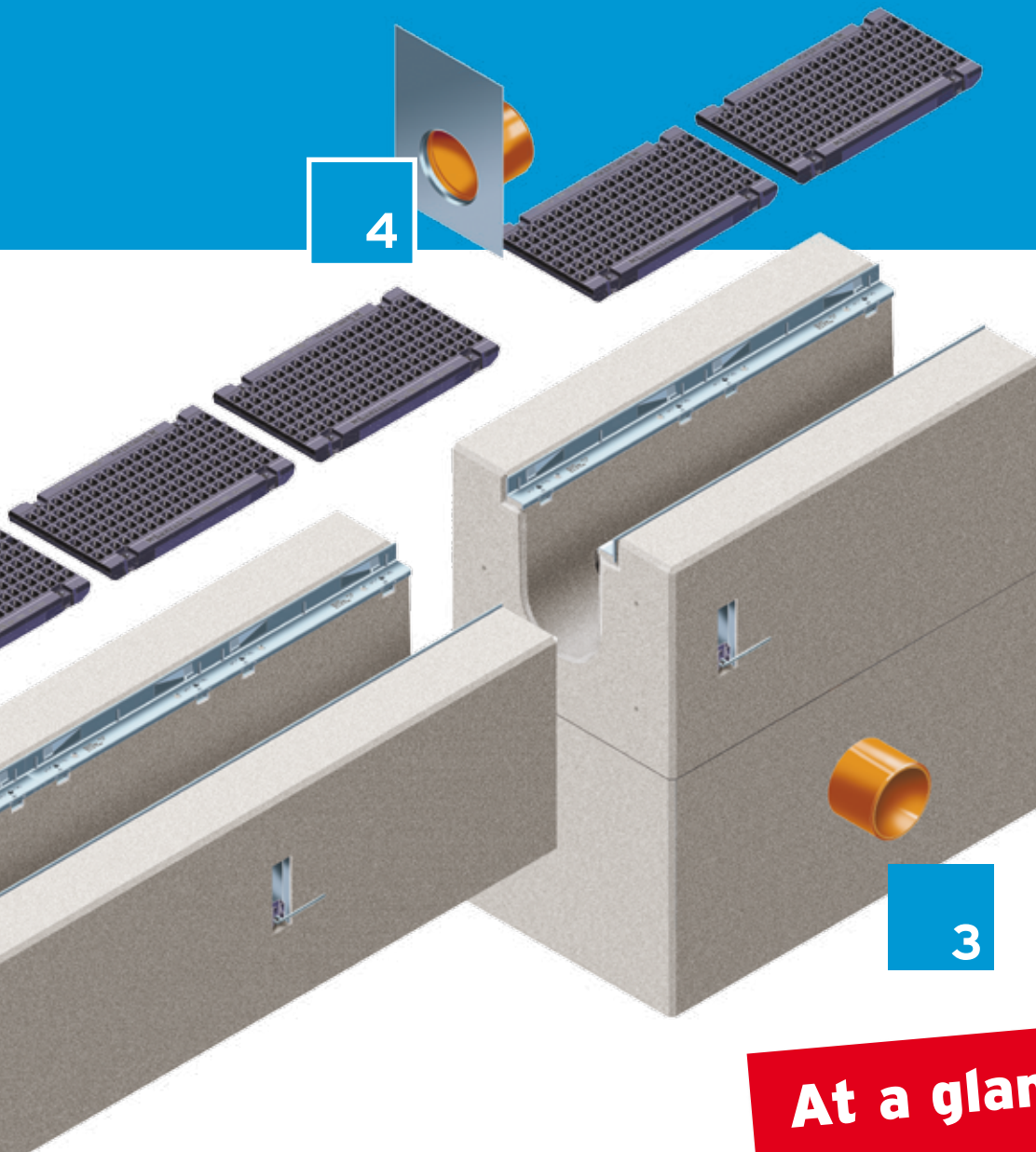


**CATEGORY E 600,  
LOAD CLASS 600 KN**



**CATEGORY F 900,  
LOAD CLASS 900 KN**





## At a glance:

- ✓ bespoke channels with very high lateral strength
- ✓ these can be used on the heaviest of applications including lorry parks and airports
- ✓ length of channel can vary giving a flexibility and making it quick and efficient to install

**1**  
 ■ Bespoke channels in concrete C 35/45 or fibre-reinforced concrete to DIN EN 1433, CE-compliant, with safety joint, steel frame and SIDE-LOCK boltless locking system, long segments allow efficient installation

**2**  
 ■ Numerous grating options, e.g. GUGI-Ductile iron mesh gratings

**3**  
 ■ Inlet bucket with integrated KG sleeve in DN 150 and galvanised steel bucket

**4**  
 ■ End caps with and without outlets

# FASERFIX®BIG for Airport Extension in Budapest (Ferihegy)

## Report from the field:

Ferihegy is Hungary's largest airport and lies to the east of the capital, Budapest. The airport handles more than eight million passengers a year. In the last few years alone, the rise in passenger numbers has grown by an average 18 per cent per annum, and the operators are forecasting an increase to ten million passengers by 2010. In the years to come, Ferihegy Airport is expected to further consolidate its position in Central and Eastern Europe in terms of growth, service quality and efficiency.

To this end, the airport's infrastructure is being fundamentally developed and modernised. In the first stage, the activities are concentrating on the extension of Terminal 2. What is remarkable here is that air traffic will be permanently maintained throughout the entire building phase. Which is why only suitable systems - which can be installed in a simple and expeditious way and are capable of withstanding the extreme loads - have been chosen for the drainage of the aviation surfaces.



### FASERFIX®BIG SL

**Safely drained - quickly installed.**

**For maximum loads in heavy traffic.**

It was not long before the team of HAURATON Hungary - particularly managing director Istvan Kajtar - were able to convince the building planners of the advantages of FASERFIX BIG SL. The fibre-reinforced concrete channels are fitted with wear-resistant benching protection, made of solid galvanised steel, and are particularly suited to frequent and extreme stress. The installation does not require expensive and elaborate measures, such as extra in-situ concrete channel benching, which needs to be formed and reinforced. Instead, the channels are fitted simply on a concrete foundation. Once the base and the surface coverings have been fixed directly to the channel, the drainage systems can be put to use immediately. This allows construction costs and time to be significantly reduced - a superb argument where the airport extension is concerned.

The hydraulic calculation, which was carried out at no extra cost in line with the planners' specifications, necessitated the quantities of 210 m FASERFIX BIG SL 150 and 1.745 m FASERFIX BIG SL 200. The installation was carried out with the aid of customised installation drawings, which were also provided free to the builder.

In the meantime the channel installation is complete. The products can then prove their excellent suitability in the everyday load situation.





# Some further airport references

- London Heathrow Airport, UK
- Ferihegy Airport, Budapest, Hungary
- Brussels Airport, Belgium
- Frankfurt Airport Centre, Germany
- Hannover-Langenhagen Airport, Germany
- Nuremberg Airport, Germany
- Aulnat Airport, France
- Beauvais Airport, France
- Nice Airport, France
- Airport Blue 1, aircraft Hangar Helsinki-Vantaa, Finland
- Cork Airport, Ireland
- Falconara Airport, Italy
- Swidwin military airport, Poland
- Biggin Hill Airport, Kent, UK
- Newquay Airport, Cornwall, UK
- Capodichino, Naples, Italy



# Installation

## Sample installation RECYFIX<sup>®</sup>HICAP<sup>®</sup>



## Sample installation FASERFIX<sup>®</sup>BIG



# Ranges for airport infrastructure

## FASERFIX®SUPER KS / FASERFIX®SUPER

Extremely robust drainage system for heavy goods vehicles.

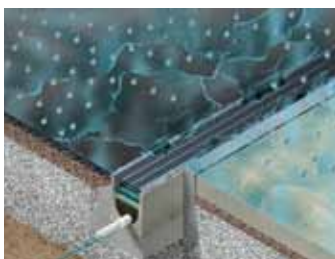


- channels are manufactured from a fibre reinforced concrete which makes them extremely strong
- The patented boltless locking system SIDE-LOCK for the gratings gives ease of installation saving time and money
- many different gratings available giving the range enormous flexibility



## DRAINFIX®CLEAN

Heavy duty channel and filter system with proven cleansing performance for cleansing of stormwater runoff at source.



- intelligent solution for the draining, collection and treatment at source of storm water runoffs
- FASERFIX SUPER channels complete with ductile iron gratings up to loading category F900
- Each channel contains a carbon rich substrate filter through which the cleansing of the storm water runoff occurs; pollutants such as zinc, copper, lead and fuel hydrocarbons as well as fine particles are trapped within the substrate material. The channels also offer large retention capacities that allow the system to handle high volumes of water.



## DRAINFIX®BLOC

Stable, safe and extremely strong soakaway seepage units for industrial and commercial areas.



- infiltration ditch with high storage capacity
- system for high installation depths, durable and permanent assured
- proofed static loading capacity up to SLW 60 for installation under driven areas



## DRAINFIX®TWIN

Seepage system with high volume in the smallest space for use under light traffic roads.



- very large storage volume
- flexible installation alignment due to variable combinations
- combination of seepage and retention possible



# Ranges for airport buildings

## RECYFIX®PRO

Innovative drainage system made of PE-PP and PA-GF for installation in pedestrian areas, walkways and domestic driveways.



- Channel made of PE-PP and grating made of high-quality PA-GF (Polyamide)
- drainage system according EN 1433
- lightweight, robust and easy to install



## RECYFIX®PLUS

Stable drainage with edge protection and attractive design for trafficked areas up to loading capacity D 400.



- highly stable
- the steel edge means it is easier to use on many applications including tarmac and also adds to the aesthetics
- an extensive range of channels and gratings up to 300 mm width gives flexibility in design



## SLOTTED CHANNELS

Design led product with high draining capabilities for applications like pedestrian areas where the aesthetics are important.



- can be used in a very wide spectrum of applications
- can be used in conjunction with all types of paving and stones
- also available with an asymmetric slot for facades



## CUSTOMISED DRAINAGE SOLUTIONS

Customised drainage solutions with special design for high visual demands.



- products available in galvanised, stainless or corten steel or different coatings for highest optical demands
- wide range of channels and gratings
- available also in radial version, i.e. for revolving doors





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