



GRASPOINTNER  
Sustainable innovation.



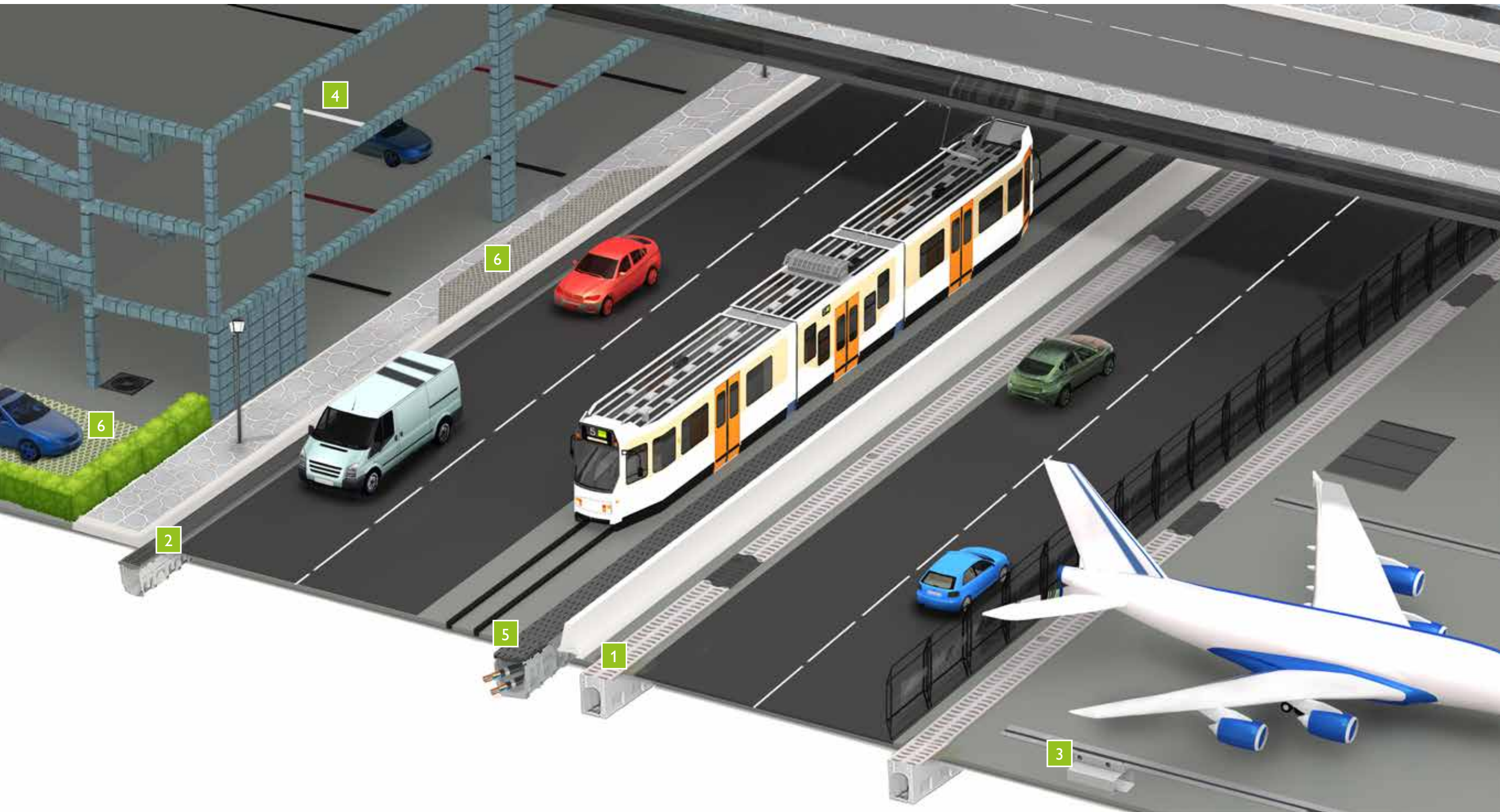
Where heavy duty  
application meets  
hydraulic performance

BG-FILCOTEN<sup>®</sup>  
BG-GATIC  
citygrid

Drainage systems  
for infrastructure

# Versatility – a solution for every heavy-duty application.

Our trench drain system complies to  
EN 1433 standards



# BG-FILCOTEN® When opposites,

FILCOTEN® HPC (High Performance Concrete) is a material, that unites outstanding technical properties with ecological sustainability. The engineered high-density structure of HPC makes it possible to construct highly stable lightweight drainage channels – but it's the idea behind it that makes it special.

## Unique concept, revolutionary results.

Our engineers wanted to create something which combines two extreme opposites: maximum performance with minimum environmental impact.

## Maximum performance, minimal environmental impact.

After meticulous development FILCOTEN® HPC embodied a material that is incredibly strong and has minimal impact on the environment.



### Minimal weight

- FILCOTEN® HPC enables ease of installation and handling
- Maintains strength and durability
- Robust concrete elements



### Unparalleled strength

- Unsurpassed stability and durability
- High pressure resistance clearly exceeding the requirements per EN 1433 for concrete channels



### Resistant to extreme temperatures and UV light

- Maximum frost and de-icing salt resistance
- Tested to ASTM C666, ASTM C39 & ASTM C1202 standards
- UV-resistant



### Perfectly positioned in the concrete bed

- Ideal expansion coefficient, in line with the surrounding concrete



### Fireproof

- Non-combustible building material – Class A1
- No toxic smoke emission



### High drainage performance

- Low water absorption
- Smooth channel surface
- Self-cleaning effect

# lead to great things.



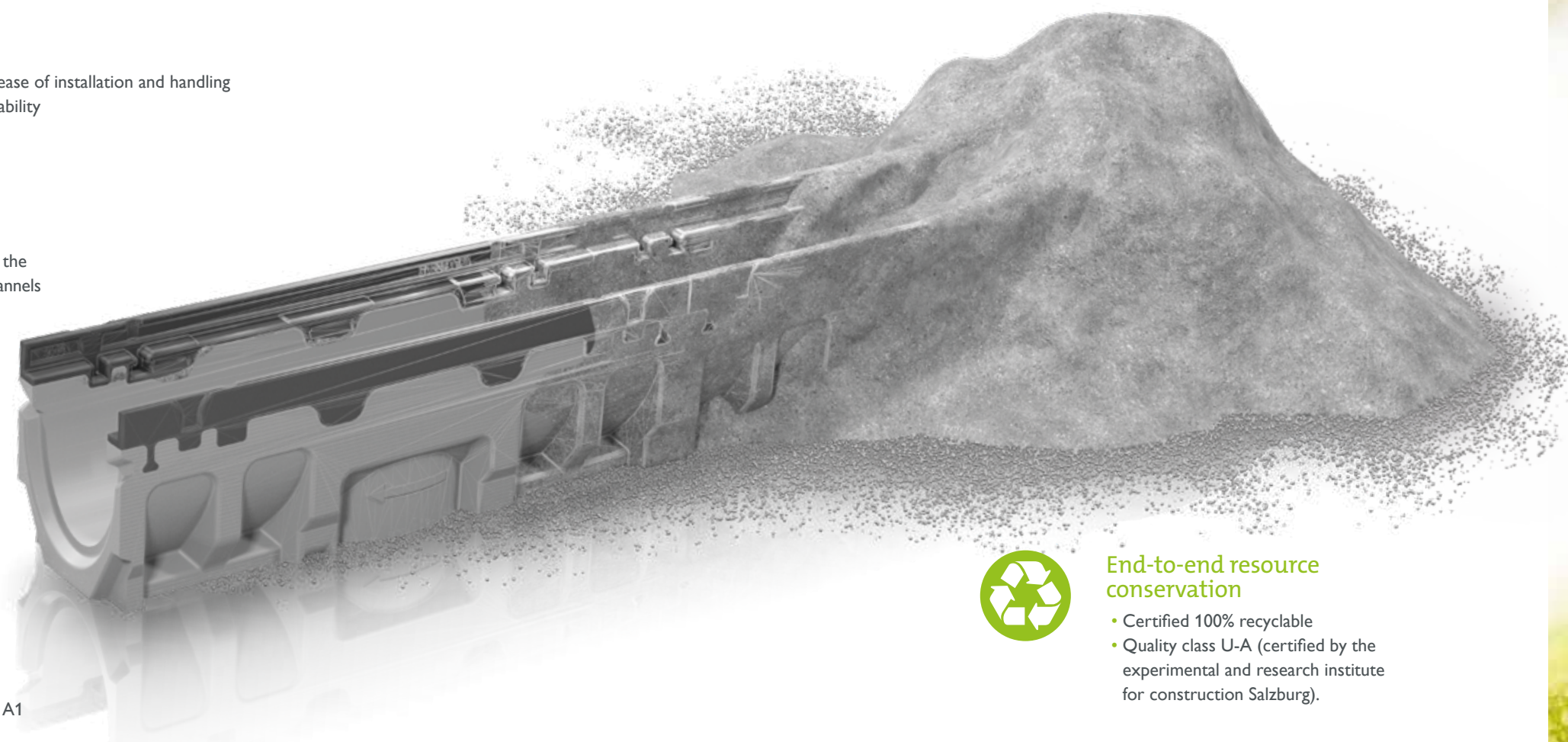
### Verified Life Cycle Assessment

- Greater ecological transparency according to ISO 14040/14044 and EN 15804
- Ideal for sustainable construction projects



### Sustainable production

- Made using 100% green energy
- Resource-saving production process
- 40% from in-house photovoltaic plant



### End-to-end resource conservation

- Certified 100% recyclable
- Quality class U-A (certified by the experimental and research institute for construction Salzburg).



### Certified sustainability and tested for hazardous substances<sup>1)</sup>

- Certified environmental and energy management according to ISO 1400 or 50001 at the location of Oberwang / AT
- Certified biologically sound construction material that meets the stringent testing criteria of the IBR, the Institute for Biologically Sound Construction, for heavy metals, VOCs, biocides and radioactivity, styrene free<sup>1)</sup>



# The **first** of its kind – and the most **sustainable**.

The simple ideas are often the best. The revolutionary BG-FILCOTEN<sup>®</sup> one is a good example. Channel and grating cast in one piece – for the first time made from the most innovative material on the market: FILCOTEN<sup>®</sup> HPC (High Performance Concrete).

## Made from one piece, brilliantly simple.

We have invested a lot of work – and the investment has paid off: Many hours of construction, design, planning and testing brought about a one-of-a-kind trench drain that combines a great number of exceptional properties.

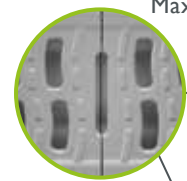


## Applications



### Inflow opening in the channel joint

Maximum intake slot width and inflow opening at the joint for efficient water drainage.



### Monolithic structure

- element made entirely of FILCOTEN<sup>®</sup> HPC
- extremely robust and wear resistant
- ideal for dynamic loads in road traffic

### Tongue/groove/joint system for installation in either direction

- non-directional channel joint for easy and fast installation
- interlocking of the tongue/groove/tenon system for accurate, aligned positioning of the elements



### Extremely durable hold in the concrete bed

In addition to optimal bonding between FILCOTEN<sup>®</sup> HPC and concrete, the lateral anchorage allows for ease of installation.

### Easy-to-handle sealing system<sup>2)</sup>

- preformed groove on the front/end sides for easy insertion of the sealing profile
- permanent joint sealing through tight fit of the tongue/groove/tenon system

### Verified LCA<sup>1)</sup> (Life Cycle Assessment)

- low greenhouse gas emission levels
- produced using exclusively green power
- resource-efficient production process



Download product brochure:

[www.say.bg/31/one\\_pdf](http://www.say.bg/31/one_pdf)

### An overview of applications:

- airports
- harbours
- terminals
- highways
- industrial spaces
- logistic centres
- railway crossings
- truck and car parking spaces

<sup>1)</sup> According to ISO 14040, ISO 14044, EN 15804

<sup>2)</sup> Sealing profile optional

<sup>3)</sup> Load cl. E & F applications need to be reviewed by technical support at BG-Graspointner

# Only a **heavyweight** when it comes to **features:**

With our BG-FILCOTEN<sup>®</sup> pro channel, you don't have to compromise on quality or durability. It's stable yet lightweight and can be adapted to any site conditions. BG-FILCOTEN<sup>®</sup> is available in galvanized or stainless steel rails up to class E 600 (acc. to EN 1433). The cast-iron rail model is tested up to class F 900 (acc. to EN 1433).



### High traffic bolted iron grip

In addition to the fiX snap-on closure system, the bar grating can also include a 4 point bolting system which fastens into a replaceable cage nut seated in the cast iron rail, providing a cl. E 600 kN, or a slotted grating which can support cl. F 900 kN.

### Engineered to avoid longitudinal shifting

Two anti-sliding lugs secure the grating against any longitudinal shifting, which provides added safety.

### Engineered channel interior

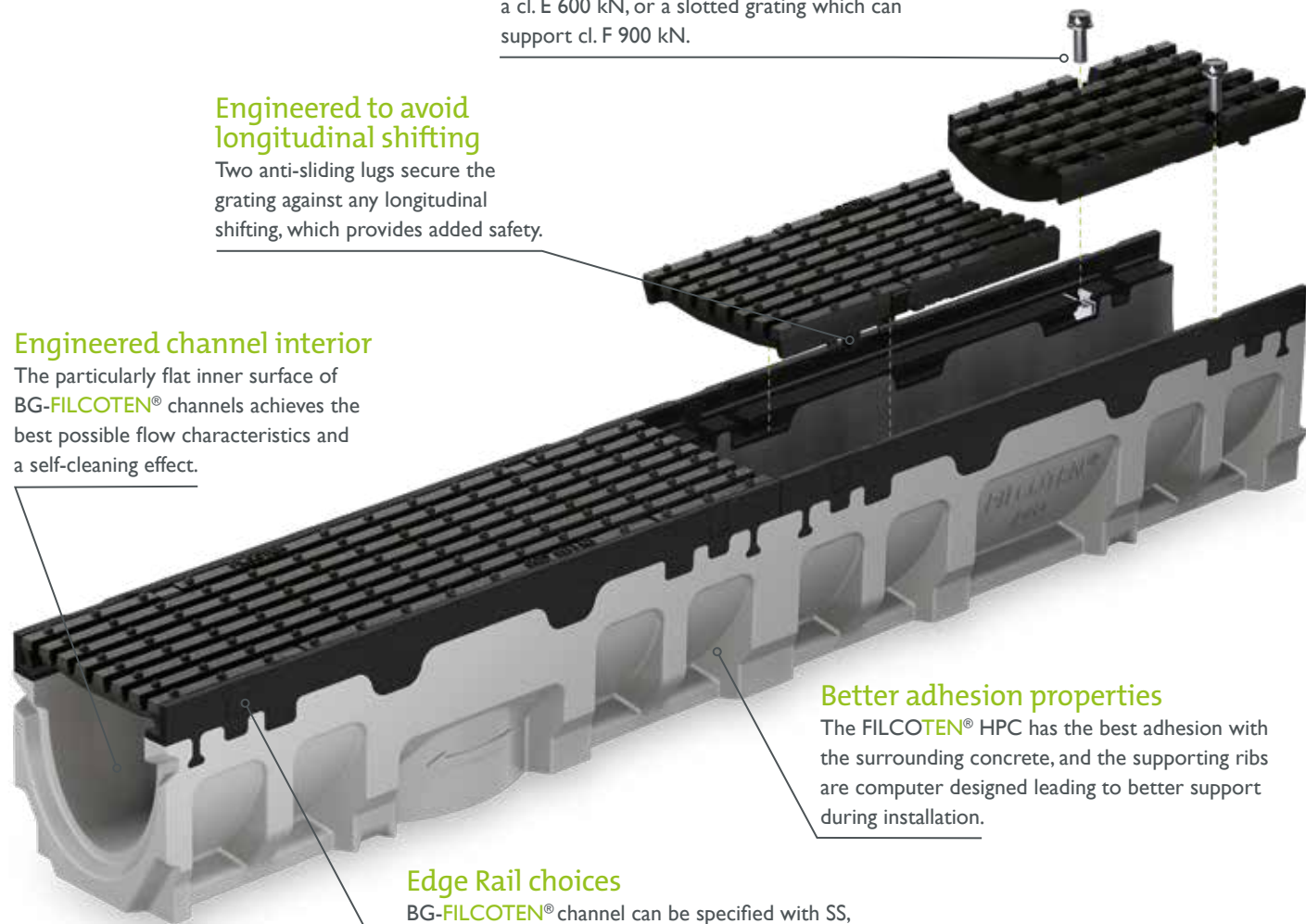
The particularly flat inner surface of BG-FILCOTEN<sup>®</sup> channels achieves the best possible flow characteristics and a self-cleaning effect.

### Better adhesion properties

The FILCOTEN<sup>®</sup> HPC has the best adhesion with the surrounding concrete, and the supporting ribs are computer designed leading to better support during installation.

### Edge Rail choices

BG-FILCOTEN<sup>®</sup> channel can be specified with SS, CI, Galvanized integrated rails to meet all project loading requirements.



## Applications

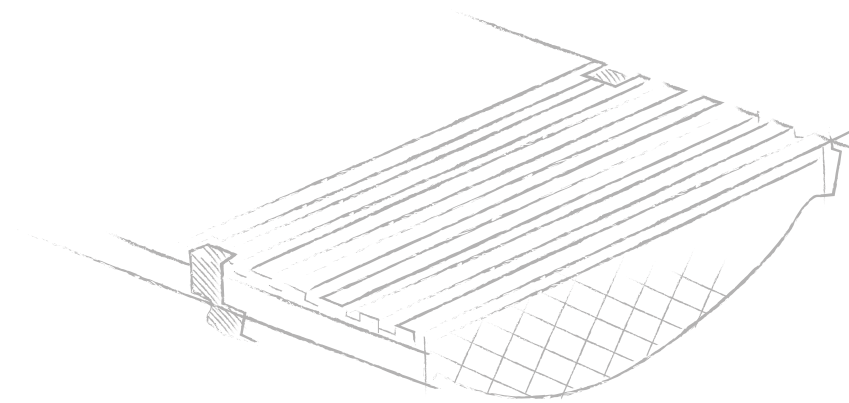
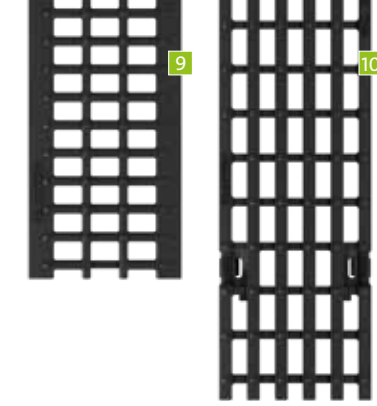


[Download product brochure:](http://www.say.bg/31/bg-filcoten_pdf)  
[www.say.bg/31/bg-filcoten\\_pdf](http://www.say.bg/31/bg-filcoten_pdf)

### An overview of applications:

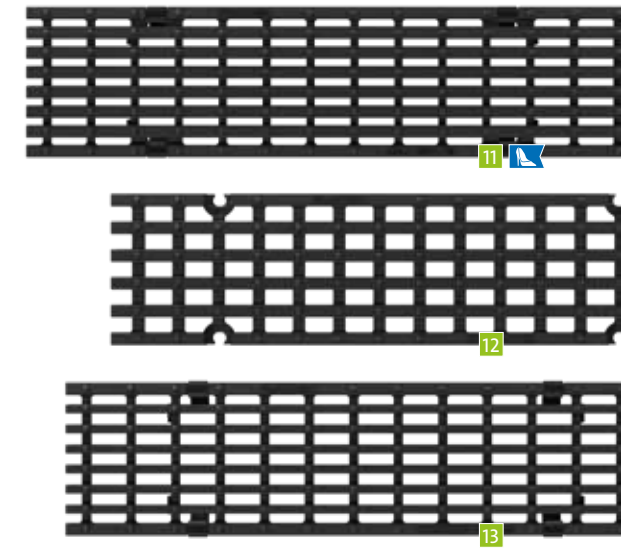
- distribution centers
- factories
- warehouses
- garages
- railway stations
- ports and airports
- commercial or residential areas

The gratings on the left are  
**beautiful & functional.**  
On the right, it's **the other way round.**



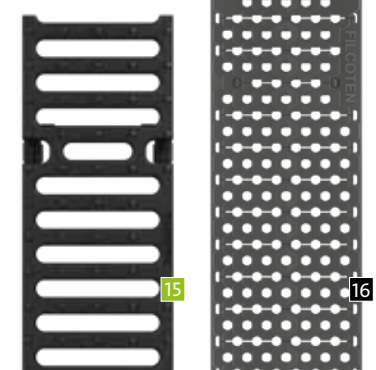
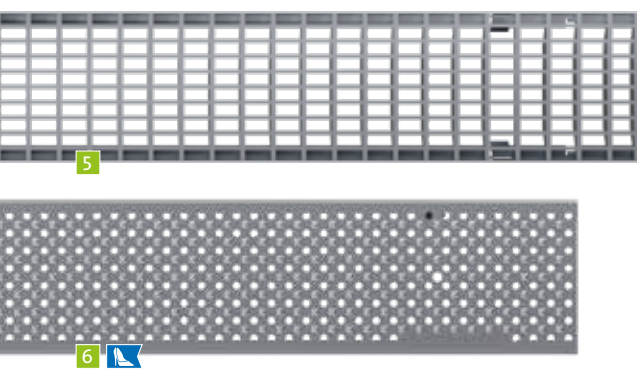
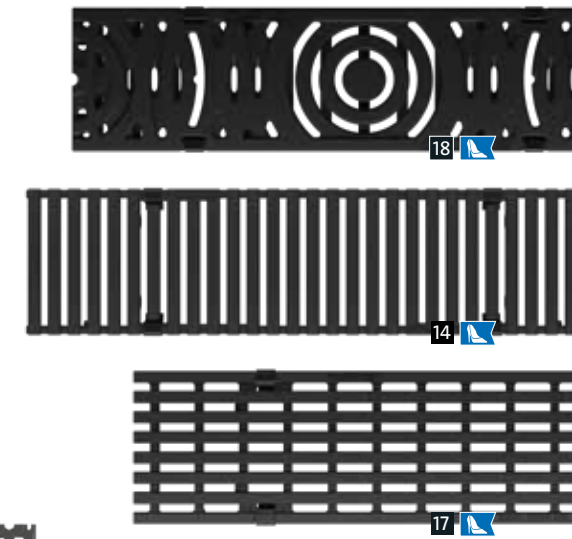
**BG-FILCOTEN® tec & city mini**

| Gratings   | SW, MW, Ø<br>mm | Load class <sup>1)</sup> | Material <sup>2)</sup> |
|--|-----------------|--------------------------|------------------------|
| 6 Perforated grating                             | Ø 6,0           | A, C                     | V, E                   |
| 7 Slot top                                       | SW12,5          | B                        | V                      |
| 8 Slot top 2S, Heelproof                         | SW2x6           | C                        | V, E                   |
| 16 COMBee design grate                           | Ø 7,3           | C                        | PA                     |
| 10 Ductile iron elongated bar grating            | MW 29/13        | C                        | G                      |
| 15 Ductile iron slotted grating                  | SW10            | B                        | G                      |
| 11 Ductile iron elongated bar grating, narrow SW | MW 29/6         | C                        | G                      |



**BG-FILCOTEN® pro**

| Gratings  | SW, MW, Ø<br>mm | Load class <sup>1)</sup> | Material <sup>2)</sup> |
|---|-----------------|--------------------------|------------------------|
| 5 Mesh grating  | MW 25/10        | D                        | V, E                   |
| 6 Perforated grating                                  | Ø 6,0           | D                        | V                      |
| 16 COMBee design grate                                | Ø 7,3           | C                        | V, E                   |
| 10 ductile iron elongated bar grating <sup>3+4)</sup> | MW 29/13        | C, D                     | V, E                   |
| 11 ductile iron elongated bar grating, narrow SW      | MW 29/6         | D, E                     | G                      |
| 12 ductile iron elongated bar grating, 4 point bolted | MW 22/13        | C                        | G                      |
| 13 ductile iron elongated bar grating, narrow SW      | MW 28/9         | E                        | G                      |
| 15 ductile iron slotted grating <sup>3+4)</sup>       | SW 14           | D, E                     | G                      |
|   | SW 16           | D                        | G                      |
| 14 ductile iron-design grating KIARO <sup>3)</sup>    | SW 7            | D                        | G                      |
| 17 ductile iron-design grating VIA <sup>3)</sup>      | SW 6-7          | D                        | G                      |
| 18 ductile iron-design grating VILLE <sup>3)</sup>    | SW 7-8          | E                        | G                      |
| 15 pro/green ductile iron slotted gr.                 | SW 18/215       | E                        | G                      |



<sup>2)</sup> Material:  
V: galvanised steel | E: stainless steel  
G: ductile iron | PA: plastic polyamide  
KTL: cathodic dip painting, coated ductile iron

<sup>1)</sup> Load class as per EN 1433:  
A 15 kN | B 125 kN | C 250 kN | D 400 kN | E 600 kN | F 900 kN  
<sup>3)</sup> from NW 300 4 point bolted      <sup>4)</sup> incl. fiX-locking system

# Just right whenever volume is required.

## Intelligent design and easy to handle.

The range of BG-GATIC Slotdrain includes CastSlot and UltraSlot, and together with the complementary accessories, offer total planning flexibility. All channels are manufactured from galvanised steel and are suitable for applications up to load class F 900.

### Cast ductile iron slot

- CastSlot with 1.18" (30 mm) slot width
- CastSlot Treadsafe with 2x0.4" (10 mm) slot width

### Tapered throat

- prevents blockages

### Retention

Channel bodies up to 24" (610 mm) width allow a retention of the rainwater and a flow control outlet drain to the stormsewer.

### V-shaped channel base

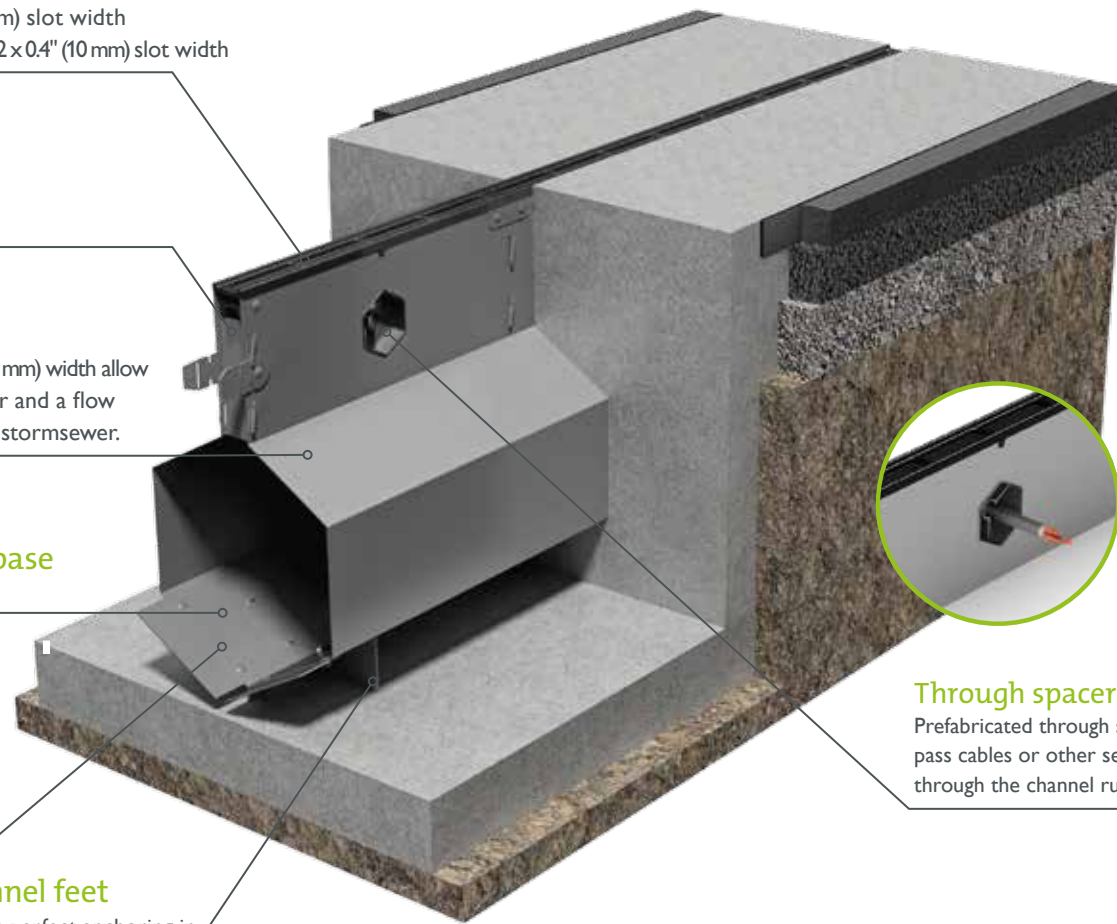
- supports self-cleaning

### Hexagonal profile

For efficient drainage of all water quantities.

### Channel feet

Ensures perfect anchoring in the concrete foundation.



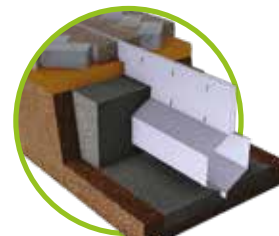
### Through spacer

Prefabricated through spacer to pass cables or other services through the channel run.

## Also available without cast iron edge:



UltraSlot



PaveSlot



FacadeSlot

# Applications



Download product brochure:

[www.say.bg/31/bg-gatic\\_pdf](http://www.say.bg/31/bg-gatic_pdf)

### An overview of applications:

- container ports
- ports and docks
- airports
- motorways and highways
- and similar areas

# Engineered **access covers** for high **performance.**

BG-GATIC range of access covers are specialized solutions for heavy duty applications like airports, ports/docks, pumping stations, highways, power stations etc. These are gas & watertight inspection covers designed both to protect and give easy access to diverse range of underground services like pump/valve chambers, fuel & fire hydrant pits, cable & lightning pits, machinery access chambers etc.

## Applications

### Safe lifting - Assist lift covers

Gatic Assist lift covers have been designed to be lifted and closed by a single operator.

### Anti-slip surface

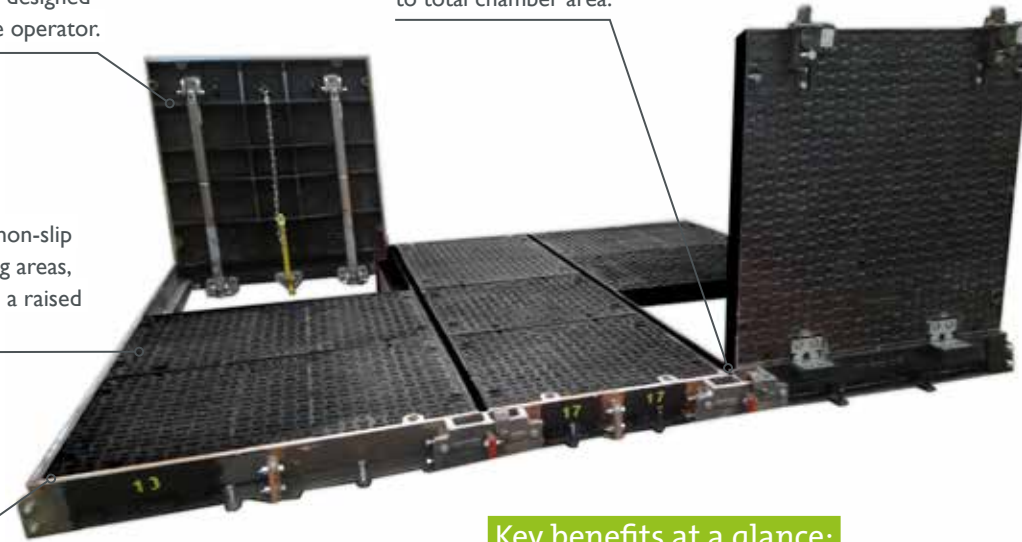
Concrete infill covers provide a non-slip surface similar to the surrounding areas, and solid top covers incorporate a raised lozenge pattern on the surface.

### Fine tolerances

The seating faces of Gatic covers and frames are machined finished and assembled in metal to metal contact within a tolerance of 0,01" (0.25mm).

### Beam wallbox

Supporting beams in Gatic multi-span units can be easily removed with the appropriate lifting equipment to give uninterrupted access to total chamber area.



### Key benefits at a glance:

- available in both concrete infill (recessed) and solid top type
- available as single, duct, continuous trench and multi-span covers
- approved as per quality & environment management systems
- provides a watertight joint under normal rainwater conditions



## Type of access covers



Recessed for concrete infill



Solid top anti-slip surface



Download product brochure:

[www.say.bg/31/access-covers\\_pdf](http://www.say.bg/31/access-covers_pdf)

### An overview of applications:

- container ports
- airports
- tunnels
- motorways and highways
- water/waste-water treatment plants
- and similar areas



## Small dimensions, great effect.

The new reference class for parking solutions such as garages and underground car parks. BG-FILCOTEN® city mini: the monolithic drainage channel made entirely of FILCOTEN® HPC. Highly stable and robust, yet lightweight and high-performing. A shallow channel that reflects our mission statement: innovation for sustainability.

### COMBee design grating

- made of polyamide PA6; corrosion-free and UV-resistant
- up to load class C 250
- protection against longitudinal movement & fiX-locking
- anti-slip honeycomb profile

### Tongue/groove/tenon system

- non-directional – randomly layable from either end
- rebated channel edge seals off the water flow

### Shallow drainage channel

- incl. edge and grating bearing
- protection against longitudinal movement and fiX-locking integrated in the channel body
- very low construction height of 2.56" (50 mm)

### Mesh grating, MW 30/10

- made of SS and galvanized steel
- up to load class C 250
- protection against longitudinal movement & fiX-locking

### Front cap

- made of FILCOTEN® HPC

### Vertical outlet

- easy installation
- 4" (100 mm)

### Also available with steel edge rail:

#### Advantages:

- ideal for shallow applications
- available in variety of grating options
- capable to withstand heavy duty load in parking application
- available in different widths



BG-FILCOTEN® pro mini

## Applications



Download product brochure:

[www.say.bg/31/parking-drainage\\_pdf](http://www.say.bg/31/parking-drainage_pdf)

### An overview of applications:

- multilevel car parks
- driveways
- indoor parking spaces
- garages
- building entrances

# Our **shallow** trench drain is never a superficial **solution.**

Drainage systems in car parks are a necessity and faced with a wide range of challenges, which are not usually dealt with by traditional drainage systems. BG-FILCOTEN® parkline is a channel that meets the challenge of designing lateral drainage in car parks. Made of FILCOTEN® HPC, being monolithic and extremely shallow makes it unique for such applications.

### Innovative connecting element

- allows for a wide variety of combinations for channel runs (cross, T/L connection)
- made entirely from FILCOTEN® HPC
- efficient water conductivity thanks to innovative design

### Sophisticated sealing joint

- sealable butt joint, easily accessible and inspectable
- based on requirements of EN 1433
- In order to create a sealed system and connect with the surface coating system, a seal should be made below the parkline elements.

### Powerful connection

The coefficient of expansion for FILCOTEN® HPC is identical to that of concrete, meaning that the material is perfectly suited to ensuring a firm fit in the long term.

### Perfect fit

Side fixing pouches reinforce the firm fit in the concrete bed and ensure additional stability.

## Applications



### An overview of applications:

- multi-level car parks
- indoor parking spaces
- garages
- driveways
- extreme shallow trench applications



Download product brochure:

[www.say.bg/31/parking-drainage\\_pdf](http://www.say.bg/31/parking-drainage_pdf)

# Square-shaped and **well-sealed.** grid unit system

BG-FLEX sigma tec – the drainage system for commercial buildings – is made of stainless steel 1.4301 or a higher grade. The product is the ideal solution for draining accumulating surface water from self-leveling epoxy floorings. Floor coatings (epoxy) can be laid right up to the flange on the channel system for long-lasting protection of the building structure. This is the advantage of using BG-FLEX sigma tec over the standard BG-FILCOTEN® system. Gratings of stainless steel or plastic, depending on the nominal width, can be selected from the BG-FILCOTEN® product range, up to load class C 250.

## Grating

- COMBee plastic design-grating or mash grating made from stainless steel
- Ø 0.27 in or MW 30/10
- load class B 125 or C 250
- optional bolting on demand
- with fiX-locking

## Sump pit frame

- as a connecting element
- also for T, corner and cross connections
- as stacking frame for a catch basin/sump pit constructed on site

## Flange and anchor bar

- flange to terminate the epoxy flooring up to the channel edge

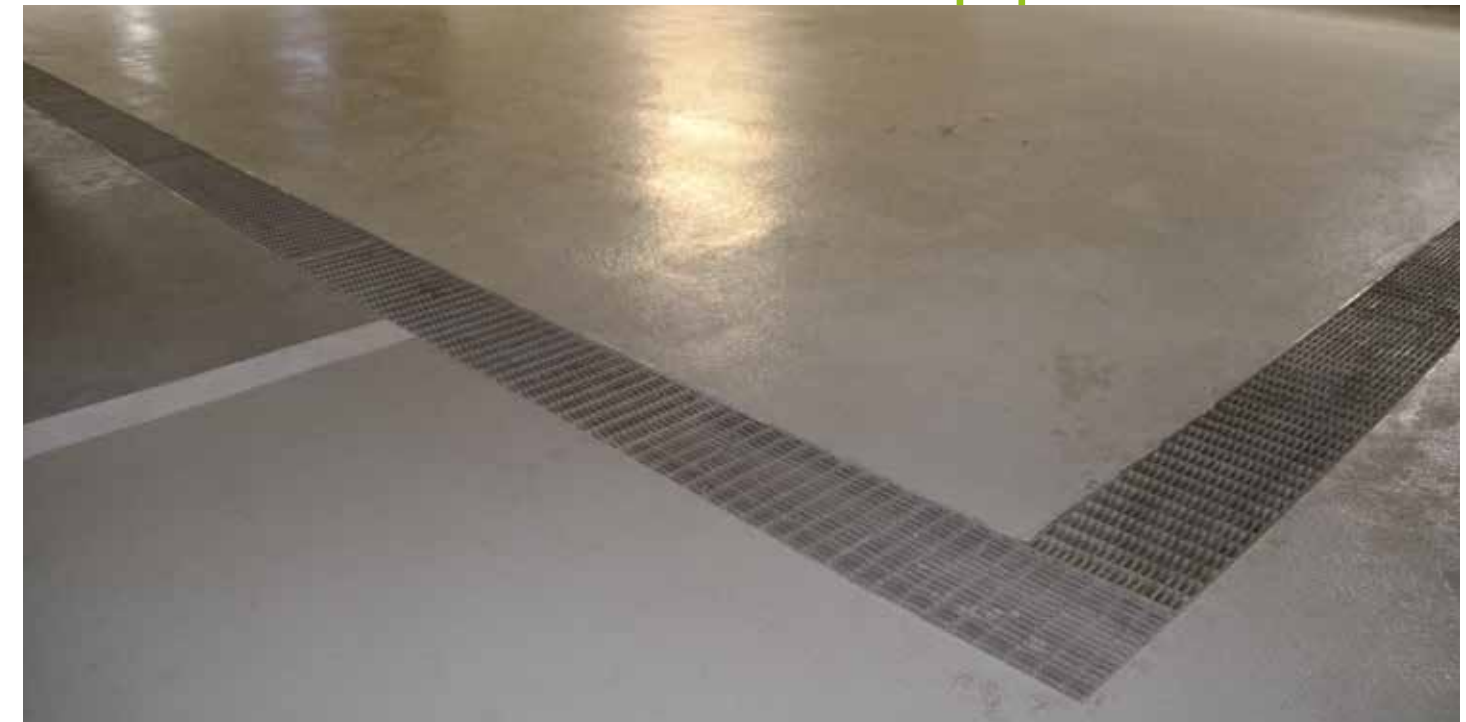
## Channel body

- made from 1.4301 or higher quality stainless steel
- nominal width: 4" (100 mm)
- visible width: 5" (125 mm)
- element length: 6.56 ft (2 m) (adjustable to the line length)
- material thickness 0.06" (1.5 mm)

## Outlet elements

- outlet nozzle with diameter 4" (100 mm)
- can be placed individually in the channel run
- outlet as a supply line, e.g. for an oil separator

# Applications



## An overview of applications:

- indoor car parks
- chemical plants
- dairies
- supermarkets
- hospitals



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[www.say.bg/31/parking-drainage\\_pdf](http://www.say.bg/31/parking-drainage_pdf)

# Optimize every cable route and your CO<sub>2</sub> footprint.

With its lightweight design, exceptional stability and low environmental impact, the **BG-FILCOTEN<sup>®</sup> connect** system opens a whole new chapter in cable ducting construction. The perfectly coordinated installation system makes for fast and precise preparation of the cable route. Good for the environment and your CO<sub>2</sub> footprint, FILCOTEN<sup>®</sup> HPC combines outstanding material properties with exceptional sustainability. This puts the new BG-FILCOTEN<sup>®</sup> connect system into a class of its own when it comes to environmental friendliness.

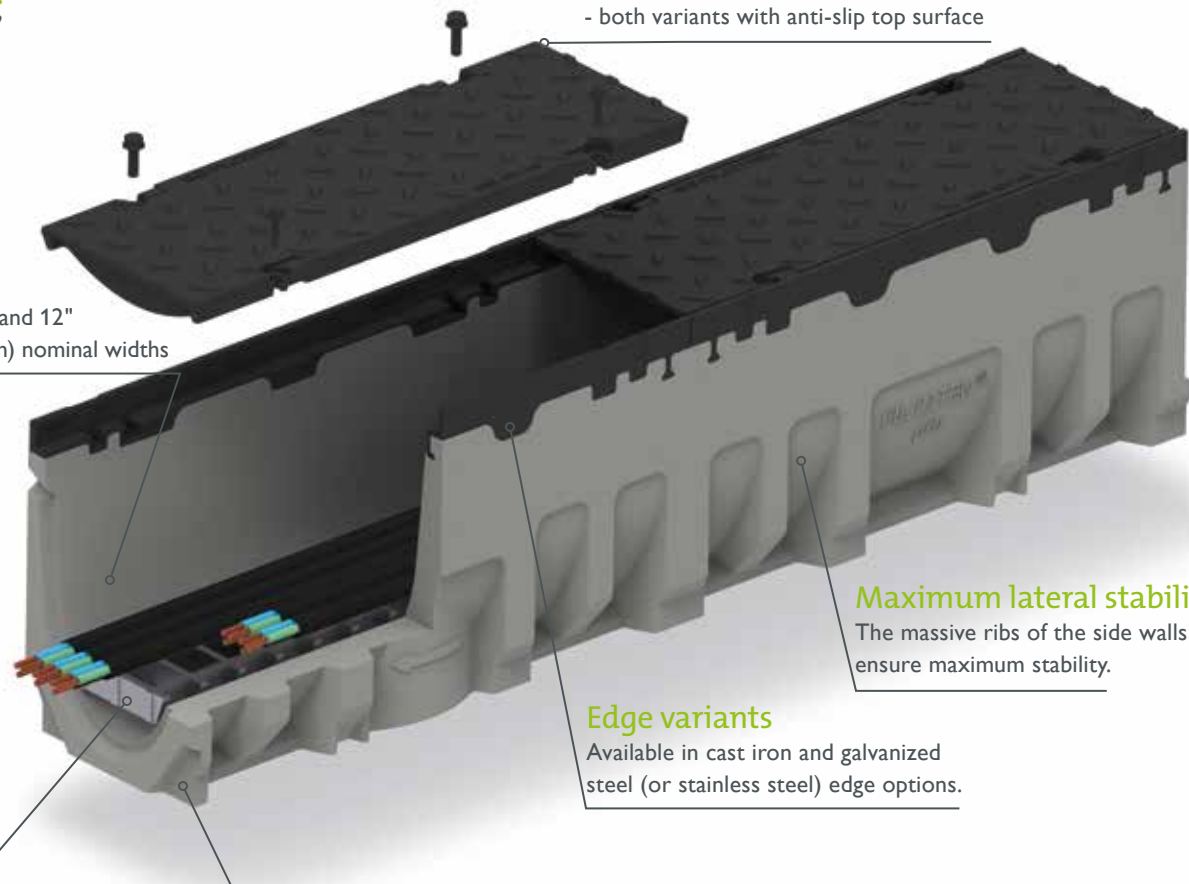


### Top cover options

- available in cast iron and stainless steel
- solid top cover options
- both variants with anti-slip top surface

### Nominal widths

- available in 4", 6", 8" and 12"
- (100, 150, 200, 300 mm) nominal widths



### Maximum lateral stability

The massive ribs of the side walls ensure maximum stability.

### Edge variants

Available in cast iron and galvanized steel (or stainless steel) edge options.

### Support Grate

To ensure proper support to the cable and optimize space.

### Prevents shifting

With the tongue and groove system, the channels are installed from top to bottom.

### Also available for LRT/Rail applications:



BG-FILCOTEN<sup>®</sup> cable trough

## Applications



### An overview of applications:

- exhibition centres
- communication or data centres
- automotive industry
- sports & entertainment venues
- industrial sites
- railway stations
- LRT depots

# Where sustainability meets low impact development.



Citygrid is designed for heavy duty applications and fully compliant to LID (low impact development) design principles. Extensively tested and proven, citygrid will minimize surface water run off, reduce flood risk, improve water quality and encourage biodiversity while providing a stable parking and driving surface. Being lighter than the conventional concrete grids, citygrid saves time and manpower during installation and reduces carbon footprint while transportation. Unlike concrete grids, citygrid protects the grass health during higher temperatures.

### Permeable design

A rigid but open cellular design allows the grids to provide both exceptional support and water management.

### Lightweight

Complies with Health & Safety manual handling guidelines.

### Flexible

Polymer construction is semi flexible and resistant to cracking unlike concrete.

### High load

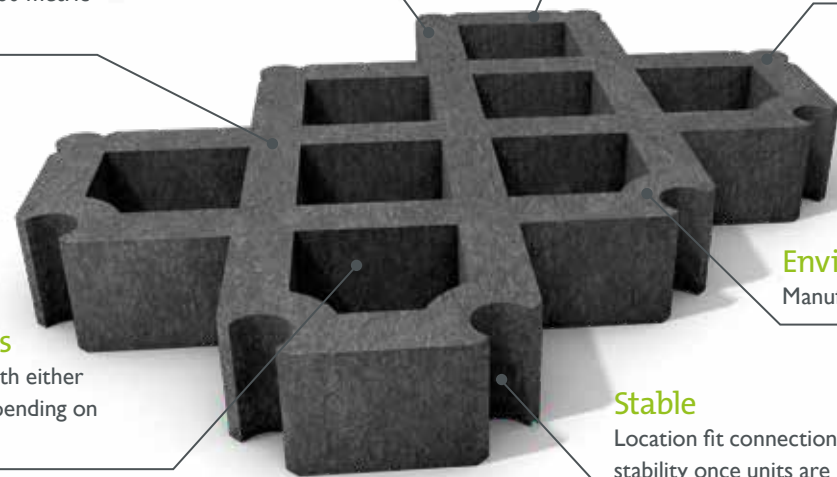
Meets high SLW vehicle usage specifications, up to 60 metric tonnes (DIN 1072).

### Environmentally friendly

Manufactured from 100% recycled plastic.

### Application options

Open cells can be filled with either gravel or soil and seed depending on your application.



### Stable

Location fit connection improves stability once units are in position.

## Applications



### Overview:

- Material : 100% recycled polyolefins
- Nominal size (L x W x H) : 60 x 40 x 8 cm / 24" x 15.75" x 3.15"
- Unit weight : 9 kg / 19.8 lb (37.5 kg / 82.67 lb per 1 m<sup>2</sup> panel)
- Coverage : 4.17 grids/m<sup>2</sup>
- Color : Grey
- Connection type : Tongue and groove
- Infiltration rate : 2,500 mm/hr for gravel

### Key facts:

- High compressive strength
- Flexible and resistant to cracking
- Anti-slip & UV resistant
- Harmless to the environment
- Meet SLW60 loading category (vehicle up to 60 metric tonnes / 66 US tons gross weight)
- Within HSE manual handling guidelines



Download product brochure:

[www.say.bg/31/citygrid\\_pdf](http://www.say.bg/31/citygrid_pdf)

### An overview of applications:

- car parks
- access routes
- HGV/truck rest areas
- bus terminals
- wind farms
- landscaping areas
- residential driveways
- side of runway/taxiway (airports)



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