



**CIVILS**

**LANDSCAPING**

**AQUA**

**SPORT**

# **CUSTOMISED DRAINAGE**

**solutions**



## Customised solutions

**Specially designed drainage with high aesthetics.**

Modern architecture makes special demands in many areas - and surface drainage is no exception. As well as functioning reliably over the long term, the systems also have to be flexible and individually adaptable to any construction project. HAURATON goes into the specific requirements of each project and collaborates with the architect as early as the pre-planning phase.

A specialist team is devoted to dealing with customised solutions - from pre-planning to on-time delivery and assistance during installation. A suitable solution is therefore found for each application maximising the functional and design requirements.



Service package planner

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Materials

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**Design square channels**

10



**DESIGN LINE**

Solid and stable - down to the last detail.

12



**SLIM LINE CHANNELS**

SLIM LINE, elegant and extremely flexible.

20

**OTHER PRODUCTS TO CONSIDER**

31

**RECYFIX® PRO** channels with **FIBRETEC®** grating

**STAINLESS STEEL PERFORATED** grating

**Design slotted channels**

32



**Symmetrical Design slotted channels**

Visually retentive facade drainage.

34



**Symmetrical Design slotted channels**

Unobtrusive removal of water from surfaces and open spaces.

35



**Additional components**

Individual gratings for channels and single point inlets from the standard product range.

44

# Service package planner

**Good teamwork is the basis for a perfect result.** HAURATON collaborates with architects and planners as early as the pre-planning stage, and provides assistance in the form of a free service quote.

## Individual planning support

Solving the many and diverse surface water drainage requirements requires in-depth knowledge, considerable expertise and comprehensive experience. Our office-based and field service engineers have in-depth technical and product-specific knowledge. This guarantees that you will receive qualified, individual advice. Particularly if you require anything out of the ordinary with regard to functionality and design, we will support your individual construction project - from project-specific tender text to production. Give us a call or send us an e-mail! We are there for you at all times, and would be pleased to reply to your individual questions concerning drainage.

## System and sizing

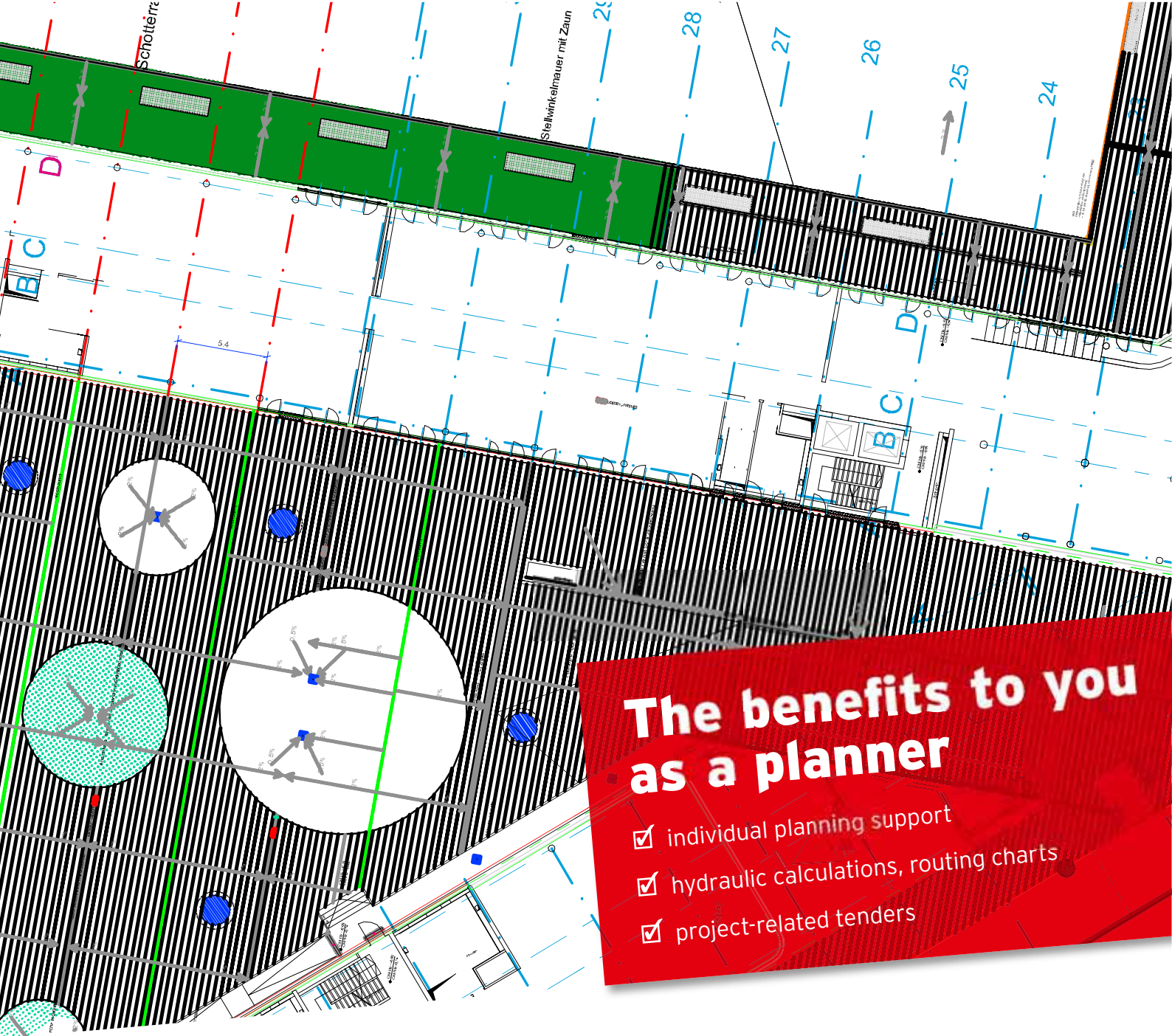
As well as producing hydraulic performance calculations, we also draw up project-related routing plans. The CAD charts show the exact locations of the drainage channels and the positions of end caps, trash boxes and other accessories. A part list containing the names and quantities of the required products completes the service. We also need your project-specific information to produce the routing plans. The routing plans are also produced free of charge. Take advantage of our offer!

## Hydraulics

The functionality of a drainage system mainly depends on the hydraulic performance of the built-in drainage channels. In order to make it easier to make a correct decision on the type of drainage channels and the routing thereof, we produce hydraulic performance calculations for your particular project. The program for measuring hydraulic performance of our drainage channels was developed by the University of Prague. The staff in our CAD department just need various items of information such as the size of the area to be drained, the type of surface covering, the rainwater yield, the channel type etc.

This service is free of charge, of course! Speak to our field service and office-based employees.





# The benefits to you as a planner

- ✓ individual planning support
- ✓ hydraulic calculations, routing charts
- ✓ project-related tenders

**hauraton**

Hydraulische Berechnung der Rinnenkapazität

hauraton

Empfehlungen für Fließgeschwindigkeit

Errechnete Werte

Fließgeschwindigkeit	0,28 m/s
Fließhöhe	1,04 cm
Fließbreite	0,27 m
Fließquerschnitt	0,073 m²
Fließleistung	0,021 m³/s
Fließleistung pro Meter	0,021 m³/s



# Materials

High-quality materials give individually manufactured channels from HAURATON their unique appearance, and provide reliability at all times.

## Stainless steel



Stainless steel channels from HAURATON are made from stainless chromium nickel steel in material grades stainless steel 304 and 316. This makes them corrosion resistant.

Stainless steel 304 is the standard for austenitic chromium nickel steels. Because of the high level of corrosion resistance, the good processing capability and the attractive appearance in high-gloss polished, sanded or brushed condition, it is the basis for our products.

Stainless steel 316 is of higher quality. This steel is extremely resistant to media containing chloride and non-oxidising acids. The type of surface plays a major part in the corrosion resistance of this material; with a polished surface the resistance is considerably better compared to the same material with a rougher surface.

## Galvanised steel



Hot-dip galvanising provides extremely long-lasting and cost-effective corrosion protection, and has advantages that are unique in corrosion protection technology. When hot-dip galvanising takes place, the steel is pre-treated and then immersed in a bath of molten zinc at a temperature of approximately 450°C. The zinc and the steel react with each other. An iron/zinc alloy forms on the surface of the steel. This inseparable connection between the zinc and the steel provides protection that is significantly different from any other method. Hot-dip galvanised surfaces are not just protected from the weather but also from mechanical stress - for decades. Under normal conditions, hot-dip galvanising provides protection from corrosion for up to 50 years, and even under considerable stress, protection is usually provided for more than 25 years.

The above-mentioned hot-dip galvanising process describes single piece galvanising (discontinuous process) A special type of hot-dip galvanising is strip galvanising (continuous process), in which a steel strip from a roll runs through the galvanising system. This material is also suitable for manufacturing drainage products.

## Corten steel



Corten steel is a steel alloy that is characterised by being extremely weather resistant. The surface thereof is coated with extremely dense iron oxide, which is responsible for a high level of rustproofing: it acts as a barrier layer and gives the product the required rust-red appearance. Corten steel is used at HAURATON specially for manufacturing distinctive gratings.

### Note

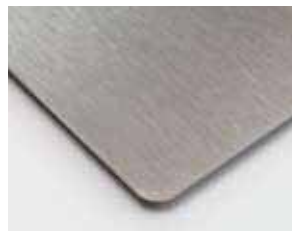
Drainage systems made from steel or stainless steel are permanently exposed to the weather and the environment. In order to avoid corrosion and retain a permanently high-quality appearance, regular cleaning and care is required.

## Surface treatment

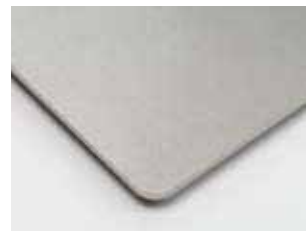


Metal surfaces can be treated using different methods depending on the appearance that is required. A wide range of visual results can be achieved in this way, particularly for channel gratings: The following methods are available at Hauraton:

■ brushed



■ sandblasted



■ polished



■ glass bead blasted



■ pickled



■ coated



# Planning reliability

**Processes and products ARE carefully monitored at HAURATON.**

This allows HAURATON to provide its customers with maximum reliability as a partner.

## Quality certification in accordance with ISO 9001:2008

HAURATON was one of the first construction industry companies to achieve ISO 9001 quality certification in 1993. The quality standards have been subjected to continuous further development, and are certified at regular intervals.

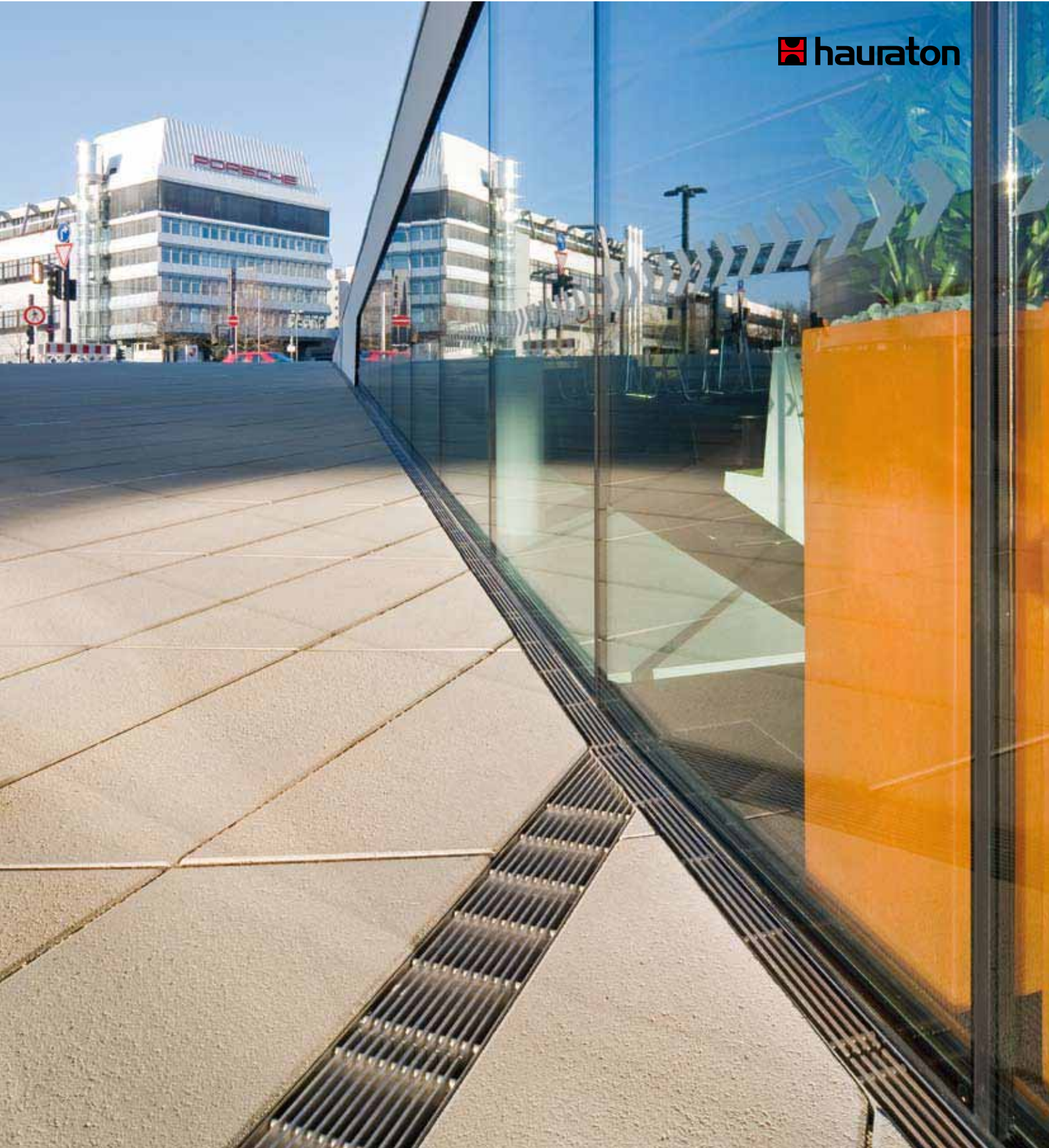
The ISO 9001:2008 quality requirements do not just concern products alone, but the entire company. This includes development, construction, production, installation and customer service. With ISO 9001:2008 quality management, HAURATON is providing its customers with maximum reliability as a partner.

## Load classes based on EN 1433

Maximum quality and the best processing ensure that the channels are functional and have a high-quality appearance for many years. The products are designed and manufactured on the basis of EN 1433. Within the construction industry, HAURATON is one of the first manufacturers to voluntarily give a 5-year warranty.







### **Maximum flexibility and adaptability**

Individually manufactured channels from HAURATON provide a considerable amount of flexibility in terms of length, width and height, and are manufactured to millimetre accuracy in accordance with customer specifications. The laying speed has been increased considerably by having sections up to 3 metres in length. The products

can be manufactured with a polygonal or radial design for curved installations. In these cases, pre-cut sections and radii are adapted to the special requirements of each project. A wide variety of gratings is available for providing a high-quality appearance.

# Design square channels



## Design square channels

Design square channels are available with two different designs: as DESIGN LINE or SLIM LINE CHANNELS.

The difference lies in the design of the grating: With the DESIGN LINE channel it has an edged design; with SLIM LINE CHANNELS this is taken care of by riveted-in or welded-in support rods. For design reasons, SLIM LINE CHANNELS are slimmer and narrower than DESIGN LINE and can be manufactured in a radial shape (DESIGN LINE polygonal only).

With both systems the channel walls can be perforated at one or both sides. The height can also be adjusted using adjusting brackets. These channels are used for draining facades, the surfaces of open areas and also underground car parks. Load classes A 15 - D 400 should be implemented depending on the technical design and the grating.

Manufacturing can take place using materials stainless steel 304 and 316 and strip-galvanised or hot-dip galvanised steel. On request, this type of channel can also be combined with standard gratings from the HAURATON product range, e.g. with GUGI-Ductile iron mesh. Additional coating in accordance with RAL is also available.



## DESIGN LINE



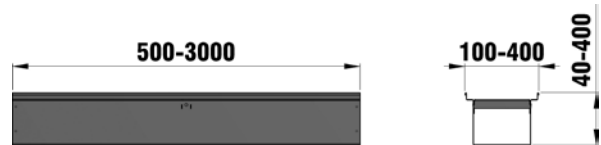
## SLIM LINE CHANNEL



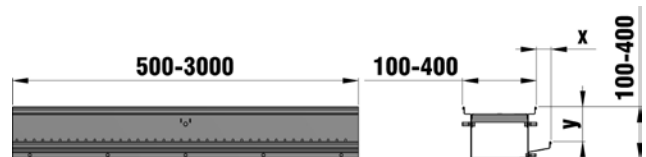
# Design square channels

## DESIGN LINE

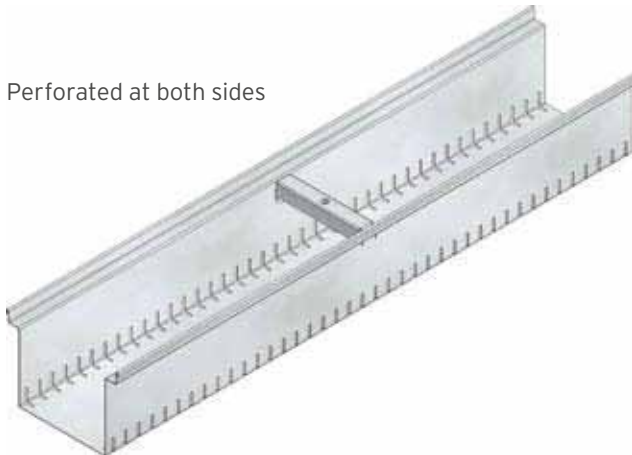
Closed



Perforated at one side



Perforated at both sides



All dimensions correspond to the usual practical requirements in accordance with our experience.

Tailor-made solutions are possible:

- any size (width, height,...)
- built-in fall
- lock-down possibilities
- concrete anchor ties
- accessories (foul air traps, mud buckets,...)

**DESIGN LINE gratings**



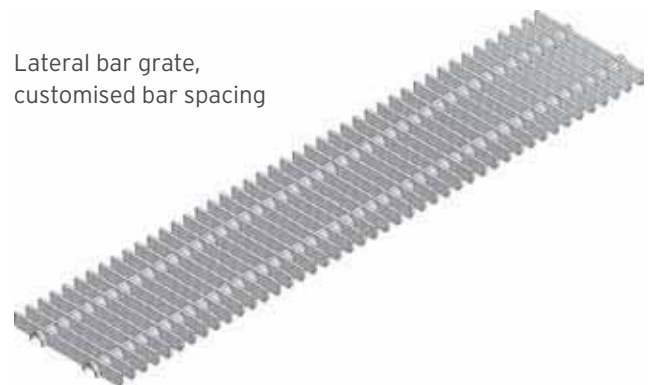
Closed with  
removable side wall  
Without drip tray



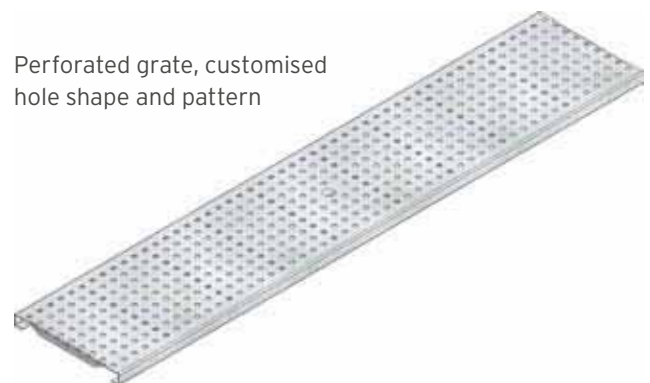
Longitudinal bar grating,  
customised bar spacing



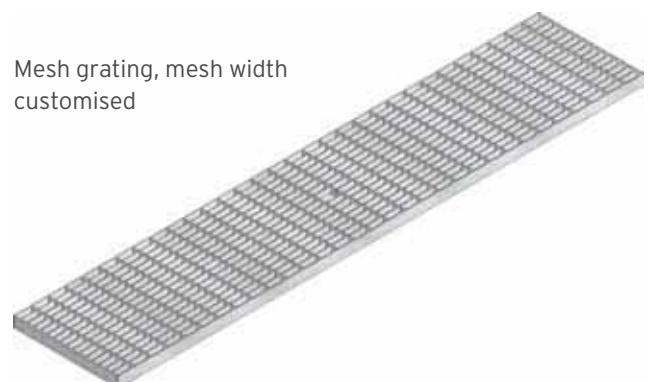
Perforated at one side with  
removable side wall  
and drip tray



Lateral bar grate,  
customised bar spacing



Perforated grate, customised  
hole shape and pattern



Mesh grating, mesh width  
customised

# Design square channels

## DESIGN LINE accessories

End cap,  
pre-installed



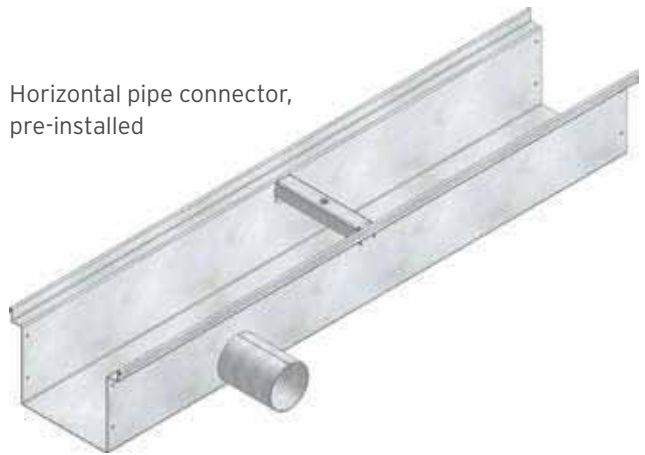
Vertical pipe connector,  
pre-installed



Channel connection  
piece, pre-installed



Horizontal pipe connector,  
pre-installed



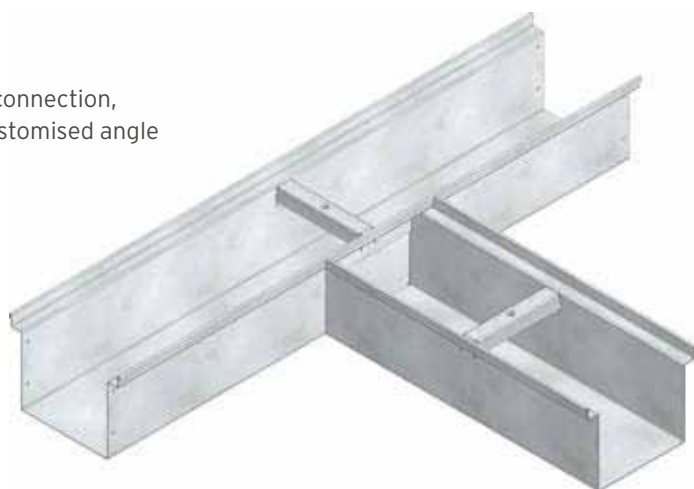
Corner element,  
customised  
angle



Connection  
flange



T connection,  
customised angle



# Reference projects

## DESIGN LINE.

Examples of customised, specially manufactured products.

### Frankfurt, Schillerplatz

Several of the most important roads in the inner city of Frankfurt converge in this square. A water feature was combined with HAURATON DESIGN LINE here. The nozzle system that was required was built into appropriately prepared channels by the customer. Design slotted channels ensure that no water escapes onto the surrounding surfaces. This resulted in an entertaining feature for young and old. The following HAURATON drainage channels were installed on the Schillerplatz in Frankfurt: 25 m of DESIGN LINE with V4A mesh grating





## Experimenta Heilbronn

Discover, experience, recognise: This is the motto of Experimenta in Heilbronn. The world of learning and experience makes science and technology comprehensible and makes them come alive. In four sophisticatedly staged theme worlds, children, teenagers and also adults can experience and discover different areas of science on 150 different exhibits. Experimenta was created from a building of the historical seed store, which was completely redesigned, and new modern annexe. The two buildings are in a central location in Heilbronn next to the river Neckar, not far from the inner city.

The large glass facade in the reception area is a real eye-catcher. The planners used DESIGN LINE facade channels from HAURATON to drain this building. Equipped with a longitudinal bar grate, they are extremely efficient and protect the building from water. The channels are equipped with a detachable side wall at one side, which provides access to the glass elements if a repair is needed.



# Reference projects

## DESIGN LINE.

Examples of customised, specially manufactured products.

### Frankfurt Oval

DESIGN LINE seepage water channel made from stainless steel, polygonal with stainless steel mesh grating. The channel for facade drainage was individually adapted to the building contour. This created an elegant transition

from surface coverings to the facade. The channels are equipped with a detachable side wall. This makes it possible to repair or replace the window elements.



DESIGN LINE square channel, radial with mesh grating. The channel was specially adapted to a bi-parting drum slider door.

# Tender proposal

## DESIGN LINE

1. \_\_\_ pc.

### DESIGN LINE

Material \_\_\_\_\_, with continuous grating support at both sides and reinforced angle housing, channel walls variable (closed, perforated at one or two sides), if required with detachable side wall, with or without drip tray;

Channel width B \_\_\_\_\_,

Channel height H \_\_\_\_\_,

Channel length L \_\_\_\_\_

Quality in accordance with ISO 9001:2008

Manufacturer: e.g. Hauraton Ltd

Unit 4, Frenchs Avenue  
Dunstable, Beds. LU6 1BH  
Tel. 01582 501380  
Fax 01582 501399  
technical@hauraton.co.uk

## Gratings

2. \_\_\_ pc.

### Longitudinal bar grating

Material \_\_\_\_\_, FL 20/3 or 20/5, bar spacing 10 - 12 mm, flush, load-bearing, screw fixed, Grating width B \_\_\_\_\_ (suitable for above-mentioned channel) Grating height H \_\_\_\_\_, Grating length L \_\_\_\_\_

3. \_\_\_ pc.

### Mesh grating

Material \_\_\_\_\_, MW 30/10, flush, load-bearing, screw fixed, grating width B \_\_\_\_\_ (suitable for above-mentioned channel) Grating height H \_\_\_\_\_, Grating length L \_\_\_\_\_

4. \_\_\_ pc.

### Lateral bar grating

Material \_\_\_\_\_, FL 20/3 or 20/5, bar spacing 15 mm, flush, load-bearing, screw fixed, grating width B \_\_\_\_\_ (suitable for above-mentioned channel) Grating height H \_\_\_\_\_, Grating length L \_\_\_\_\_

5. \_\_\_ pc.

### Perforated grating

Material \_\_\_\_\_, Ø 6 - 10 mm, flush, load-bearing, screw fixed, Grating width B \_\_\_\_\_ (suitable for above-mentioned channel) Grating height H \_\_\_\_\_, Grating length L \_\_\_\_\_

## Accessories

6. \_\_\_ pc.

### End cap addition

Material \_\_\_\_\_, pre-installed in the factory

7. \_\_\_ pc.

### Channel connection piece addition

Material \_\_\_\_\_, pre-installed in the factory

8. \_\_\_ pc.

### Discharge pipe connector addition

DN 70/100 vertical / horizontal, material \_\_\_\_\_, pre-installed in the factory

9. \_\_\_ pc.

### Corner element addition

pre-installed in the factory, maximum leg length approx. 500 mm

10. \_\_\_ pc.

### T-connection addition

pre-installed in the factory, maximum leg length approx. 500 mm

11. \_\_\_ pc.

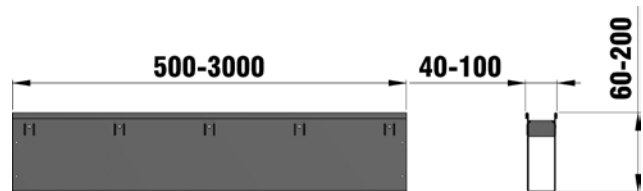
### Transition element addition

from radial to straight, pre-installed in the factory

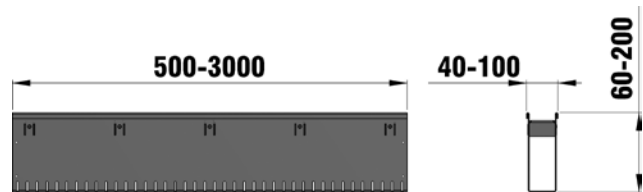
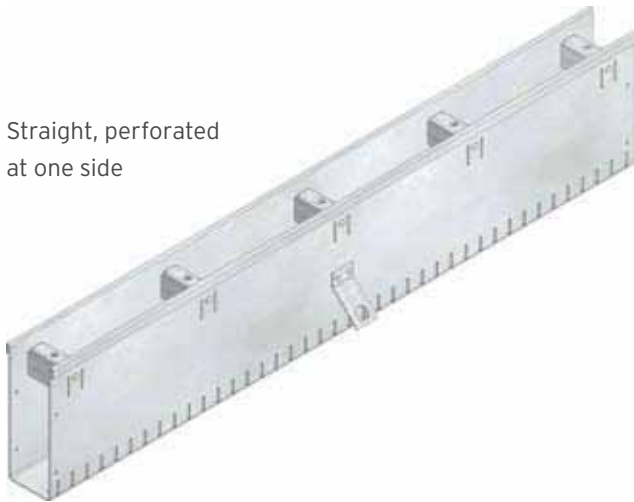
# Design square channels

## SLIM LINE CHANNEL channels

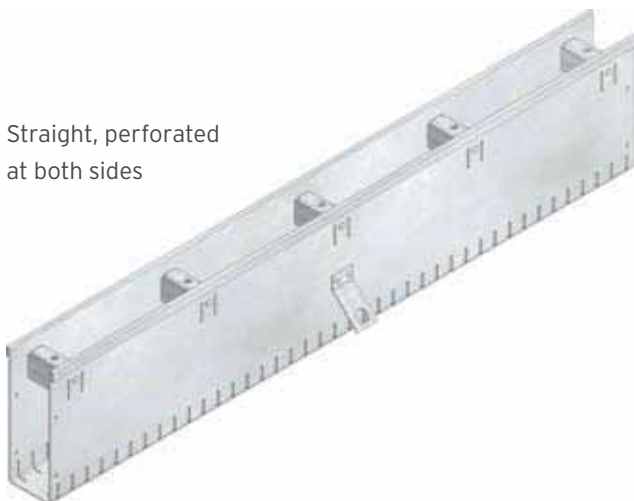
Straight, closed



Straight, perforated  
at one side



Straight, perforated  
at both sides



All dimensions correspond to the usual practical requirements in accordance with our experience.

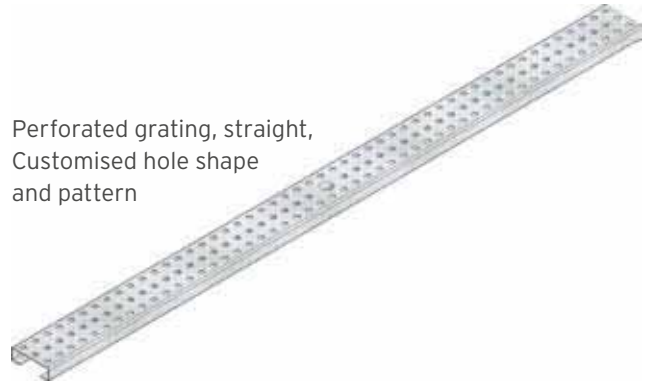
Tailor-made solutions are possible:

- any size (width, height,...)
- built-in fall
- lock-down possibilities
- concrete anchor ties
- accessories (foul air traps, mud buckets,...)

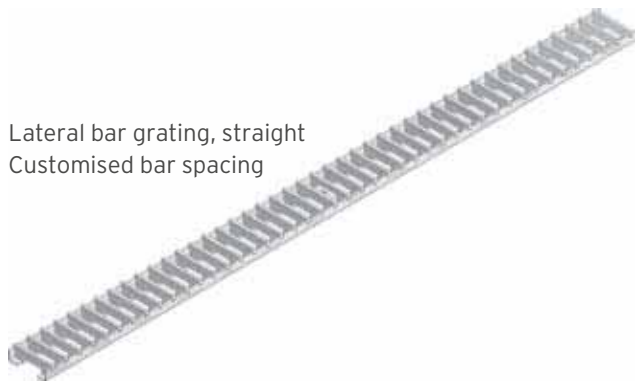
**SLIM LINE CHANNEL gratings**



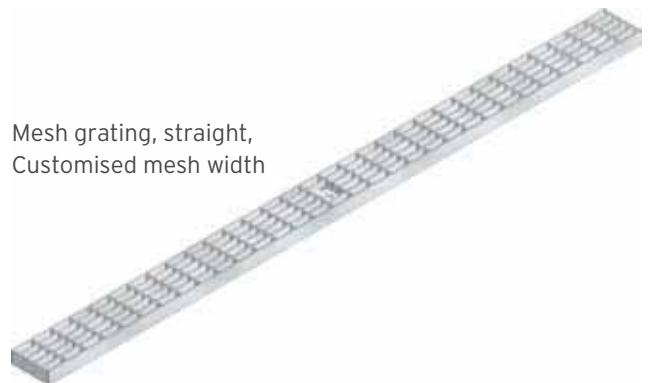
Longitudinal bar grating,  
straight, Customised  
bar spacing



Perforated grating, straight,  
Customised hole shape  
and pattern



Lateral bar grating, straight  
Customised bar spacing

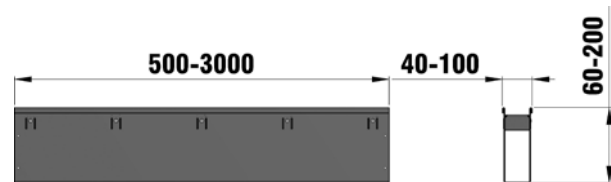
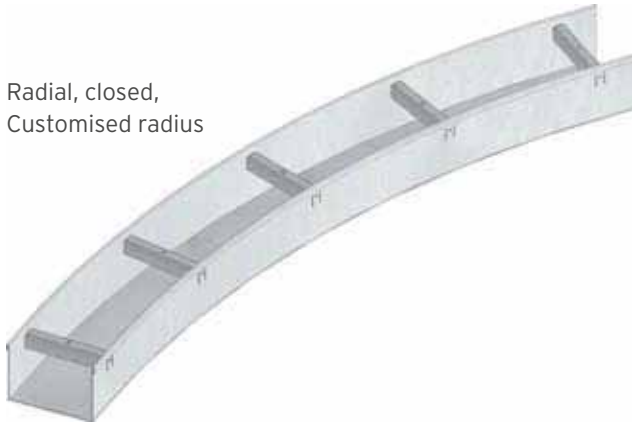


Mesh grating, straight,  
Customised mesh width

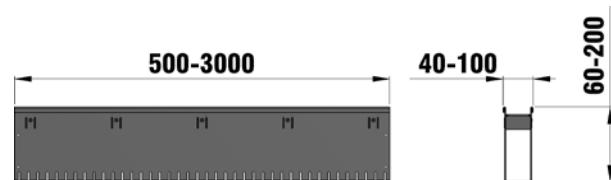
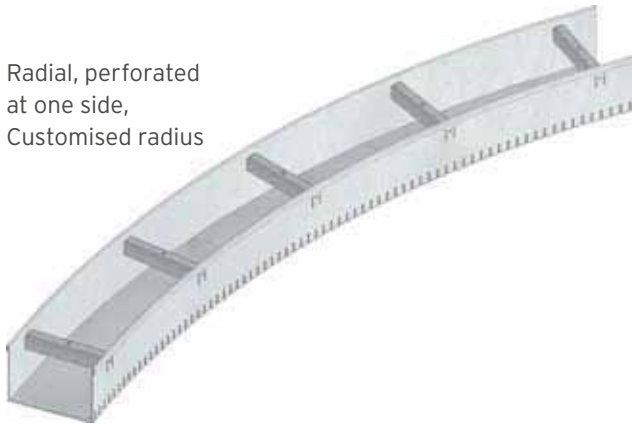
# Design square channels

## SLIM LINE CHANNEL radial channels

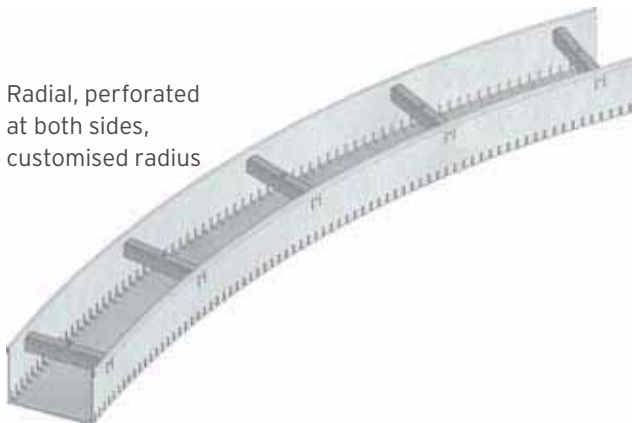
Radial, closed,  
Customised radius



Radial, perforated  
at one side,  
Customised radius



Radial, perforated  
at both sides,  
customised radius



All dimensions correspond to the usual practical requirements in accordance with our experience.

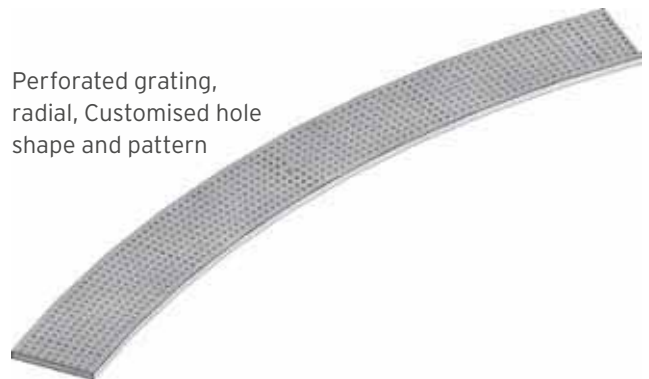
Tailor-made solutions are possible:

- any size (radius, width, height,...)
- built-in fall
- lock-down possibilities
- concrete anchor ties
- accessories (foul air traps, mud buckets,...)

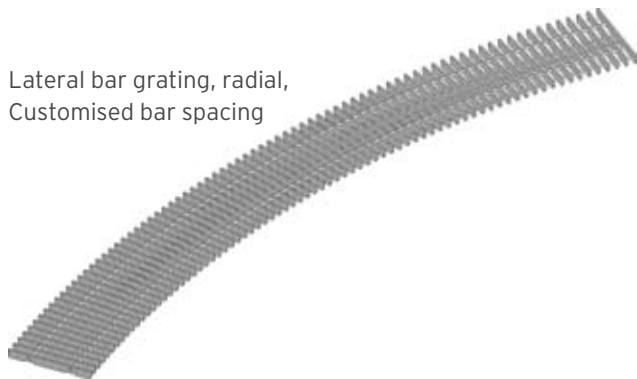
**SLIM LINE CHANNEL radial gratings**



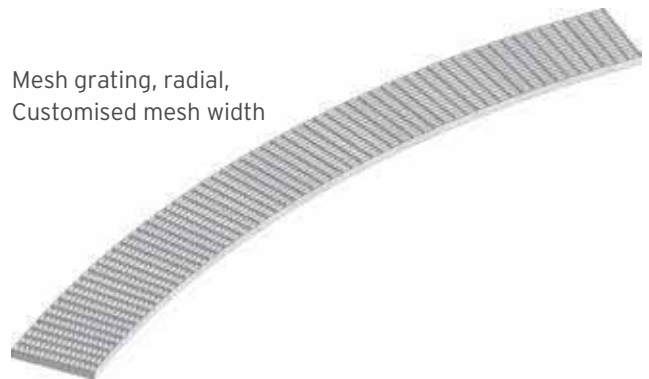
Longitudinal bar grating,  
radial, Customised  
bar spacing



Perforated grating,  
radial, Customised hole  
shape and pattern



Lateral bar grating, radial,  
Customised bar spacing

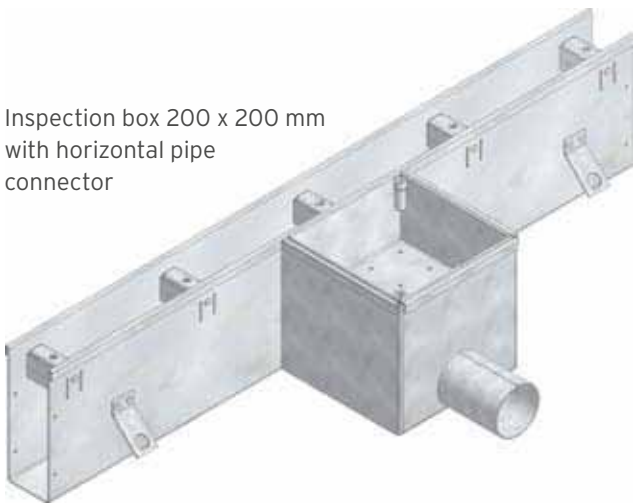


Mesh grating, radial,  
Customised mesh width

# Design square channels

## SLIM LINE CHANNEL accessories

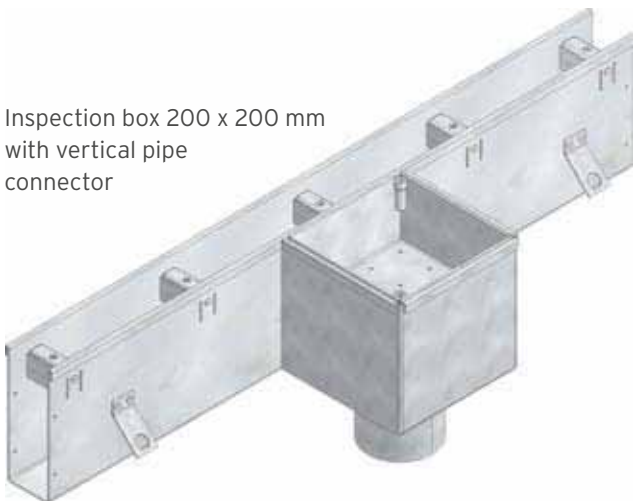
Inspection box 200 x 200 mm  
with horizontal pipe  
connector



End cap,  
pre-installed



Inspection box 200 x 200 mm  
with vertical pipe  
connector

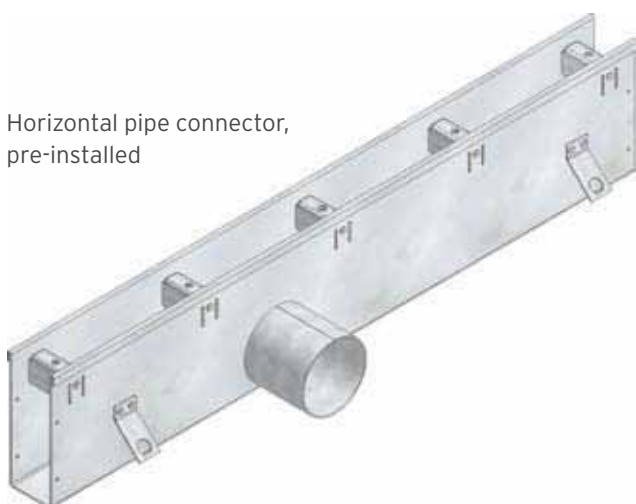


Channel connection piece,  
pre-installed





Horizontal pipe connector,  
pre-installed



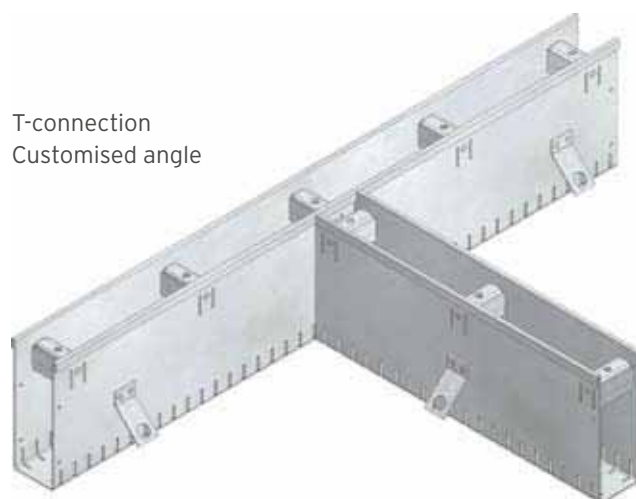
Corner element,  
Customised angle



Vertical pipe connector,  
pre-installed



T-connection  
Customised angle



## Reference Project

### BESPOKE STAINLESS STEEL CHANNELS & RECYFIX® SLOTTED CHANNELS

Example of customised, specially manufactured products.

#### Central St Giles, Holborn, London

Central Saint Giles in London's West End, is more than just a new office building. Designed by internationally renowned architects Renzo Piano and Fletcher Priest, this ultra-modern complex combines office areas, retail businesses, restaurants, cafes, residential properties and open spaces that include an extensive public piazza and roof gardens for use by the buildings occupants. Completed in 2010, Central Saint Giles is 12 stories tall and provides 37,961 m<sup>2</sup> (408,560 ft<sup>2</sup>) of high quality office floor space.

Drainage of the building's paved piazza area was achieved with 600m of RECYFIX® SLOTTED CHANNELS with symmetrical and asymmetrical slot inlets. Rainwater falling on the roofs and piazza is collected, treated and stored for re-use in irrigation of the planted areas. It is estimated around 3000m<sup>3</sup> of water could be collected per year. This, with other carbon saving features gives the development an excellent BREEAM rating.

Andy Beirne, HAURATON'S project engineer commented, "Managing a major building site in a very busy part of London was no mean feat for the main contractor, Bovis Land Lease and landscape contractor, Grants International. All the surface water drainage components we supplied had to be easily transported and installed without the use of handling machinery, so our channels, at no more than 17 kg per unit, were found to be ideal for the job".

The RECYFIX® channel components, made from our 100% recycled PE-PP were matched with galvanised steel slotted inlets with neck height and slot width specially made to match the decorative stone paving slabs used.

HAURATON also supplied BESPOKE STAINLESS STEEL CHANNELS fitted with stainless steel, longitudinally slotted heel-safe gratings located in front of the entrance doors.



Central St Giles - BESPOKE STAINLESS STEEL CHANNELS with HEELSAFE gratings fitted at entrance doors



## Reference projects

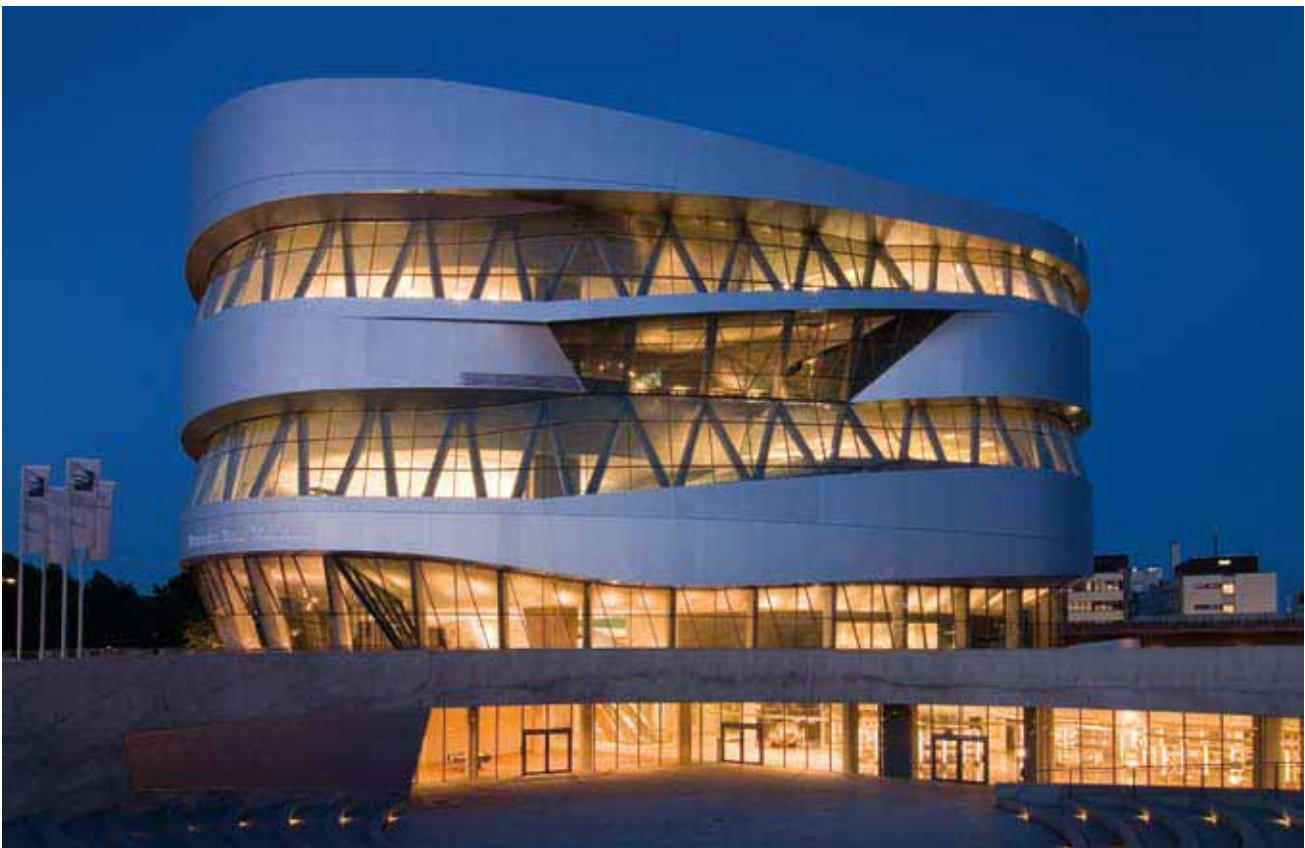
### **SLIM LINE CHANNEL channels.**

Examples of customised, specially manufactured products.

### **Stuttgart, Mercedes-Benz Museum**

The new Mercedes-Benz museum in Stuttgart was opened in May 2006, since when it has been a symbol of cutting edge architecture and structural engineering. It is the world's biggest car museum that is devoted to a single make, and is one of Stuttgart's most important tourist attractions. Up to 720,000 visitors per annum from all over the world are expected at the historical site close to the Untertürkheim plant, which is considered to be the birthplace of the car.

Modern architecture makes special demands in many details - and it is no different as far as surface drainage is concerned. The planners of the outdoor systems of the Mercedes-Benz museum put their faith in HAURATON drainage channels. It was therefore possible to develop extremely demanding channel systems that integrate perfectly into the overall architecture and fulfil all requirements, such as a facade Design slotted channel with longitudinal bar grating and removable side



A masterpiece of modern architecture - the Mercedes-Benz Museum in Stuttgart.



The stainless steel drainage channels were individually developed in accordance with planner specifications.



The facade is drained via a channel with a longitudinal bar grating and removable side wall. Special inspection boxes provide access to the channel.

wall. Any facade elements that become damaged are easy to replace with the channel installed.

The required drainage capacity is calculated using a state-of-the-art hydraulic program, which has been specially developed by HAURATON.

The unusual architecture of the Mercedes-Benz museum makes considerable demands of planning, manufacture, logistics and installation. All products were planned three-dimensionally with the aid of a CAD system, which made it possible to check the visual, functional and technical requirements at the pre-planning stage. This means that planners and the property developer were involved in the drainage planning at an early stage, until the optimum channel was finally tendered. The employees in the HAURATON project team accompanied the construction company from site measurement to project-specific manufacture of the channels, the installation thereof and final acceptance.

Many special situations that did not occur until on-site installation at the Mercedes-Benz construction site were dealt with flexibly, spontaneously and with considerable expertise. For example, the exclusive design of the museum facade made extremely high demands of the measurements carried out by HAURATON. Each of the approx. 380 m facade channels is one of a kind, and is a one-off in the overall construction project with regard to length and mitre cut. These channels could only be manufactured and delivered within an extremely short time by means of perfect interaction between the HAURATON project team, the CAD team and the production department.

Overall, the following drainage channels were installed by HAURATON in the building of the Mercedes-Benz museum:

- 1500 m of individually manufactured channels with a straight, polygonal and radial design
- 220 m of FASERFIX SUPER channels

# Tender proposal

## SLIM LINE CHANNEL channel

1. \_\_\_ pc.

### SLIM LINE CHANNEL channel

Material \_\_\_\_\_, edged in a u-shape, incl. lateral bars as spacers and for supporting the grating, channel walls variable (closed, perforated at one or two sides), possible radial version with radius R;  
channel width B \_\_\_\_\_,  
Channel height H \_\_\_\_\_,  
Channel length L \_\_\_\_\_  
Quality in accordance with ISO 9001:2008  
Manufacturer: e.g. Hauraton Ltd  
Unit 4, Frenchs Avenue  
Dunstable. Beds. LU6 1BH  
Tel. 01582 501380  
Fax 01582 501399  
technical@hauraton.co.uk

## Gratings

2. \_\_\_ pc.

### Longitudinal bar grating

Material \_\_\_\_\_, FL 20/3 or 20/5, bar spacing 10 - 12 mm, flush, load-bearing, screw fixed, Grating width B \_\_\_\_\_ (suitable for above-mentioned channel) Grating height H \_\_\_\_\_, Grating length L \_\_\_\_\_

3. \_\_\_ pc.

### Lateral bar grating

Material \_\_\_\_\_, FL 20/3 or 20/5, bar spacing 15 mm, flush, load-bearing, screw fixed, grating width B \_\_\_\_\_ (suitable for above-mentioned channel) Grating height H \_\_\_\_\_, Grating length L \_\_\_\_\_

4. \_\_\_ pc.

### Perforated grating

Material \_\_\_\_\_, Ø 6 - 10 mm, flush, load-bearing, screw fixed, Grating width B \_\_\_\_\_ (suitable for above-mentioned channel) Grating height H \_\_\_\_\_, Grating length L \_\_\_\_\_

## Accessories

5. \_\_\_ pc.

### End cap addition

Material \_\_\_\_\_, pre-installed in the factory

6. \_\_\_ pc.

### Channel connection piece addition

Material \_\_\_\_\_, pre-installed in the factory

7. \_\_\_ pc.

### Inspection box addition

Material \_\_\_\_\_, suitable for above-mentioned SLIM LINE CHANNEL channel, with perfect visual integration in the channel, with vertical/horizontal discharge pipe connector DN 70/100 and removable inner tray for filling by the customer; L/W = 200/200 mm

8. \_\_\_ pc.

### Discharge pipe connector addition

DN 70/100 vertical / horizontal, material \_\_\_\_\_, pre-installed in the factory

9. \_\_\_ pc.

### Corner element addition

pre-installed in the factory, maximum leg length approx. 500 mm

9. \_\_\_ pc.

### T-connection addition

pre-installed in the factory, maximum leg length approx. 500 mm

11. \_\_\_ pc.

### Transition element addition

from radial to straight, pre-installed in the factory

## Other products to consider

### RECYFIX® PRO channels with FIBRETEC® grating STAINLESS STEEL PERFORATED grating

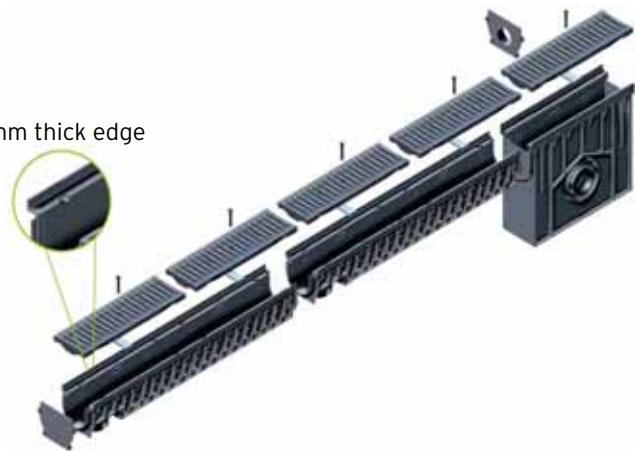
#### RECYFIX® PRO channels

HAURATON has developed a tough injection moulded grating called FIBRETEC® for their RECYFIX® PRO 100 range of surface water drainage channels. The FIBRETEC® grating, moulded from a fibre strengthened Polyamide (PA-GF) is offered in two innovative designs. The slotted version allows loadings up to Class C250 (BSEN 1433) whilst the GUGI® pattern grating is for loadings up to B125.

The RECYFIX® channel component is made from 100% recycled PE-PP. The six sizes offered are 160mm wide and range in height from 75mm to 201mm with the FIBRETEC® grating factory fitted on all models. As the largest unit is only 4.6kg, this robust system is quick and easy install. The company says the system is particularly suitable for educational establishments, air and bus terminals, railway stations and ferry ports - passenger side. A Matching trash box and end caps are also offered.



5mm thick edge



#### STAINLESS STEEL PERFORATED grating

Customised perforated gratings are available on a number of channel ranges. Gratings of this type are especially useful in semi enclosed areas.

For further details please telephone 01582 501380 or email your request via [technical@hauraton.co.uk](mailto:technical@hauraton.co.uk)



# Design slotted channels





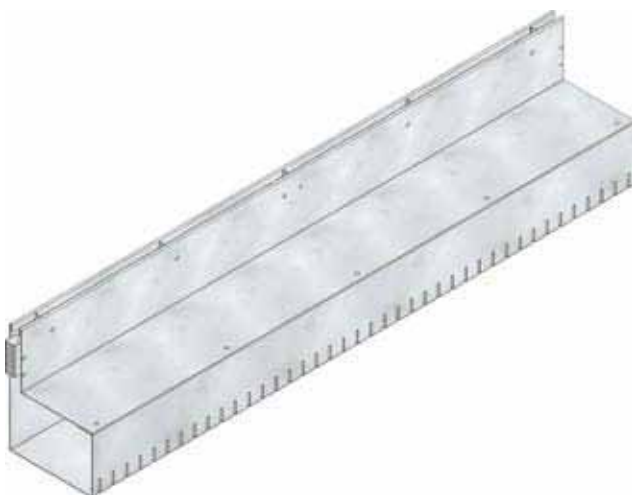
## Design slotted channels

Design slotted channels are extremely unobtrusive drainage systems. HAURATON can provide many variants to supplement the standard range of products. This makes it possible to create cross connections and T connections that drain surfaces reliably, divide areas up or neatly separate different surface coverings. Symmetrical and asymmetrical Design slotted channels made from stainless steel or galvanised steel are available as an individual solution. They are particularly useful for radial laying next to bi-parting drum slider doors, in open areas and on facades.

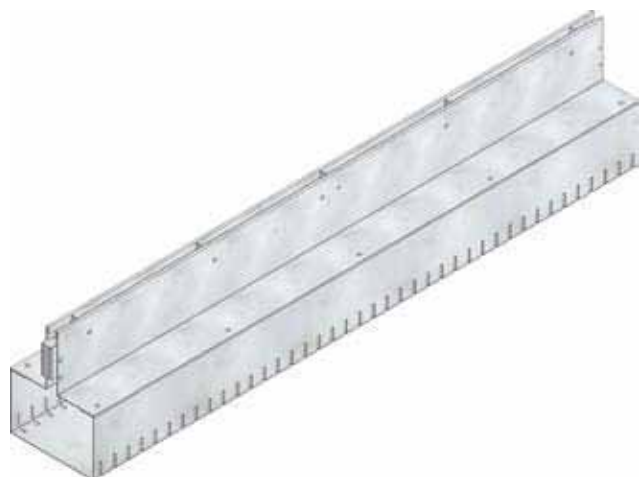
Design slotted channels also provide a high degree of flexibility with regard to length, width, height and slot width. Individual lengths of up to 3 metres have increased the laying speed significantly. The channel walls can be optionally perforated at one or two sides. These channels are used for draining facades and the surfaces of open areas. Load classes A 15 - D 400 should be implemented depending on the technical design. They can be manufactured using materials stainless steel 304 and 316 and strip-galvanized or hot-dip galvanized steel.



### asymmetrical



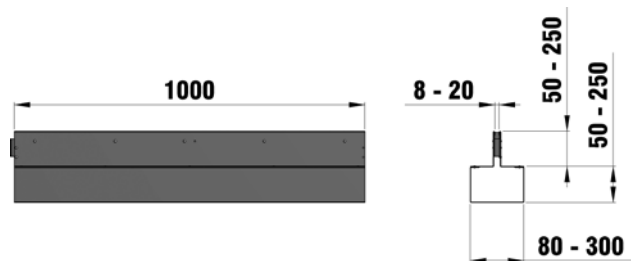
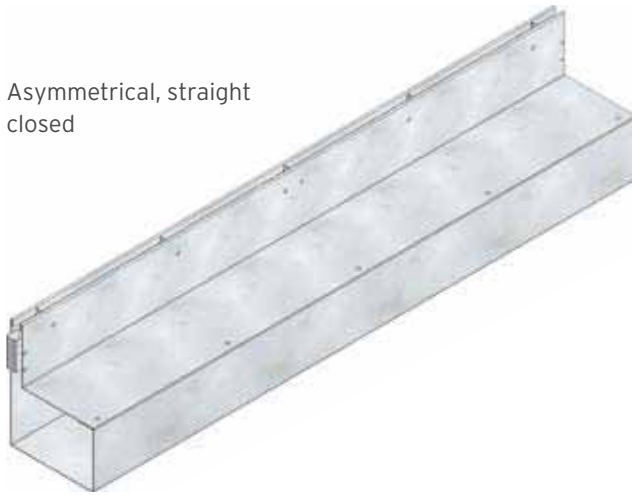
### symmetrical



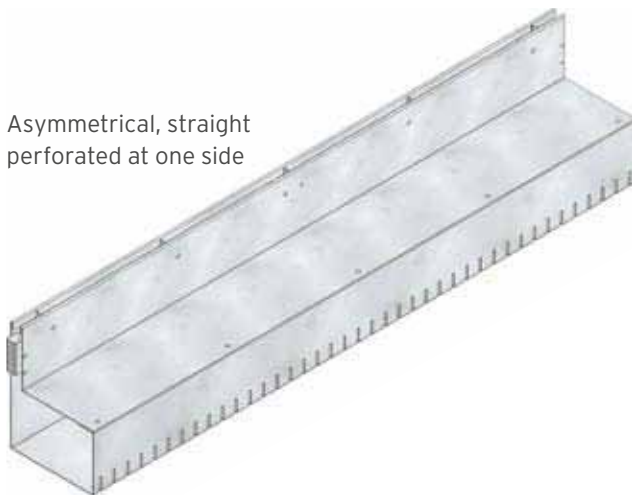
# Design slotted channels

## Asymmetrical Design slotted channels

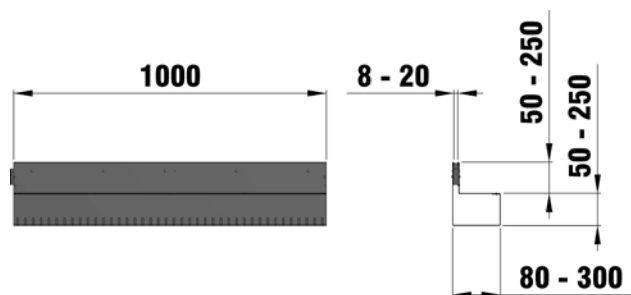
Asymmetrical, straight closed



Asymmetrical, straight perforated at one side



Asymmetrical, radial closed, Customised radius



Asymmetrical, radial perforated at one side, Customised radius



All dimensions correspond to the usual practical requirements in accordance with our experience.

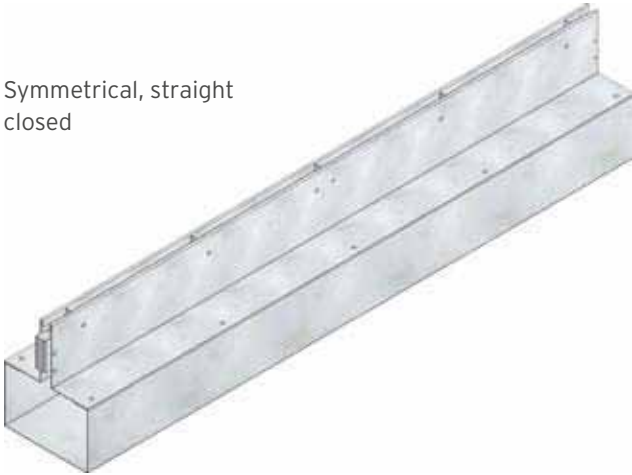
Tailor-made solutions are possible:

- any size (radius, width, height,...)
- built-in fall
- lock-down possibilities
- concrete anchor ties
- accessories (foul air traps, mud buckets,...)

**Symmetrical Design slotted channels**

**Gratings for Design slotted channels**

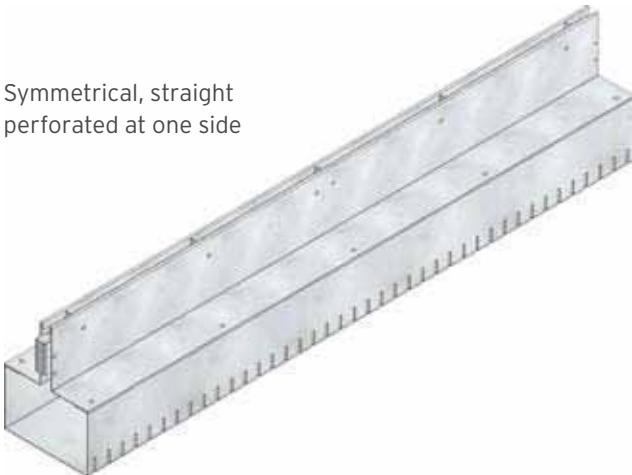
Symmetrical, straight closed



Perforated grating, round



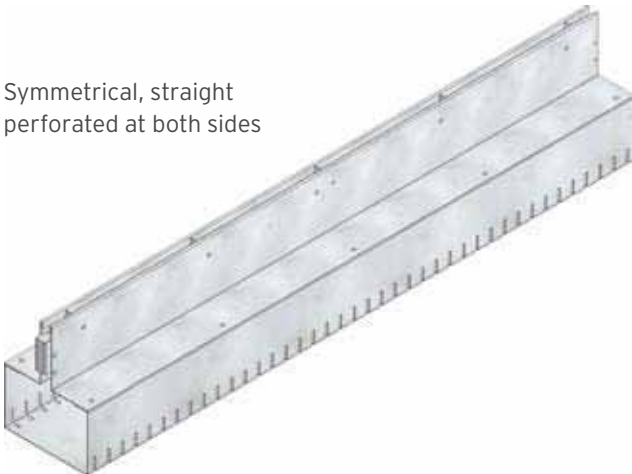
Symmetrical, straight perforated at one side



Perforated grating, square



Symmetrical, straight perforated at both sides



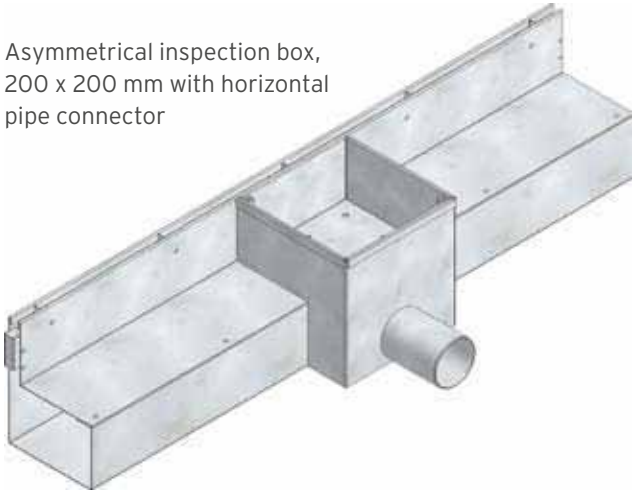
Longitudinal bar grating



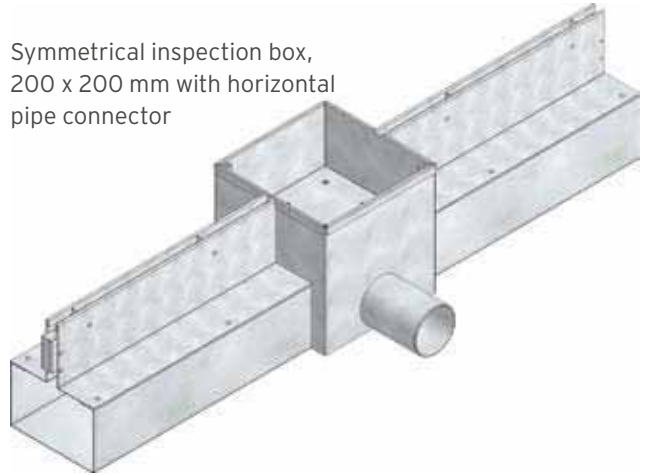
# Design slotted channels

## Accessories for Design slotted channels

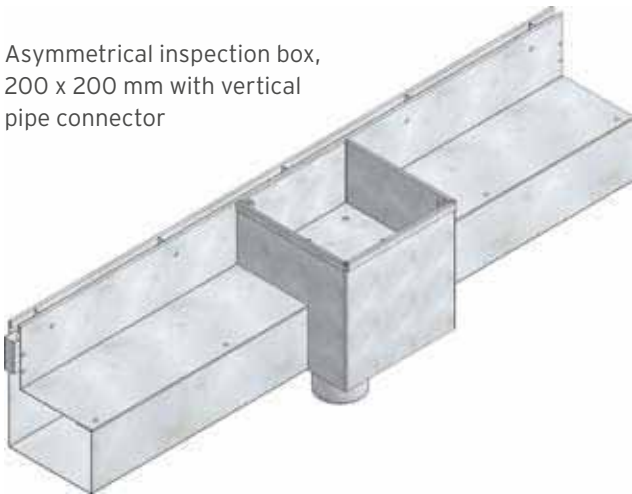
Asymmetrical inspection box,  
200 x 200 mm with horizontal  
pipe connector



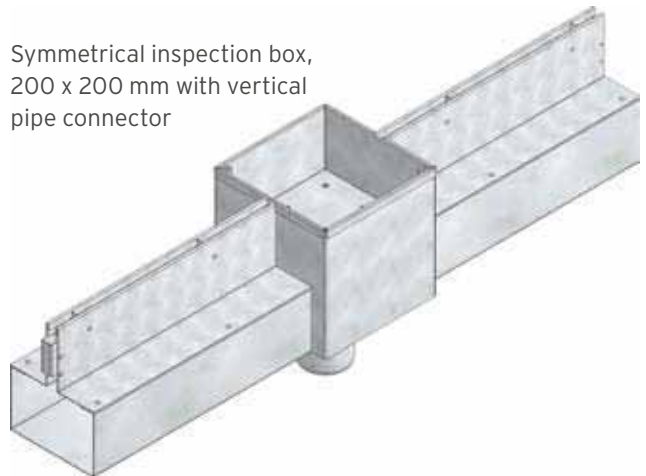
Symmetrical inspection box,  
200 x 200 mm with horizontal  
pipe connector



Asymmetrical inspection box,  
200 x 200 mm with vertical  
pipe connector



Symmetrical inspection box,  
200 x 200 mm with vertical  
pipe connector



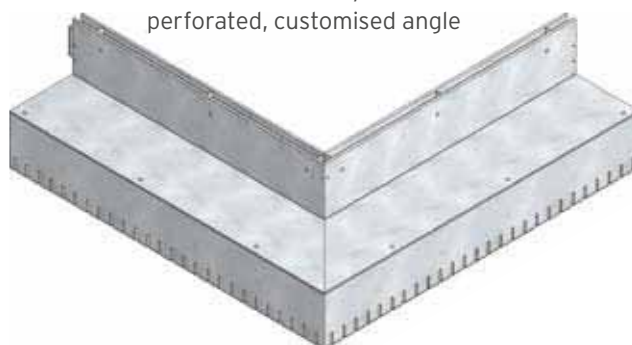
End cap, asymmetrical,  
pre-installed



Corner element, asymmetrical,  
closed, customised angle



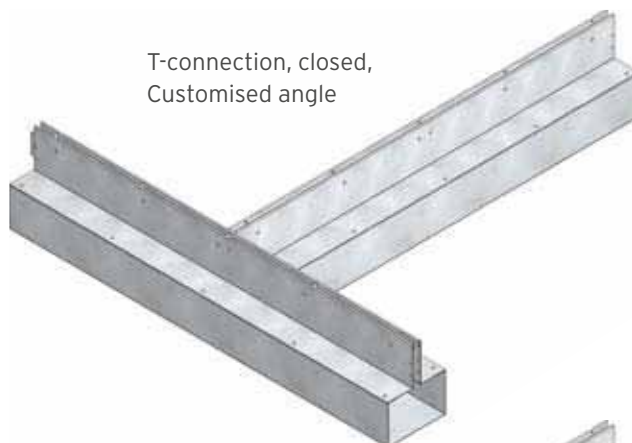
Corner element, asymmetrical,  
perforated, customised angle



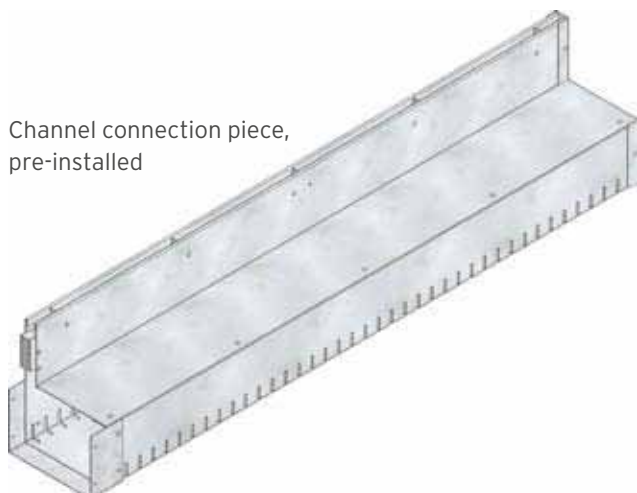
End cap, symmetrical,  
pre-installed



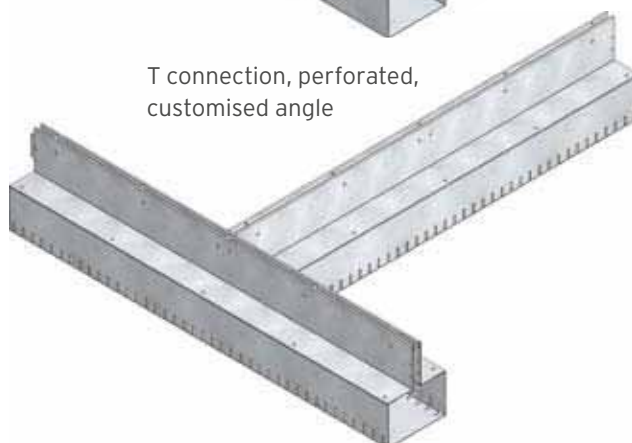
T-connection, closed,  
Customised angle



Channel connection piece,  
pre-installed



T connection, perforated,  
customised angle



# Reference projects

## Design slotted channels.

Examples of customised, specially manufactured products.

### Basel, Novartis

Novartis, Switzerland's biggest health company, puts its faith in HAURATON channels for draining its new building. Made-to-measure planning support from the project diagram, the hydraulics, the routing plans through to the finished product impressed the architects and engineers. The following HAURATON drainage channels were installed at Novartis: 200 m of solid stainless steel Design slotted channels with different radii, will bear the weight of a lorry.



## Stuttgart, Heilbronner Straße, Z-Up Building

The Geno-Haus and the Z-Up building are adjacent to each other in Heilbronner Strasse in the centre of Stuttgart. The cityscape of the state capital is dominated by service centres with their striking architecture. Offices, conference rooms, apartments, underground car park - there are many uses for the space in the modern buildings.

The demands made of the drainage systems are just as diverse. They must be reliable, they must collect and divert surface water, they must withstand the different stress requirements and they must also match the building and area concepts from a visual point of view. These challenges were met using a clever combination of FASERFIX SUPER KS channels and individually manufactured Design slotted channels made from stainless steel - both from HAURATON.



# Reference projects

## Slotted channels.

Examples of customised, specially manufactured products.

### BASF Visitor Centre

The new BASF visitor centre opened in the Spring of 2007. About 50,000 visitors come to the Ludwigshafen plant every year. The new visitor centre enhances the site, and provides a representative address for visitors who wish to see the plant. Visitors can enter the visitor centre directly from the outside. The entire south area of the building has been redesigned for this purpose. The roof has also been replaced with a glass structure, which the visitors can access via five levels. The visitor centre has an area of about 2000 square metres.

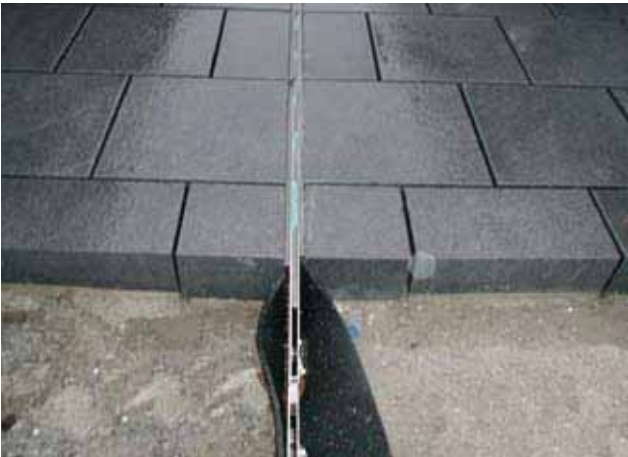
The square in front of the visitor centre has been given a modern and attractive design. A central area has been created in front of the building next door, which can also be used for events such as open days. In accordance with these requirements, visually inconspicuous and extremely durable Design slotted channels from HAURATON have been installed for surface drainage. The special feature of these is the slotted grating made from 4 mm stainless steel with a neck height of 280 mm, which is load-bearing up to class D 400. The solid structure makes it possible to lay the paving (which has also been specially made for the construction project, and is 160 mm thick) directly next to the slotted grating. As the lower section, the FASERFIX SUPER 150 channel provides sufficient hydraulic performance.



The new BASF visitor centre in Ludwigshafen.







160 mm thick paving is laid along the slotted channel.



The SIDE-LOCK boltless locking system and 6-point screw fixing per running metre provide double security in attaching the grating to the channel. The branch is maintained via special inspection covers, which visually blend in to the drainage channel.

The newly designed roof terrace is drained via 260 m of DACHFIX special model, 250 mm wide and with adjustable height. The DACHFIX components fulfil all structural requirements of the project due to made-to-measure production.

The new BASF visitor centre in Ludwigshafen - an architectural highlight which the company and its visitors will enjoy for some time to come!



Installation of the solid Design slotted channel with grating made from 4 mm thick stainless steel and 280 mm neck height.

# Reference projects

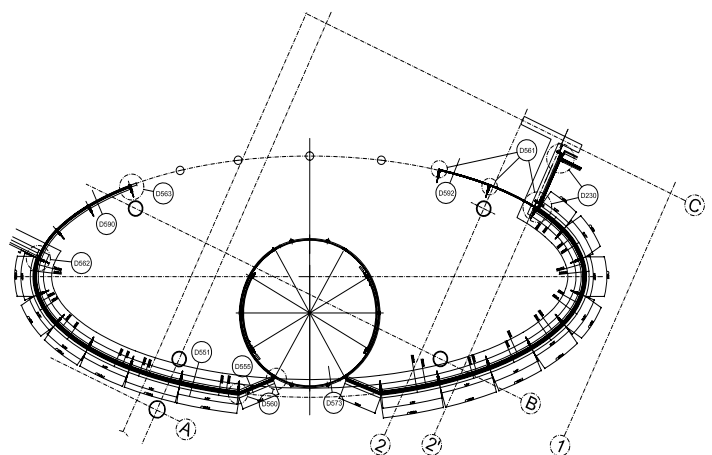
## Slotted channels.

Examples of customised, specially manufactured products.

### Hagen, Building Society

The building has an elliptic basic design, into which a bi-parting drum slider door is incorporated as an entrance. A radial slotted channel made from stainless

steel follows the entire contour of the building and drains the entire glass facade.



# Tender proposal

## Slotted channels

1. \_\_\_ pc. **Slotted channels**  
Material \_\_\_\_\_, with asymmetrically/symmetrically arranged inlet slot, riveted version with reinforced visible edge, with single edging to suit height of surface covering, load-bearing, slot width SW approx. 12.5 mm, neck height HH variable, overall height GH variable, channel width B variable, channel length L variable. Supply possible radial design with radius R, and route in accordance with the manufacturer's installation instructions.  
Quality in accordance with ISO 9001:2008  
Manufacturer: e.g. Hauraton Ltd  
Unit 4, Frenchs Avenue  
Dunstable, Beds. LU6 1BH  
Tel. 01582 501380  
Fax 01582 501399  
technical@hauraton.co.uk

## Accessories

2. \_\_\_ pc. **Addition of perforated grating**  
for above-mentioned slotted channel, material \_\_\_\_\_, with round/square perforations
3. \_\_\_ pc. **Addition of longitudinal bar grating** for above-mentioned slotted channel, material \_\_\_\_\_
4. \_\_\_ pc. **End cap addition**  
Material \_\_\_\_\_, pre-installed in the factory
5. \_\_\_ pc. **Channel connection piece addition**  
Material \_\_\_\_\_, pre-installed in the factory
6. \_\_\_ pc. **Addition of inspection box**  
Material \_\_\_\_\_, suitable for above-mentioned slotted channel, with perfect visual integration in the channel, with vertical/horizontal discharge pipe connector DN 70/100 and removable inner tray for filling by the customer;  
L/W = 200/200 mm
7. \_\_\_ pc. **Corner element addition**  
pre-installed in the factory, maximum leg length approx. 500 mm
8. \_\_\_ pc. **T-connection addition**  
pre-installed in the factory, maximum leg length approx. 500 mm
9. \_\_\_ pc. **Transition element addition**  
from radial to straight, pre-installed in the factory

# Individual gratings

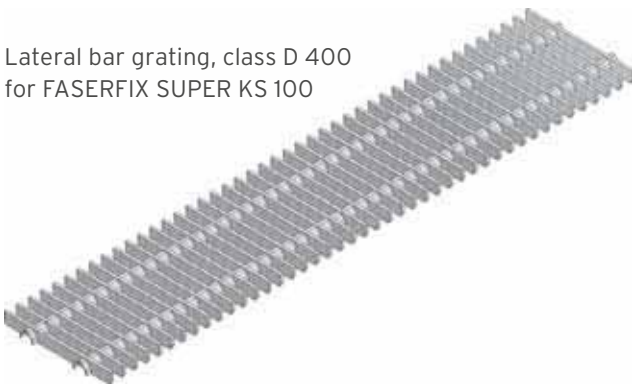
## Individual gratings for channels and single point inlets from the standard product range

All channels and single-point inlets from the entire HAURATON product range can be combined with individual gratings. Convince yourself of the wide

range of surface water drainage options in the other catalogues in our planning folder, and speak to our experts in the specialist department.

## For example, we are introducing the following solutions from this area:

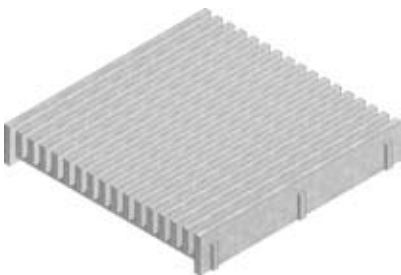
Lateral bar grating, class D 400 for FASERFIX SUPER KS 100



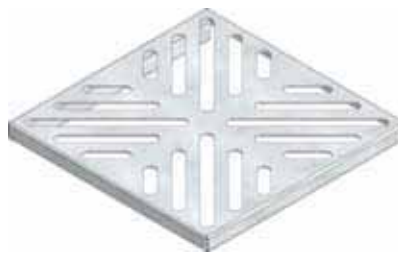
FASERFIX SUPER channel with individually manufactured slope gradient and lockable grating



Longitudinal bar grating class D 400 for FASERFIX POINT SUPER 40/40



Star design grating V2A for RECYFIX POINT



Perforated grating, round V2A for RECYFIX POINT



Frame for longitudinal bar grating class D 400 for FASERFIX POINT SUPER 40/40



Perforated grating, square V2A for RECYFIX POINT

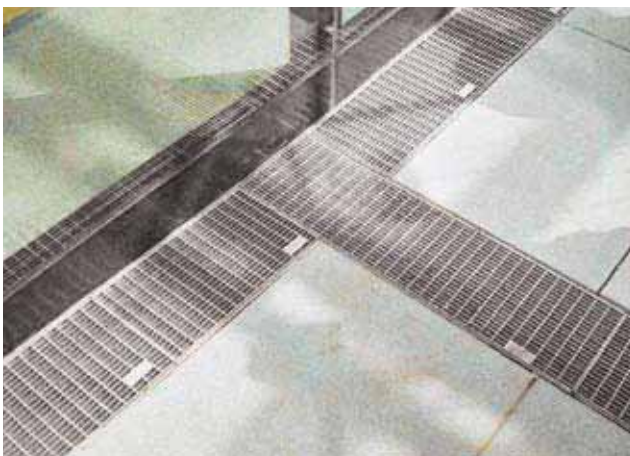


# References

Combination of individual solutions and products from the HAURATON product range. Example of customer-specific special designs.

## Dresden, Wiener Platz

Wiener Platz is the busiest traffic intersection in Dresden. Trains, cars, busses, trams, bicycles and wheelchairs are networked with each other on different interconnected levels. In order to provide a visually attractive surface and facade design, FASERFIX SUPER channels and FASERFIX POINT yard trash boxes were equipped with customised mesh gratings made from stainless steel. A special challenge for the property developer and the planners was the narrow mesh width of the gratings, which needed to provide safety for pedestrians, cyclists and people in wheelchairs and also prevent large dirt particles from penetrating the drainage system. This resulted in a harmonious overall impression that takes the outstanding architecture into account.



## References

Combination of individual solutions and products from the HAURATON product range. Examples of customised, specially manufactured products.



### Berlin, O<sub>2</sub> World

"O<sub>2</sub> World" on the site of the former Ostgüterbahnhof (East Goods Station) has been considered to be one of the most modern multifunctional arenas in the world since its completion in Autumn 2008. There is room for 17,000 visitors in the building, who watch the home matches of ALBA Berlin (basketball) and the Berlin Eisbären (Berlin Polar Bears ice hockey team) and other major sporting and cultural events.

The following HAURATON channels were used for surface and facade drainage:

- radial facade slotted channel with grating
- radial DESIGN LINE box channel with mesh grating for being driven over by heavy loads
- radial slotted channel for being driven over by heavy loads
- FASERFIX SUPER KS 150 with mesh grating



## Frankfurt, Main Tower

DACHFIX channel, polygonal with perforated grating. The Main Tower is the fourth highest skyscraper in Frankfurt at 200 metres. The viewing platform is drained by polygonal laid DACHFIX channels, which have been adapted in two branches with different diameters to the round cross-section of the tower.



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For Case Studies go to [www.drainage-projects.co.uk](http://www.drainage-projects.co.uk)

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