GRASPOINTNER
Sustainable innovation.

The milestone for heavy loads.

BG-FILCOTEN® one

The monolithic drainage system

FILCOTEN® HPC:

Like traditional **concrete,**

only better.

The 100% mineral high-performance concrete FILCOTEN® HPC is an enhanced form of conventional concrete. Its engineering and ecological properties are achieved without the use of any styrenes, synthetic fibres or polymers. The optimised 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 unique.

Minimal weight

- FILCOTEN® HPC enables lightweight construction
- Quick and easy to install
- Dimensionally stable, robust concrete elements

Perfect hold in the concrete bed

- Ideal expansion coefficient, identical to that of the surrounding concrete

High drainage performance

- Low water absorption and penetration
- Smooth channel surface for high drainage performance and optimal self-cleaning effect

Resistant to extreme temperatures and UV light

- Maximum resistance to frost and de-icing salt
- UV resistant

Fireproof

- Non-combustible building material – Class A1
- Therefore emits no toxic smoke

Maximum robustness

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

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EPD (environmental product declaration)

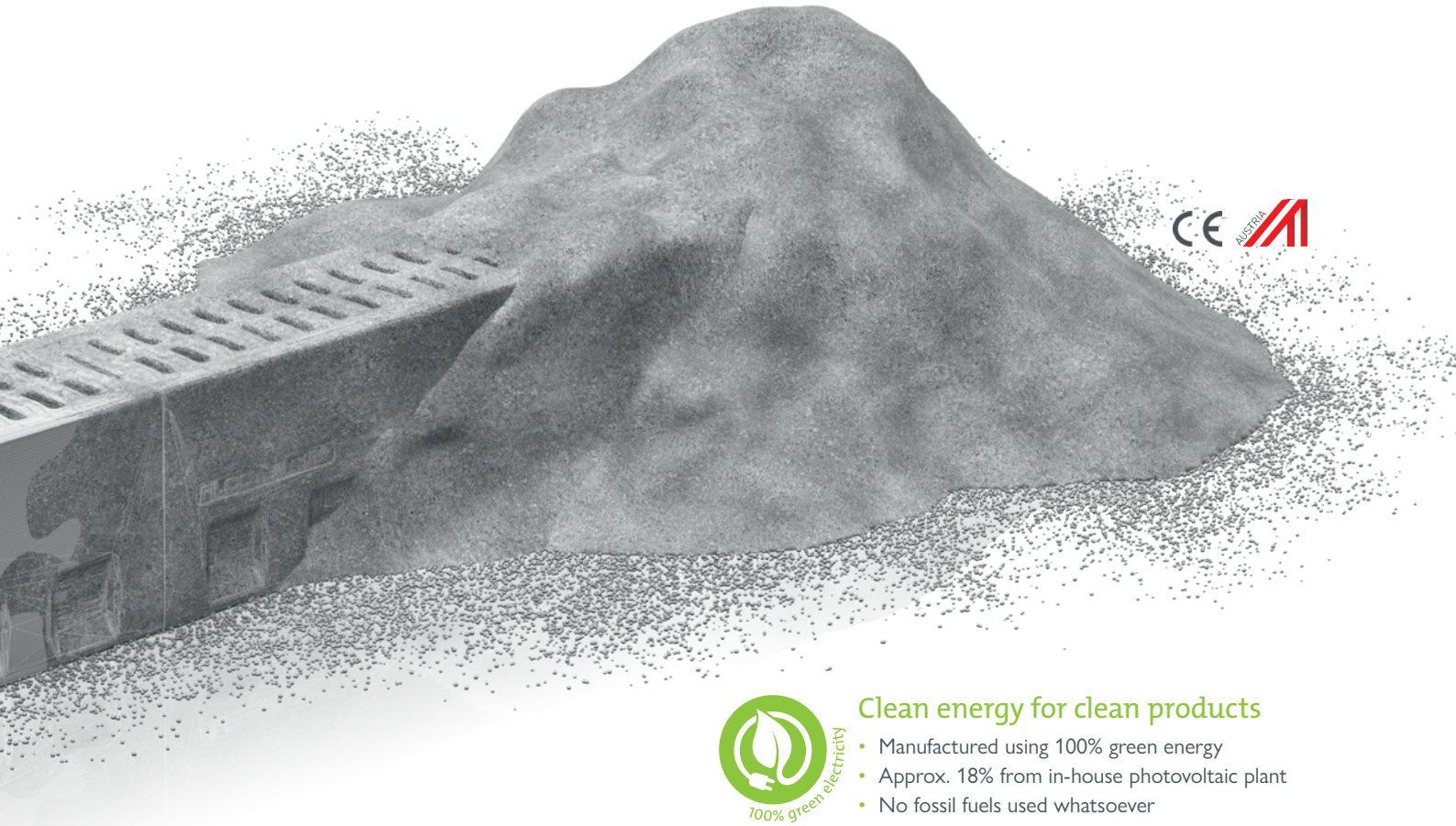
- Verified ecological transparency
- In acc. with ISO 14025 and EN 15804:A2
- Ideal for sustainable construction projects

Resource efficiency

- 100% recyclable, certified
- Quality class U-A [3)]

Sustainable production

- Resource-efficient manufacturing process
- Up to 70%[4)] less sand and gravel
- Up to 55%[4)] less cement
- Up to 51%[4)] less water



Clean energy for clean products

- Manufactured using 100% green energy
- Approx. 18% from in-house photovoltaic plant
- No fossil fuels used whatsoever

Certified for sustainability and tested for hazardous substances

- Certified environmental and energy management to ISO 14001 or 50001 standards at the location in Oberwang/AT
- Certified biologically sound construction material that meets the stringent testing criteria of the IBR, the Institut für Baubiologie Rosenheim GmbH, for heavy metals, VOCs, biocides and radioactivity; styrene-free [1)]
- Certified [2)] in acc. too KIWA BRL 5070

[1)] Free of synthetic resins. [2)] KIWA certificate no. NL BSB® K43940.
[3)] Certified by the Salzburg Institute for Construction Engineering Research (bvfs)
[4)] Compared to a comparable product made of concrete. | As of 27.02.2025

Goodbye greenwashing, hello full transparency.

Today, many companies claim sustainability credentials, but the key question is: how much of this environmental protection is just a green facade?

Full transparency – nature deserves it.

BG-FILCOTEN® drainage systems undergo a **verified life cycle assessment[1] (LCA)** in compliance with **ISO 14040 & ISO 14044,** which comprehensively evaluates the entire product life cycle — from raw material extraction to production and disposal. The **environmental impacts** determined in the process, such as carbon footprint, energy consumption and resource efficiency, are documented transparently in **EPDs[1] (Environmental Product Declarations)** in accordance with EN 15804:A2 and verified by independent experts. This enables **objective comparability** with other products and supports sustainable construction, using clear, fact-based environmental information.

[1] *Generated with Emidat EPD generator*

Product life cycle

Phases A1-A4

A1 Raw material sourcing

Extraction and purchase of resources or raw materials.

GWP [2] = 69.77 %

A2 Transportation

Delivery of resources and raw materials from the supplier to the manufacturer.

GWP [2] = 4.54 %

A3 Production

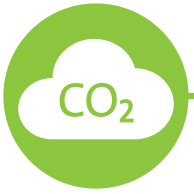
Production of the product by the manufacturer.

GWP [2] = 7.67 %

A4 Transportation

Delivery of the product from the manufacturer to the customer.

GWP [2] = 18.02 %



Total GWP [2] (Global Warming Potential)

Total global warming potential of phases A1 – A4.

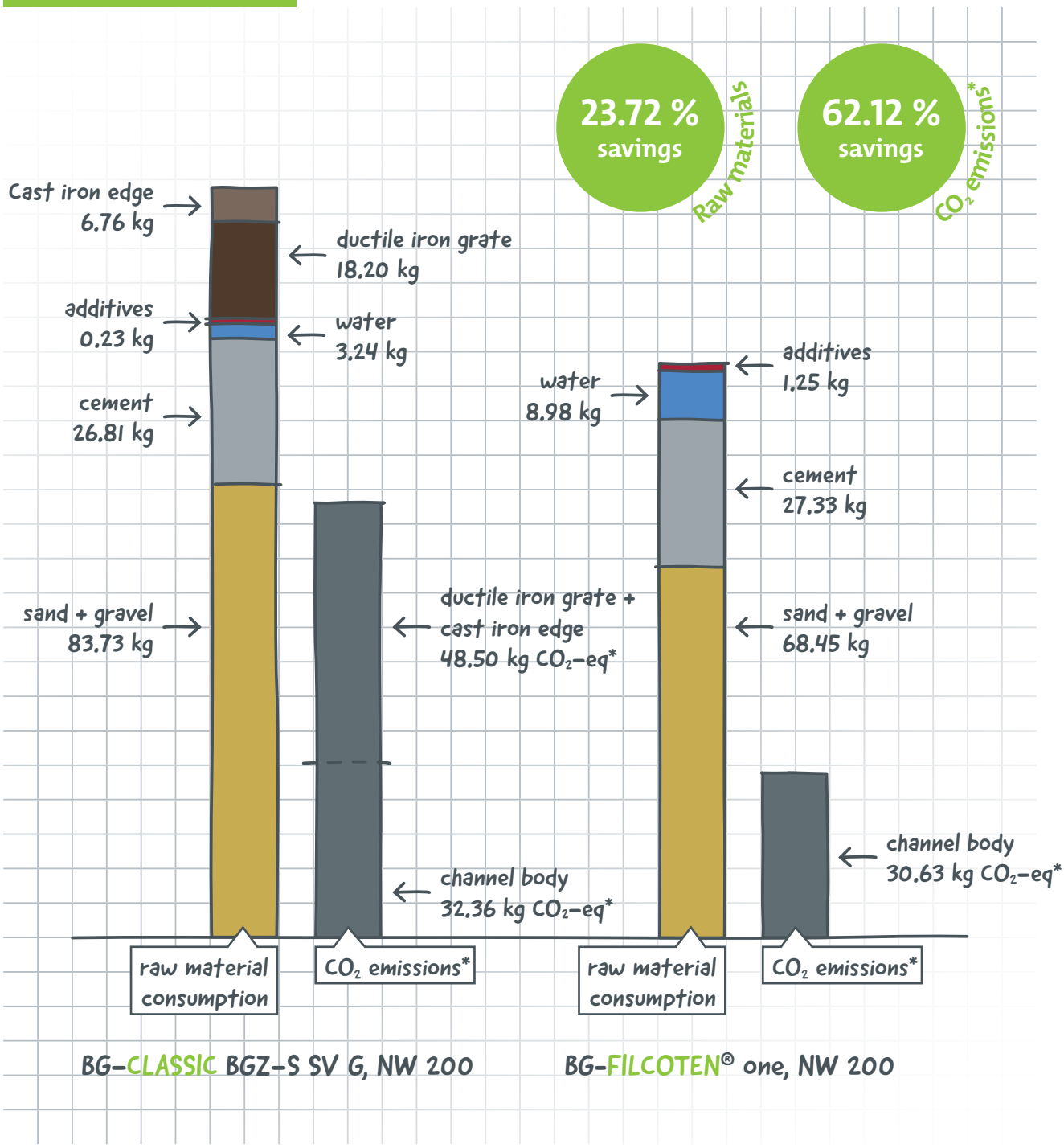
100 % = 30.63 kg CO_2-eq

[2] *The GWP values are based on a meter of the BG-FILCOTEN® one NW 200. | As of 27.02.2025*

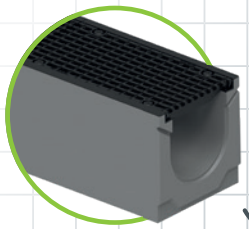
Less raw material consumption ...
... fewer CO_2 emissions.

Because sustainability and climate protection start with the material...

A comparison of FILCOTEN® HPC with conventional concrete shows how resources in construction projects can be saved while also having the capacity to significantly reduce CO_2 emissions.



Simply effective and sustainable:
The FILCOTEN® HPC formula ...

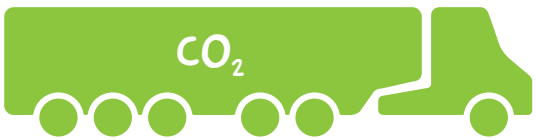


NW 200	Global warming potential A1 – A4 (500 km Transport)	Total global warming potential for A1 – A4 500 m of channel run***
BG-CLASSIC BGZ-S SV G	80.86 kg CO_2-eq*	40,430 kg CO_2-eq*
BG-FILCOTEN® one, no. 0	30.63 kg CO_2-eq*	– 15,315 kg CO_2-eq*
		= 25,115 kg CO_2-eq

A saving of 25,115 kg CO_2 equivalent equals...

.....101,026 km

...approx. 101,026 km journey of a diesel passenger car (248.6 g/km CO_2-eq)**



..... 23,458 km

...approx. 23,458 km journey of a 40 tonne semitrailer truck (1,076.4 g/km CO_2-eq)**

*) Value basis: Modules A1-A4 from the respective product-specific EPD of BG-Graspointner (A4 = 500 km transport scenario), declared unit corresponds to one meter of channel, calculated in accordance with EN 15804:A2, provided by EPD generator EMIDAT GmbH – www.emidat.com

**) Source: Emission figures of the Austrian Federal Environment Agency, database 2021. Figures used consider total emissions, including statistically average occupancy rates.

***) Assuming a distance of 500 km to the construction site. | As of 27.02.2025

When environmental protection is part of the DNA ...

Sustainability

is one of the most important components of our corporate culture. This becomes obvious from our materials, manufacturing processes and energy sources. After all, we are a member of the **Climate Alliance** Austria, the country's largest climate protection network, for a reason.

Our view of entrepreneurship is not to look at the profit alone.

The company's success and development will always be closely connected to its responsibility for the community – and for the environment. After all, what good is a huge profit if you can't bare to look at yourself in the mirror at the end of the day?

Lived sustainability in all its facets.

For this reason, the sustainable use of our environment is a central element of our corporate culture. BG-Graspointner attaches great importance to transparency.

Certified environmentally friendly production.

In the production process, we focus on maximum environmental protection, whether in the selection of raw materials or in the avoidance of unnecessary waste. With this in mind, we have implemented a certified environmental and energy management system in accordance with ISO 14001 and 50001 at our location in Oberwang, Austria.

High-performance products: with a view to protecting people and nature.

We develop our products with the aim of making them as efficient as possible. And by efficiency, we also understand that these products protect people and the environment as much as possible.

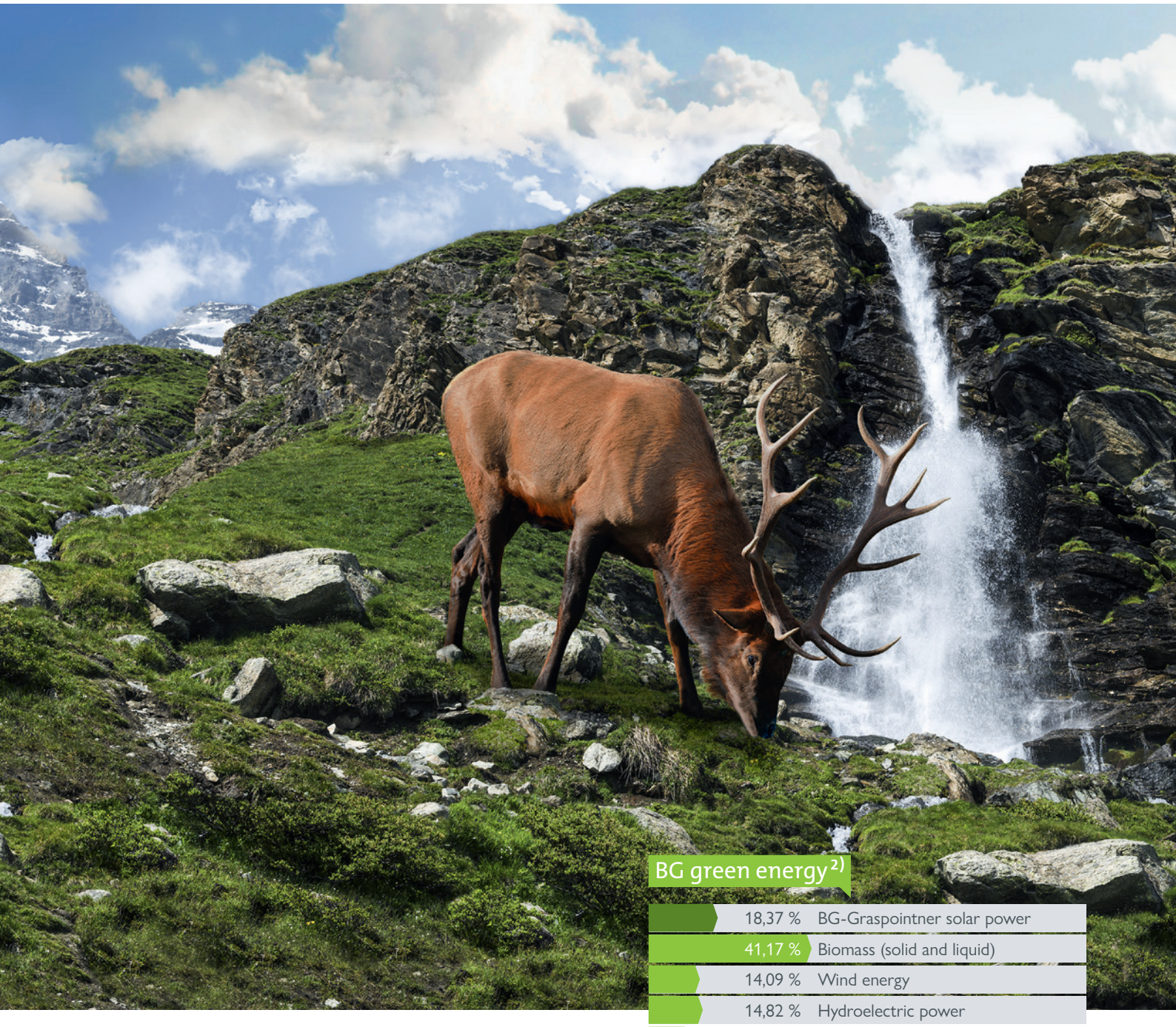
FILCOTEN® HPC as an example: environmental compatibility guaranteed.

Our most innovative material, FILCOTEN® HPC, is tested for harmful substances [1] – guaranteed environmentally compatible and IBR-certified, KIWA BRL 5070 certified, 100 % recyclable, and the economical use of raw materials make FILCOTEN® HPC unique in terms of its environmental performance.

Member of Climate Alliance Austria

EN ISO 9001 Quality management
EN ISO 14001 Environmental mgmt.
EN ISO 50001 Energy management

[1] *No use of synthetic resins.*
[2] *At the location of Oberwang/AT.*



BG green energy [2)]

18,37 %	BG-Graspointner solar power
41,17 %	Biomass (solid and liquid)
14,09 %	Wind energy
14,82 %	Hydroelectric power
11,55 %	Other renewables

100 % sustainability energy footprint

Yield from own PV-system in 2023
Data external electricity mix 2023

Sustainable to the end: We use recyclable raw materials.

Most of our products are made of mineral raw materials or metal. They are therefore 100 % recyclable and can be assigned to quality class U-A according to the certification by the Salzburg Institute for Construction Engineering Research (bvfs), a state accredited test and research facility for building constructions and building materials.

Clean energy for clean products.

We rely on the use of green energy. With our BG-FILCOTEN® channels we even use 100 % renewable energies and completely renounce fossil fuels.

TÜV AUSTRIA CERTIFIED EN ISO 9001 201003200267 EN ISO 14001 20104141372429 EN ISO 50001 TA270141372430

kiwa

IBR

DGNB Deutsche Gesellschaft für Nachhaltiges Bauen German Sustainable Building Council

Singularly **one,** simply **strong.**

Styrene-FREE [2]

Extraordinary challenges demand superior solutions. Needless to say, this also applies to draining heavily-loaded infrastructures, such as factory premises, logistics centres, terminals or airports. This is where the BG-FILCOTEN® one comes into play – and immediately takes the top spot. Because its channel and grating are cast in one piece, and constructed using the most innovative material on the market: FILCOTEN® HPC (High Performance Concrete).

Absolutely world class – from E 600 to F 900.

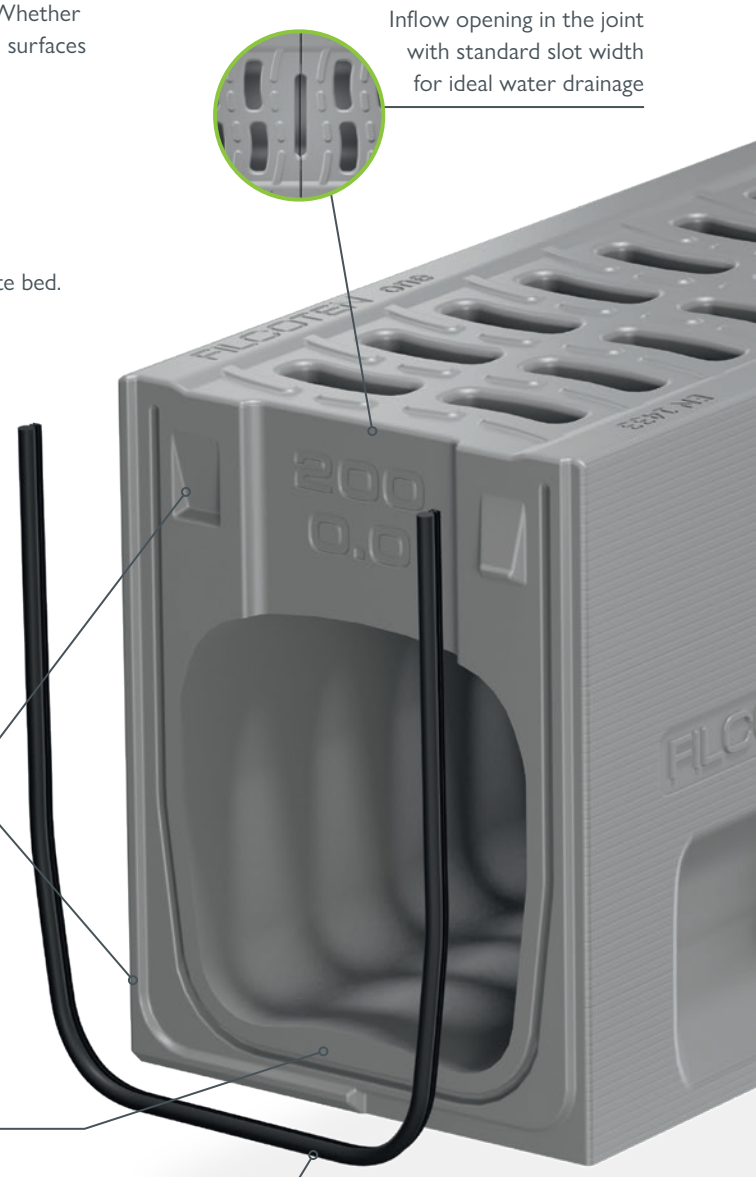
The result is an exceptionally sturdy and robust heavy-duty channel for load classes E 600 & F 900 that delivers on high drainage performance. Whether trucks, semi-trailers or aeroplanes: all of them need reliably drained surfaces to travel over – all of them need the new BG-FILCOTEN® one.

Your benefits at a glance:

- Outstanding performance in load classes E 600 & F 900.
- Exceptionally sturdy and durable thanks to the FILCOTEN® HPC monolithic structure.
- Innovative design with intelligent features; sits snugly in the concrete bed.
- Simple to install; easy-to-handle sealing system.
- Sustainable, 100 % recyclable, made using 100 % green energy.

Inflow opening in the channel joint

Inflow opening in the joint with standard slot width for ideal water drainage



Tongue/groove/tenon system for installation in either direction

- non-directional channel joint for easy and fast installation
- interlocking of the groove/tongue/tenon system for accurate, aligned setting of the elements
- predefined distance in the joint for optimum function of the insertable sealing profile

Highly efficient water run

- channel cross-section with innovative corrugated W-profile design for optimum hydraulic performance on partial and complete filling
- high self-cleaning effect of the W-profile as this causes turbulence in the inflowing water

Easy-to-handle sealing system [3]

- 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
- requirements according to EN 1433

CE AUSTRIA

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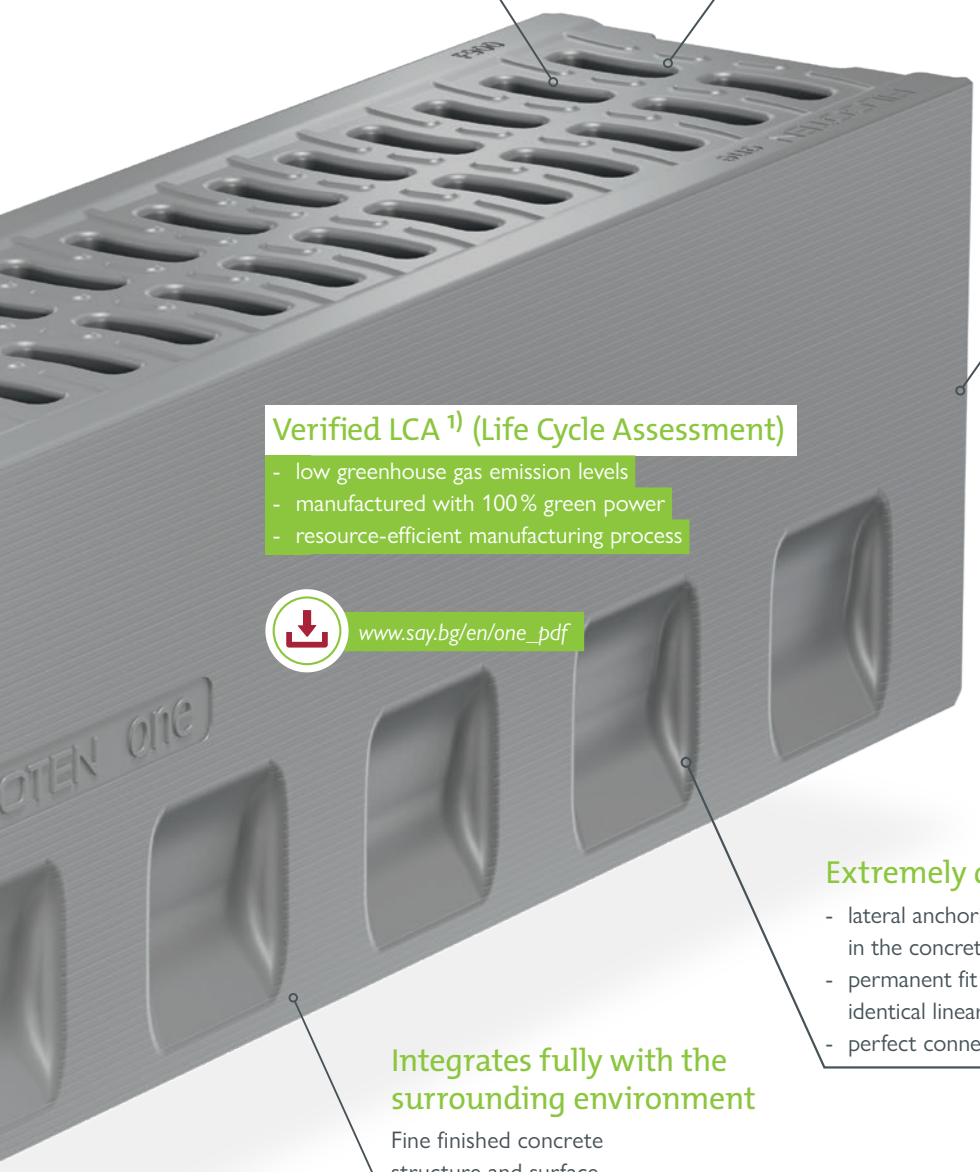
Class E 600 & F 900

Optimised inflow openings

- slot widths according to EN 1433
- innovative S-design for efficient rainwater inflow

Cyclist- and pedestrian-friendly

- counter-rotating radial arrangement of the inlet openings
- safe to drive and walk over thanks to the S-design of the double slots



Monolithic structure

- element made entirely of FILCOTEN® HPC
- extremely robust and wear resistant
- ideal for dynamic exposure in road traffic

Verified LCA [1] (Life Cycle Assessment)

- low greenhouse gas emission levels
- manufactured with 100 % green power
- resource-efficient manufacturing process

www.say.bg/en/one_pdf

fire protection class A1 – non-combustible FILCOTEN® HPC

Extremely durable hold in the concrete bed

- lateral anchoring pockets for maximum anchorage in the concrete bed
- permanent fit in the foundation thanks to identical linear expansion coefficient
- perfect connection between FILCOTEN® HPC and concrete

Integrates fully with the surrounding environment

Fine finished concrete structure and surface.

Areas of application: one for many.

BG-FILCOTEN® one is the first choice wherever heavy dynamic loads may occur.
The reason is obvious: Thanks to its monolithic structure and the sophisticated design, it combines an unprecedented number of benefits in one channel system.

Areas of application:

• logistics area	• motorway
• parking area (truck)	• country road
• garage	• harbour
• storage area	• airport (airside)

[1] *According to ISO 14040; ISO 14044; EN 15804:A2.*
[2] *No use of synthetic resins.*
[3] *Sealing profile on request.*

Perfectly
matched for everything that
comes along.

What is a good drainage system all about? Quite simply, it must be more than the sum of its parts. This is especially true for heavy-duty applications where, literally, particularly weighty challenges need to be overcome for all components. With this in mind, we focused on creating an entire, robust and high-performance system when developing the BG-FILCOTEN® one.

Class E 600 & F 900

Intelligent solutions for particularly weighty challenges.

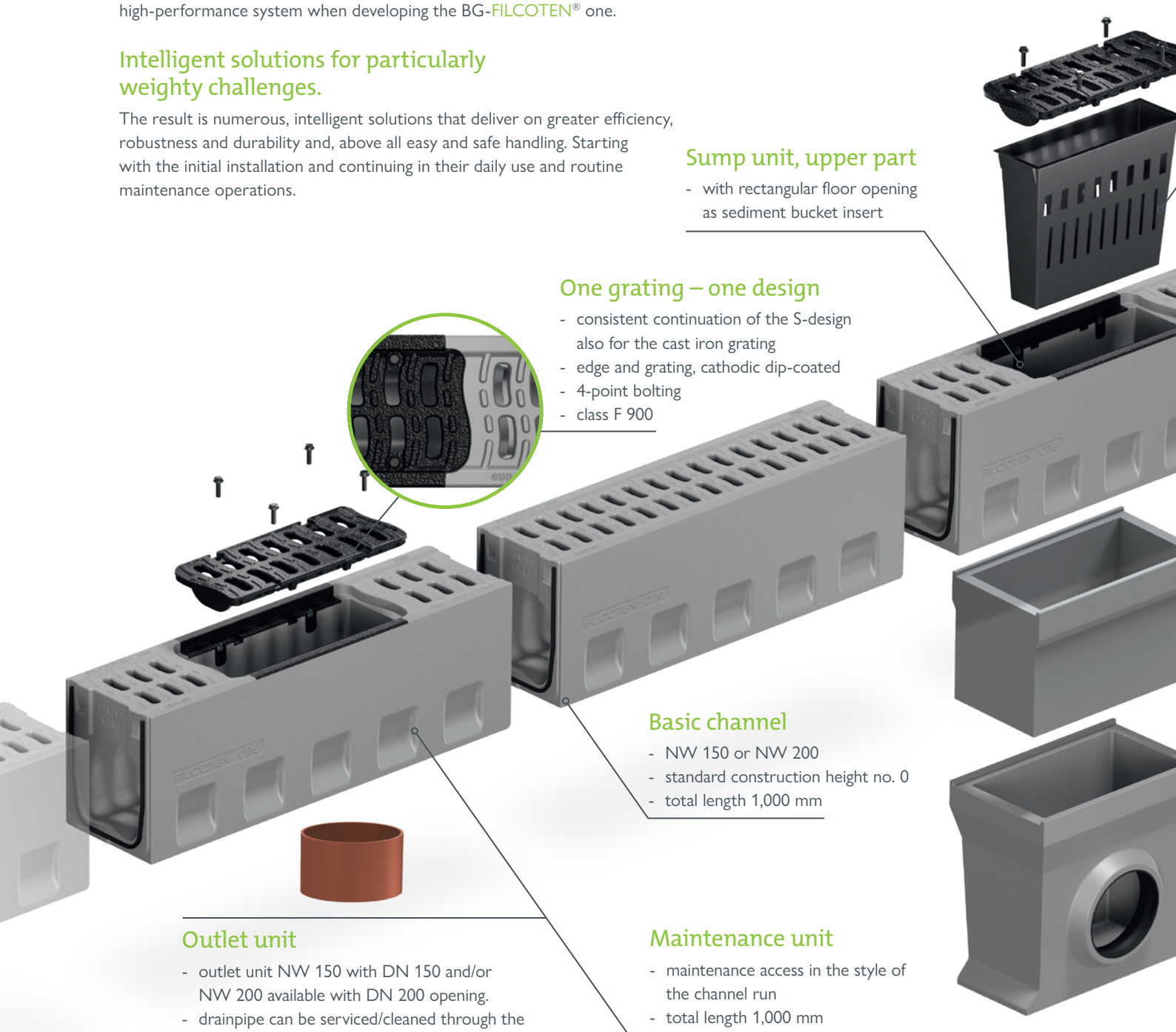
The result is numerous, intelligent solutions that deliver on greater efficiency, robustness and durability and, above all easy and safe handling. Starting with the initial installation and continuing in their daily use and routine maintenance operations.

Sump unit, upper part

- with rectangular floor opening as sediment bucket insert

One grating – one design

- consistent continuation of the S-design also for the cast iron grating
- edge and grating, cathodic dip-coated
- 4-point bolting
- class F 900



Basic channel

- NW 150 or NW 200
- standard construction height no. 0
- total length 1,000 mm

Outlet unit

- outlet unit NW 150 with DN 150 and/or NW 200 available with DN 200 opening.
- drainpipe can be serviced/cleaned through the removable grating.

Maintenance unit

- maintenance access in the style of the channel run
- total length 1,000 mm
- closed base

Front cap

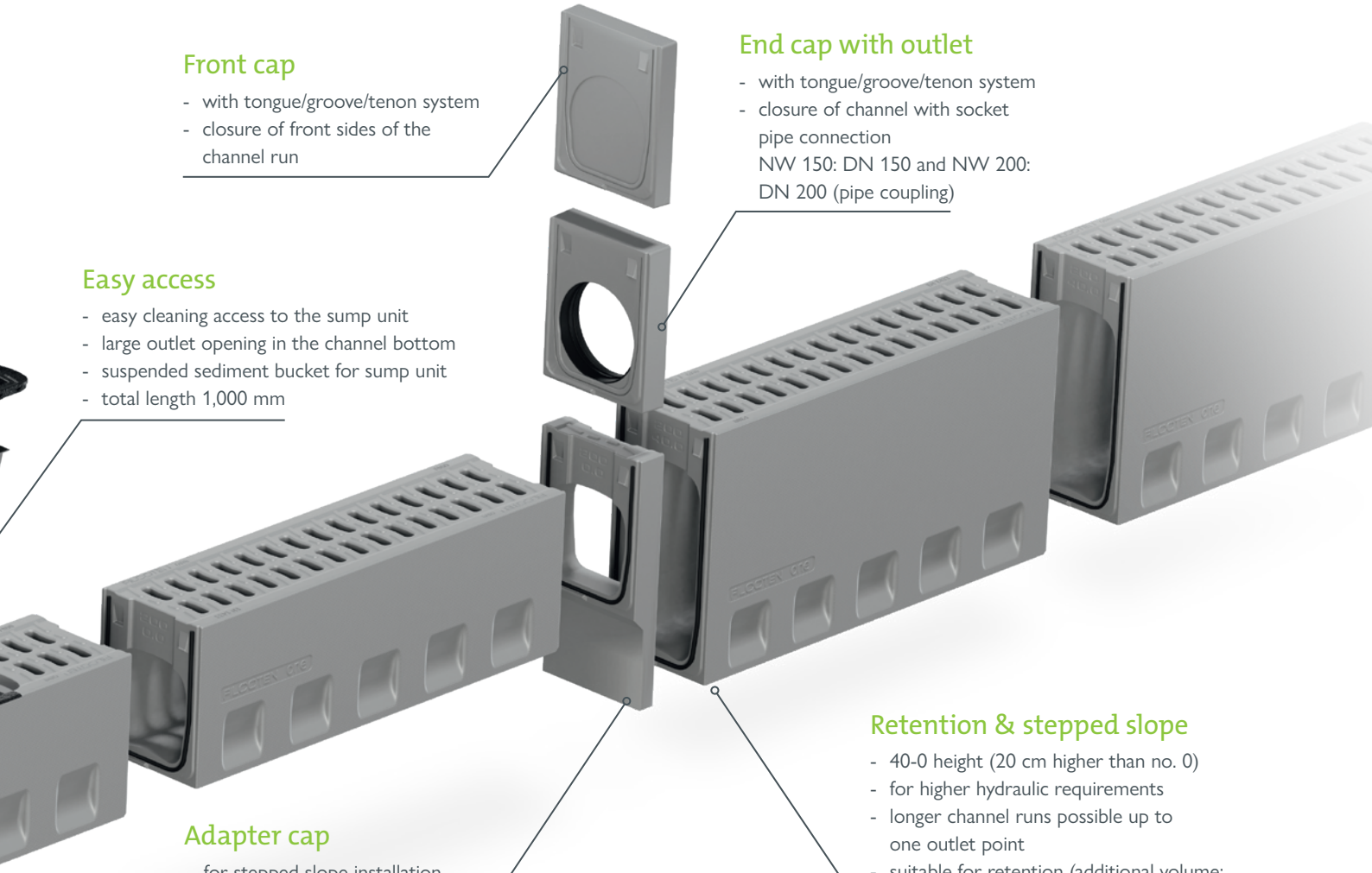
- with tongue/groove/tenon system
- closure of front sides of the channel run

End cap with outlet

- with tongue/groove/tenon system
- closure of channel with socket pipe connection
  NW 150: DN 150 and NW 200: DN 200 (pipe coupling)

Easy access

- easy cleaning access to the sump unit
- large outlet opening in the channel bottom
- suspended sediment bucket for sump unit
- total length 1,000 mm



Retention & stepped slope

- 40-0 height (20 cm higher than no. 0)
- for higher hydraulic requirements
- longer channel runs possible up to one outlet point
- suitable for retention (additional volume: NW 150 – 30 ltr./mtr, NW 200 – 40 ltr./mtr)

Adapter cap

- for stepped slope installation
- from height no. 0 to 40-0

Sump unit middle part

- to increase the outlet depth
- construction height 300 mm

Sump unit, bottom part

- socket (pipe coupling)
- left/right rotation
- NW 150: DN 150 or DN 200 available
- NW 200: DN 200 or DN 300 available

Sustainability in action: FILCOTEN® HPC (High Performance Concrete)

- cement-bound, mineral material
- extremely durable, stable and UV-resistant
- extremely resistant to frost, de-icing salt, oil, gasoline
- 100 % recyclable, certified[1)]
- certified environmental and energy management to ISO 14001 or 50001 standards at the location in Oberwang/AT
- tested by the IBR[2)]-safe in terms of building biology

www.say.bg/en/one_video

[1)] according to the guidelines of the Austrian Construction Material Recycling Association. [2)] Institute of Baubiologie Rosenheim.

As good left as it is right...

Tongue/groove/tenon system for easy installation.

Developing innovative products means always thinking one step ahead in order to offer benefits to customers even in the slightest details. When it comes to finding ways to lay a channel more efficiently, for example.

The efficient way is always better.

Our answer: An innovative tongue/groove/tenon system that enables the BG-FILCOTEN® one to be installed non-directionally and thus much more easily and faster. Plus a smart sealing system* that not only prevents water leaking out between the channel bodies but also guarantees uncomplicated handling.

Innovation for increased precision: Wedge-shaped connectors enable precise connection of the channel elements whilst also keeping them correctly spaced to ensure that the sealing profile can work to its full capacity.

Direction-independent installation: The design of the tongue/groove/tenon system on the end-faces ensures that the channel elements always match up, regardless of their direction of installation. Installation becomes easier and more efficient.

Precise fitting: The half-side tongue/groove/tenon system ensures that the channels are precisely aligned in a longitudinal direction when connected, without any lateral shifting. At the same time, the chamfered base offers sufficient “space” for installation concrete.

Bottom view

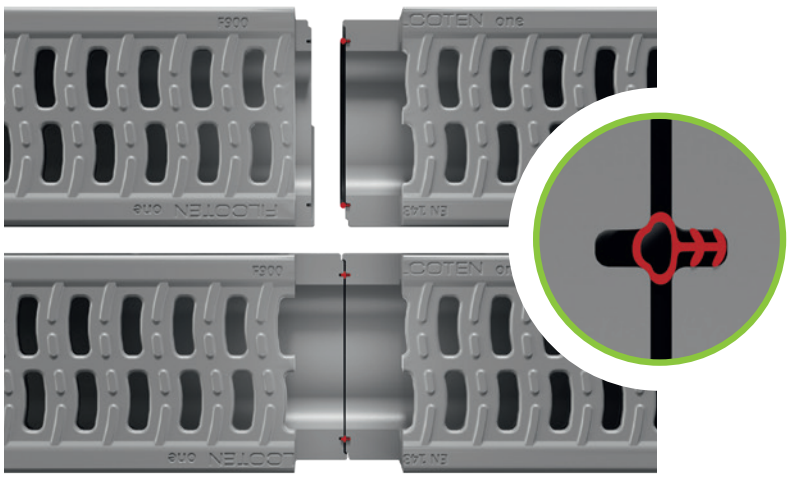
Side view

... and simply seals TIGHTLY.

Smart sealing system.

Easy handling included:
The sealing is simply inserted into the circular groove at the end-face of the element. Integrated fins prevent the sealing from slipping out of the groove.

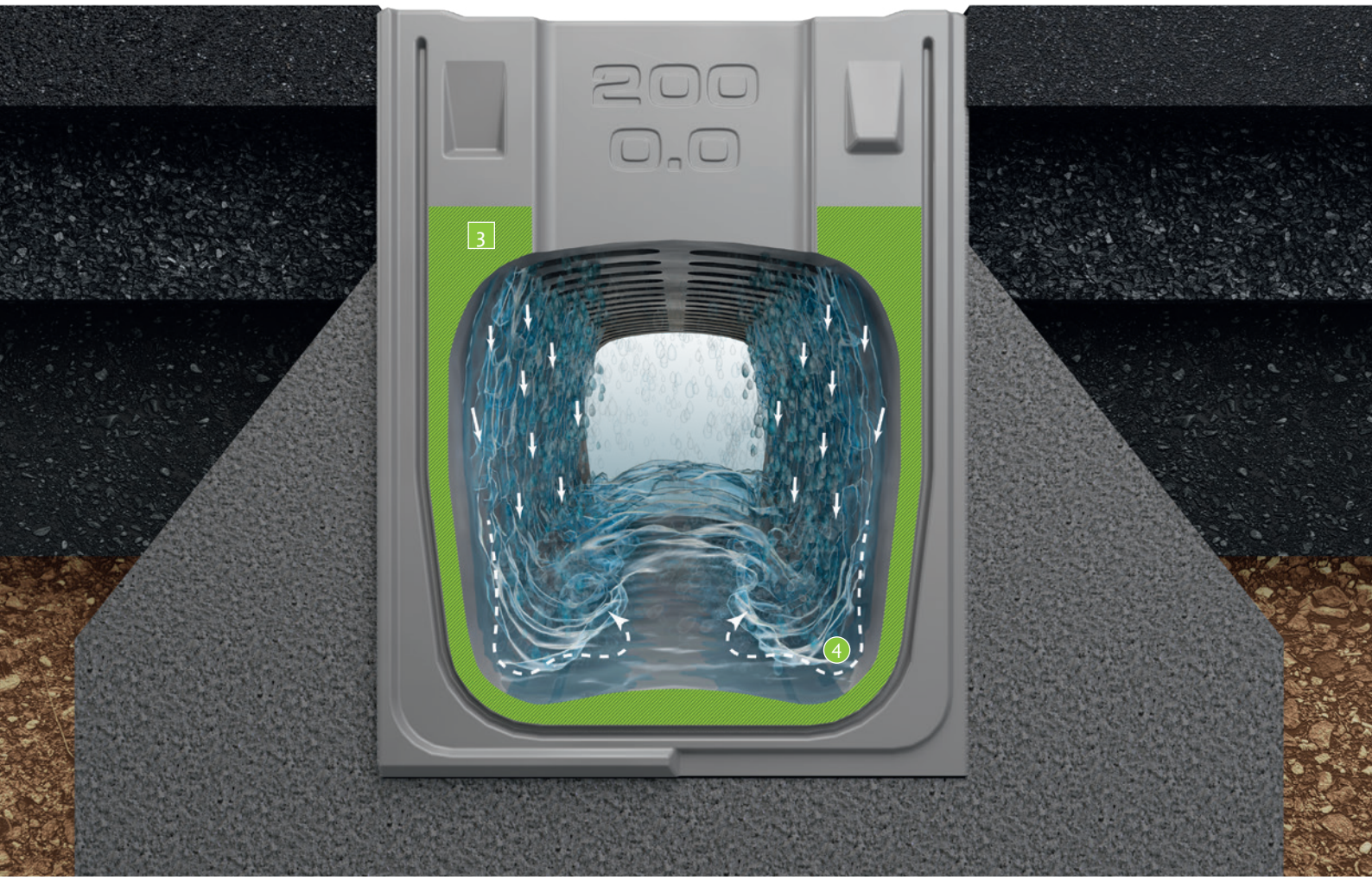
Fitted on both sides for outstanding sealing performance:
When fitting a drainage channel, only one sealing profile is required per drainage joint, and is pressed into the free groove of the facing element thanks to the precisely fitting tongue/groove/tenon system. This tightly seals the joint.



**) The sealing system is optional.*

Bring on **the water,** any time.

Good design always serves a specific purpose – and the purpose of a drainage channel is very clear: the surface water needs to be drained as efficiently as possible. On the basis of this criterion, the BG-FILCOTEN® one design is quite simply fantastic.



3 W-profile for any rainwater discharge

- Light rain quantities are quickly drained in the two lateral W-chambers
- For stronger rain, the high-capacity W-profile offers maximum hydraulic capacity and water spreading volume

4 Targeted turbulences ensure constant cleaning

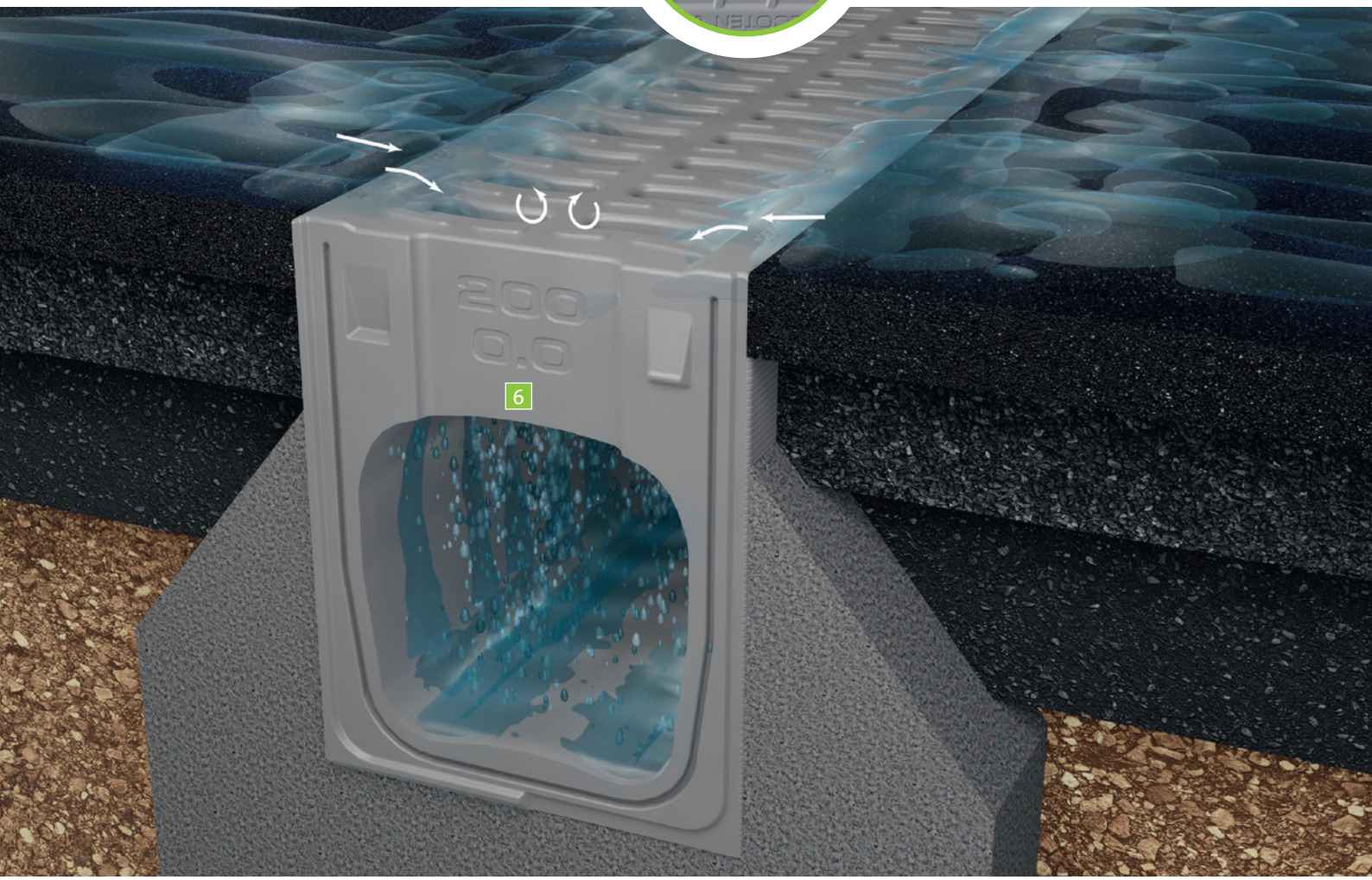
- The chambers at the side of the W-profile ensure that the inflowing rainwater is subject to targeted turbulence
- This turbulence generates a constantly high self-cleaning effect
- Dirt is quickly and thoroughly removed even during light rain

1 Perfectly dimensioned inflow openings

- Large enough to allow sufficient amounts of rainwater to flow in and fast enough for it to drain
- At the same time, small enough to prevent the entry of coarse dirt so that it is held back on the surface of the drainage system

2 Structured surface for more grip

- The grating surface has a non-slip structure
- Maximum grip – whether a vehicle crosses the channel run longitudinally or diagonally



5 Innovative S-shaped inflow opening design

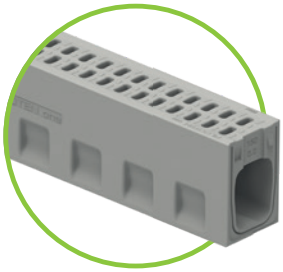
- Compliant inflow opening precisely above the W-profile of the channel base
- Optimised inlet and minimised overflow of surface water thanks to the grating surface with innovative S-shaped design

6 FEM-optimised design

- Monolithic drainage system with FEM-optimised F 900 channel body
- Structurally tailored design in every detail, e.g. thickness and structure of the spans

Class E 600 & F 900

BG-FILCOTEN® one

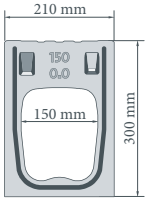


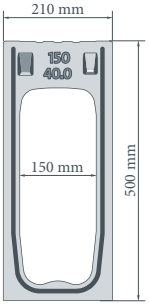
BG-FILCOTEN® one, NW 150

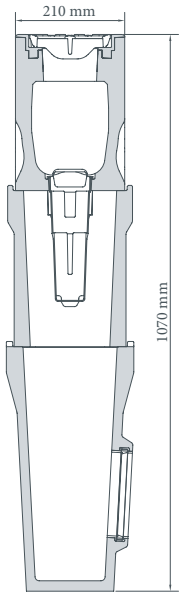
Monolithic channel made of FILCOTEN® HPC (High Performance Concrete) up to class F

Item no.	Monolithic channel body up to class F – no slope	Cl. acc. EN 1433	Weight	Pcs./Pallet
15015100	one NW 150, no. 0, L = 1000 mm, SW 23/52 mm	F 900	76.6 kg	9
15015168	one NW 150, no. 40-0, L = 1000 mm, SW 23/52 mm	F 900	107.5 kg	6

BG-FILCOTEN® one NW 150: Inlet cross-section 370 cm²/m | Discharge cross-section 150/0: 220 cm²/m | 150/40-0: 520 cm²/m





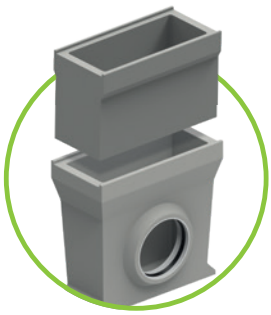


Accessories

for BG-FILCOTEN® one, NW 150

Item no.	Accessories	Cl. acc. EN 1433	Weight
15015000	Variable corner element, no. 0, SW 23/52 mm	F 900	86.0 kg
15015008	Variable corner element, no. 40-0, SW 23/52 mm	F 900	118.7 kg
15015180	Maintenance unit, no. 0, L = 1000 mm, incl. ductile iron grating [1)]	F 900	83.0 kg
15015188	Maintenance unit, no. 40-0, L = 1000 mm, incl. ductile iron grating [1)]	F 900	111.0 kg
15015190	Outlet unit no. 0, L = 1000 incl. ductile iron grating, with outlet opening DN 150 [1)]	F 900	82.0 kg
15015198	Outlet unit no. 40-0, L = 1000 incl. ductile iron grating, incl. outlet opening DN 150 [1)]	F 900	110.0 kg
15015170	Sump unit top part, no. 0, L = 1000 mm incl. ductile iron grating [1)]	F 900	79.0 kg
15015178	Sump unit top part, no. 40-0, L = 1000 mm incl. ductile iron grating [1)]	F 900	108.0 kg
19115094	Sump unit middle part, NW 150		28.0 kg
19115095	Sump unit, bottom part, NW 151, pipe-coupling DN 150		33.8 kg
19115096	Sump unit bottom part, NW 151, pipe-coupling DN 200		33.3 kg
22510	Silt bucket for sump unit, composite		0.4 kg
19115100	Front cap, no. 0, without outlet		7.3 kg
19115108	Front cap, no. 40-0, without outlet		12.3 kg
19115110	End cap, no. 0, with outlet DN 150		5.0 kg
19115118	End cap, no. 40-0, with outlet DN 150		10.0 kg
19115157	Adapter cap, no. 0 on 40-0		9.1 kg
19115900	Lifting-hook (set consisting of 2 pcs.), painted green		1.9 kg
19000701	Profile for joint sealing, no. 0, L = 650 mm		0.04 kg
19000702	Profile for joint sealing, no. 40-0, L = 1050 mm		0.07 kg

Maintenance unit or outlet element
incl. ductile iron grating



Sump unit
middle part and lower part
DN 150 / 200 / 300

Corner element, variable

Lifting hook, in green,
for NW 150, 2 per set

Lifting hook (consisting of 2 pcs.),
for NW 200, painted black

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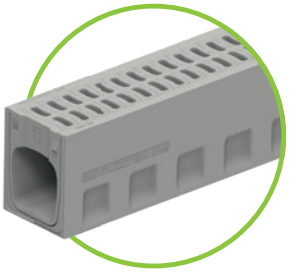
[1)] Comprising a monolithic channel body, cast iron edge and bolt-on ductile iron grating.

BG-FILCOTEN® one, NW 200

Monolithic channel made of FILCOTEN® HPC (High Performance Concrete) up to class F

Item no.	Monolithic channel body up to class F – no slope	Cl. acc. EN 1433	Weight	Pcs./Pallet
15020100	one NW 200, no. 0, L = 1000 mm, SW 23/70 mm	F 900	106.0 kg	9
15020168	one NW 200, no. 40-0, L = 1000 mm, SW 23/70 mm	F 900	136.5 kg	6

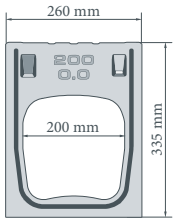
BG-FILCOTEN® one NW 200: Inlet cross-section 510 cm²/m | Discharge cross-section 200/0: 370 cm²/m | 200/40-0: 735 cm²/m

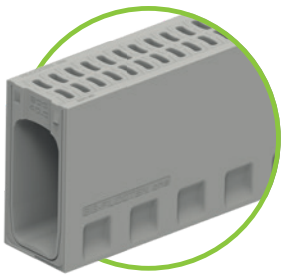


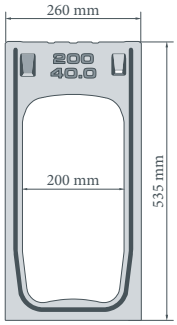
Accessories

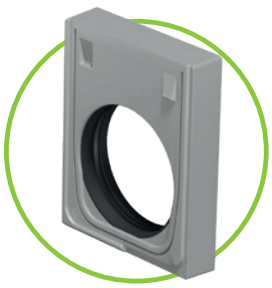
for BG-FILCOTEN® one, NW 200

Item no.	Accessories	Cl. acc. EN 1433	Weight
15020000	Variable corner element, no. 0, SW 23/70 mm	F 900	114.0 kg
15020008	Variable corner element, no. 40-0, SW 23/70 mm	F 900	142.0 kg
15020180	Maintenance unit, no. 0, L = 1000 mm, incl. ductile iron grating [1)]	F 900	101.0 kg
15020188	Maintenance unit, no. 40-0, L = 1000 mm, incl. ductile iron grating [1)]	F 900	133.0 kg
15020190	Outlet unit, no. 0, L = 1000 incl. ductile iron grating, with outlet opening DN 200 [1)]	F 900	99.0 kg
15020198	Outlet unit no. 40-0, L = 1000 incl. ductile iron grating, incl. outlet opening DN 200 [1)]	F 900	131.0 kg
15020170	Sump unit top part, no. 0, L = 1000 mm incl. ductile iron grating [1)]	F 900	96.0 kg
15020178	Sump unit top part, no. 40-0, L = 1000 mm incl. ductile iron grating [1)]	F 900	128.0 kg
19120094	Sump unit middle part, NW 200		29.0 kg
19120095	Sump unit bottom part, NW 201, pipe-coupling DN 200		35.5 kg
19120096	Sump unit bottom part, NW 201, pipe coupling DN 300		39.0 kg
22511	Silt bucket for sump unit, composite		0.7 kg
19120100	Front cap, no. 0, without outlet		13.0 kg
19120108	Front cap, no. 40-0, without outlet		21.0 kg
19120110	End cap, no. 0, with outlet DN 200		8.5 kg
19120118	End cap, no. 40-0, with outlet DN 200		16.5 kg
19120157	Adapter cap, no. 0 on 40-0		12.5 kg
19120900	Lifting hook (consisting of 2 pcs.), painted black		2.1 kg
19000703	Profile for joint sealing, no. 0, L = 760 mm		0.05 kg
19000704	Profile for joint sealing, no. 40-0, L = 1160 mm		0.08 kg

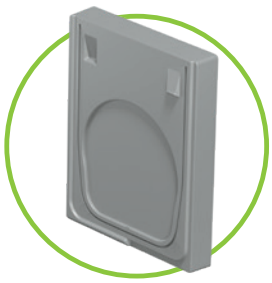






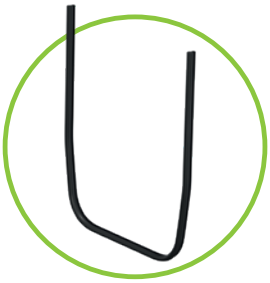


End cap
with outlet



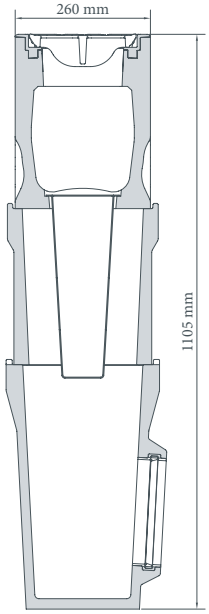
Front cap
closed

Adapter cap
no. 0 / 40-0



Is a joint sealing profile required?
Please say so with your order.

For sectional drawings and technical data on sump units, please see:
one NW 150: www.say.bg/en/one150_daten
one NW 200: www.say.bg/en/one200_daten



Installation guidelines

BG-FILCOTEN® one

General notes

The following installation guidelines and installation examples are intended for standard applications. The load class and the installation location in acc. with the EN 1433 standard will need to be adapted to the local conditions by the planner. The technical rules and regulations generally recognised in expert circles must be observed during installation. In special cases, contact the BG applications engineering department.

BG-FILCOTEN® one

1. FILCOTEN® HPC channels are to be installed on a concrete foundation in line with the Austrian standard B 4710-1 or in permeable concrete in line with RVS 08.18.01. A mortar bed (at least 2 cm thick) is imperative if the internal bottom surface of the channel is cured. Depending on the structural requirements, support concrete wedges on each side of the channel or concrete stretchers with steel reinforcement are required – see table and sectional views for details.

2. Begin by setting up the channel run at the outlet unit, ensuring that the lower part of the outlet unit is at the right height and position to connect with the sewer pipe and the channel run. If there are several outlet units in one channel run, the lower parts of the outlet units must be installed particularly carefully at the right height and position.

3. The two front sides of a downstream channel element can be connected to the upstream element as the tongue/groove/tenon system allows for any flow direction. As a result, there is no flow direction arrow on the channels.

4. We recommend using the plug-in sealing profile on the channel element butt joints. The channel joints can also be sealed with conventional sealing materials (e.g. 1-component PU-based sealing materials) during the alignment work – for a description of the materials and the quantities required, see BG-Sealing System – www.say.bg/sealing_system.

5. Before the surface layer is laid, the channel run should be protected to avoid concrete spills on the surface, e.g. with protective plastic sheeting. Avoid damaging the channels while compacting the superstructure and the pavement (asphalt, pavement, concrete).

6. In the event of horizontal forces (e.g. areas of concrete, slopes, etc.) it is necessary to provide a sufficiently sized expansion joint in the area of the carriageway edge at a distance of 30 – 150 cm to channel run. Care must be taken to ensure that no forces whatsoever that may result from a temperature expansion (concrete and/or paved surfaces) can impact the channel walls. Expansion joints must be provided and installed accordingly. The same applies to cement-stabilised base layers in the superstructure. The selected joint fillers must be made of a suitable material. Expansion joints running transversely to the channel run are to be arranged in the adjacent concrete surfaces so that they run through a channel joint.

7. To prevent uncontrolled stress cracks in a concrete stretcher along a channel run, preformed crack and/or expansion joints must be added at regular intervals (in line with recognised technical rules) or as specified by a static calculation. These joints should be added at right angles (along the channel section) to the channel element joints. The number of joints and their spacing also depend, for example, on the concrete quality used as well as the ambient temperatures that exist when pouring the concrete, and also on the concrete curing, and should be carried out accordingly.

8. Paved surfaces with a potential to be subject to shear forces must be force-locked to the support wedge. This can be accomplished by setting the first three rows of paving slabs (along the channel run) in a mortar bed. The joints must be backfilled with mineral materials. Shear forces from the paving must not act directly on the channel walls (e.g. thermal expansion, braking forces, etc.). The respective technical guidelines for the creation of paved surfaces, in bound or unbound construction, must be observed accordingly.

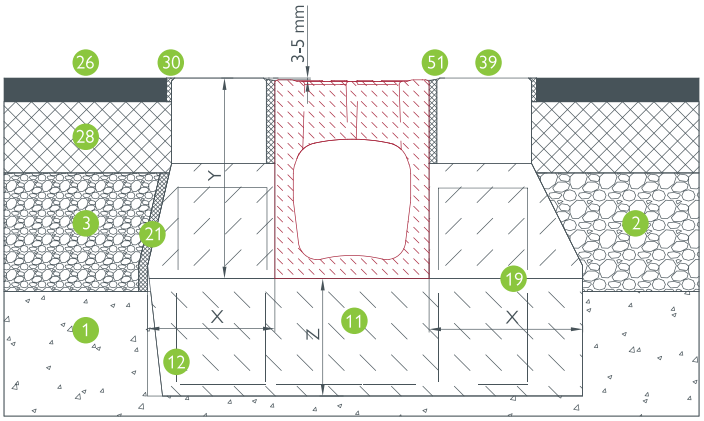
9. All adjacent surfaces should always be 3 – 5 mm higher than the surface of the channel/grating to avoid mechanical damage (e.g. snow clearing) and to guarantee the drainage of water.

10. The same installation guidelines apply accordingly to inspection and sump units (incl. upper/lower parts).

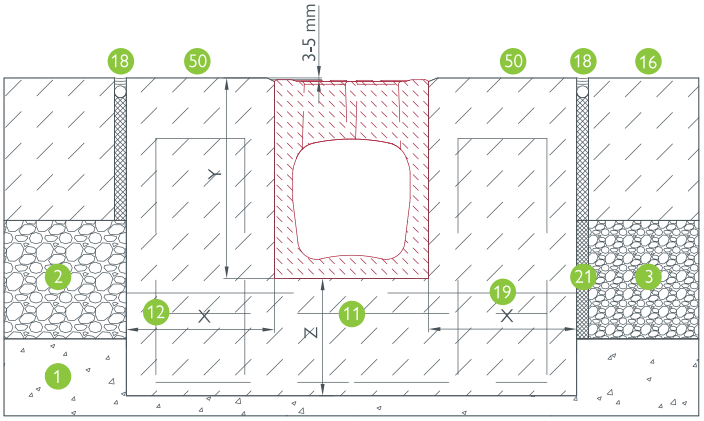
11. The channel system must be inspected at regular intervals (at least. 1x per year) for contamination and its functioning, and cleaned if necessary – especially the sump unit with silt bucket.

The installation drawings are generally applicable examples. Details and further information can be found on our website at www.bg-graspointner.com. For deviating installation scenarios, please contact our application engineers directly.



BG-FILCOTEN® one, NW 150: Asphalt – Asphalt, cl. D – F



BG-FILCOTEN® one, NW 150: Concrete – Concrete, cl. D – E

Key

1 Frost protection layer
2 load-bearing gravel layer
3 cement-stab. gravel layer
11 concrete foundation acc. to static calculations
12 class E: structural reinforcement
16 concrete pavement
18 expansion joint
19 working joint
21 expansion joint
26 surface course
28 bitumen layer
30 bituminous sealing tape
39 large-size paving stone
50 Transversal-concealed joint each 6 m at channel joints alternatively structural reinforcement
51 cavity-free joint sealing

Load Class	A 15 kN	B 125 kN	C 250 kN	D 400 kN	E 600 kN
concrete quality – foundation acc. EN 206-1*	C 16/20	C 20/25	C 20/25	C 25/30	C 25/30
Width: X	≥ 8 cm	≥ 10 cm	≥ 15 cm	≥ 20 cm	≥ 20 cm
Height: Y	Channel height – 5 cm (mini – 3cm)			Channel construction height	
Thickness: Z	≥ 8 cm	≥ 10 cm	≥ 15 cm	≥ 20 cm	≥ 20 cm
constr. reinforcement	not required				required

* Concrete quality is a minimum requirement which is to be adapted to the local requirements. Class F 900 is to be clarified with our application engineers on request.




ATTENTION *Acceleration, braking and torsional forces must be considered separately. Follow the installation instructions. Technical specifications are subject to change.*

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