



GRASPOINTNER
Sustainable innovation.



Technology
in harmony
with nature.

 **FILCOTEN**[®]

tec
pro
one

High performance
concrete trench drains.

Strong but gentle to the environment:



Impact strength and environment-friendliness are just two of the many features which makes FILCOTEN® unique.

The material combines the positive features of concrete channels with the benefits of resin bonded cements by using a patented fiber enriched formula instead of the environmentally harmful resins.

FILCOTEN® is still unrivaled in the market place, being admired for its sustainability and its unique channel strength. FILCOTEN® complies with the EN 1433 standard and the ASTM A112.6.3.2001 floor and trench drain standard.

World class design and craftsmanship

The flat inner surface of FILCOTEN® channels are well crafted to make the surface extremely smooth in order to minimize friction. This attention to detail achieves the best possible flow characteristics and a superior self-cleaning action. The textured outer surface ensures a perfect bond with the concrete bed.

Surface Properties: (µm)



High compressive strength

A high quality cement mixed with a great proportion of fibers enables thin-walled channel design while yielding a very high compression strength. FILCOTEN® channels are therefore lighter yet easily outperform most competitors.

Compressive Strength: (N/mm²)



Temperature, Frost and UV-resistant

FILCOTEN® channels are made from cement-bonded fiber composites, which react to changes in temperature in the same way as the surrounding concrete bedding. This achieves a continuous integral unit reacting and flexing with the environment delivering a long service life for the entire channel system. Resistant to frost down to -40°F (-40°C). Also resistant to de-icing salts.



Product impact stability

The high impact resistance and stability of FILCOTEN® ensures easy, quicker installation, and greater safety when installing the channels.



100 % recyclable

Every ounce of a FILCOTEN® channel is completely recyclable. FILCOTEN® has been tested by the soil and building materials testing facility in Linz, Austria.



Lower transport costs, swifter installation

Depending on the type of channel, FILCOTEN® channels are up to 70 % lighter than conventional concrete channels. This is a huge savings in terms of fuel consumption. FILCOTEN® is committed to conserving resources and decreasing its -40°F (-40°C) proportional CO₂ emissions. The lower weight also facilitates on site installation.



0% Harmful substances, heavy metals or VOC's
 FILCOTEN® is free from artificial resins and solvents. This means that it is harmless to the environment, our employees and the installation team. FILCOTEN® channel bodies have been bioconstructively tested and are recommended by the IBR (Institut für Baubiologie Rosenheim GmbH).



Non-flammable

While plastics are both flammable and often emit hazardous fumes when ignited, the complete absence of resins, catalysts and bonding agents make FILCOTEN® completely non-flammable. FILCOTEN® has a Fire Rating of A1.

Fire protection classes:

- ▶ Polymer concrete: B1 difficult to ignite
- ▶ Plastic: B2 normal combustibility
- ▶ Glass fiber reinforced plastic: B2 normal combustibility
- ▶ FILCOTEN®: A1 non-combustible

Additional safety features for channel & grating:

The **FILCOTEN[®] tec** trench drain system has all the advantages of **FILCOTEN[®]** but with added safety features. Anchoring ribs ensure a secure bonding with the surrounding concrete bed. The trench drain system is resilient up to class E600 (in accordance to DIN 19580).

High-quality:

- solidly built and robust
- resistant to heat and frost
- UV-resistant
- several design variations

Often used in:

- pedestrian areas
- parks
- sports and leisure facilities
- garages and similar surfaces

Channel geometry / surfacing

The flat inner surface of **FILCOTEN[®]** channels are highly crafted making each channel smooth, in order to minimize surface friction. This achieves the best possible flow and a superior self-cleaning effect.

Prefabricated sealant groove

Sealant groove for waterproof installations.

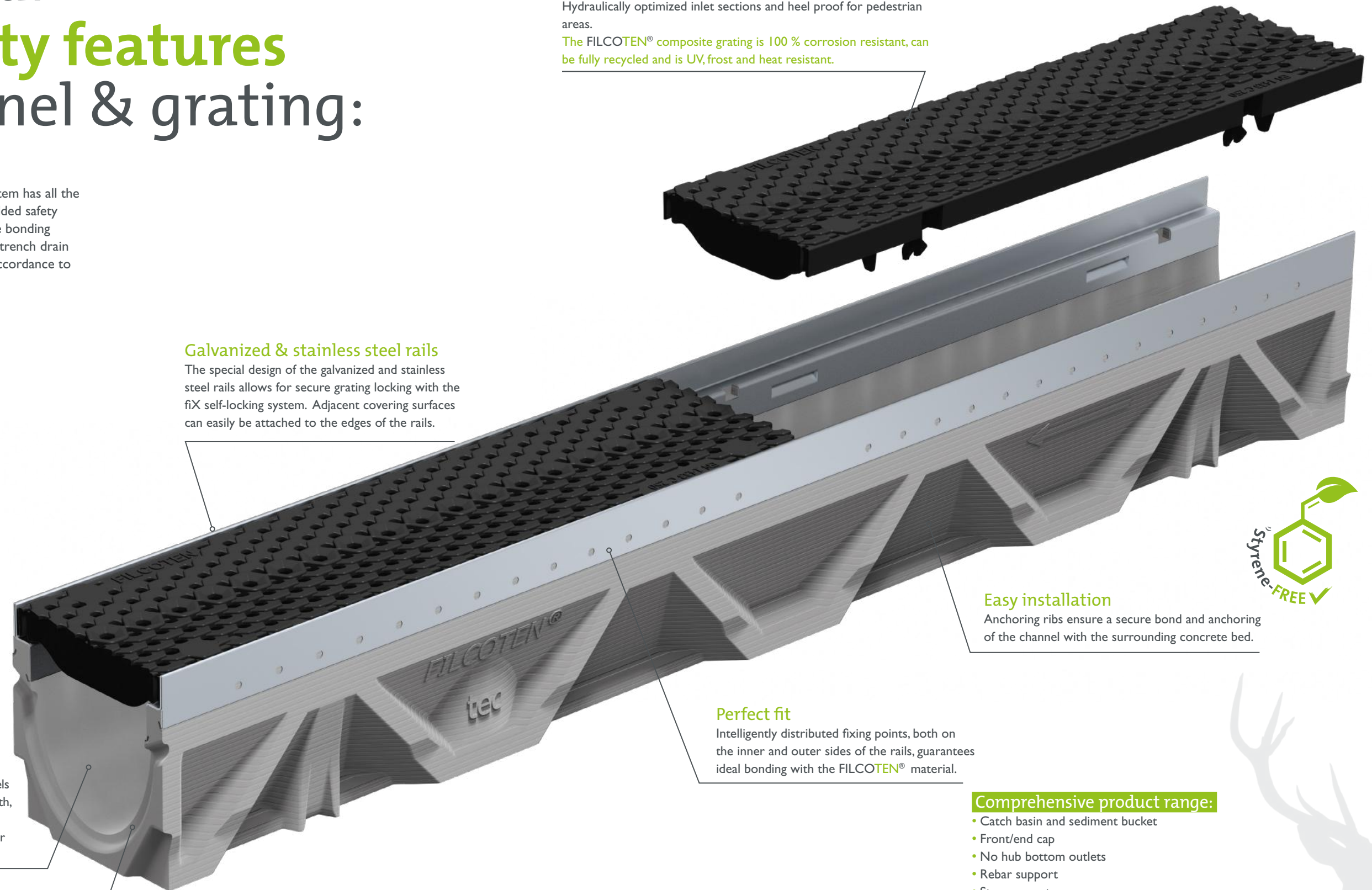
Galvanized & stainless steel rails

The special design of the galvanized and stainless steel rails allows for secure grating locking with the fiX self-locking system. Adjacent covering surfaces can easily be attached to the edges of the rails.

COMBee-design grating (class C)

Unique honeycomb and scaled surface structure design with central marking line, makes this grating ideal for modern applications. Hydraulically optimized inlet sections and heel proof for pedestrian areas.

The **FILCOTEN[®]** composite grating is 100 % corrosion resistant, can be fully recycled and is UV, frost and heat resistant.



Easy installation

Anchoring ribs ensure a secure bond and anchoring of the channel with the surrounding concrete bed.

Perfect fit

Intelligently distributed fixing points, both on the inner and outer sides of the rails, guarantees ideal bonding with the **FILCOTEN[®]** material.

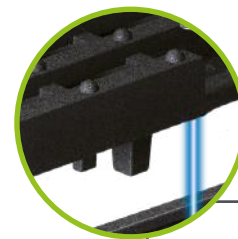
Comprehensive product range:

- Catch basin and sediment bucket
- Front/end cap
- No hub bottom outlets
- Rebar support
- Step connector
- Option for protection against vandalism
- Grating variations

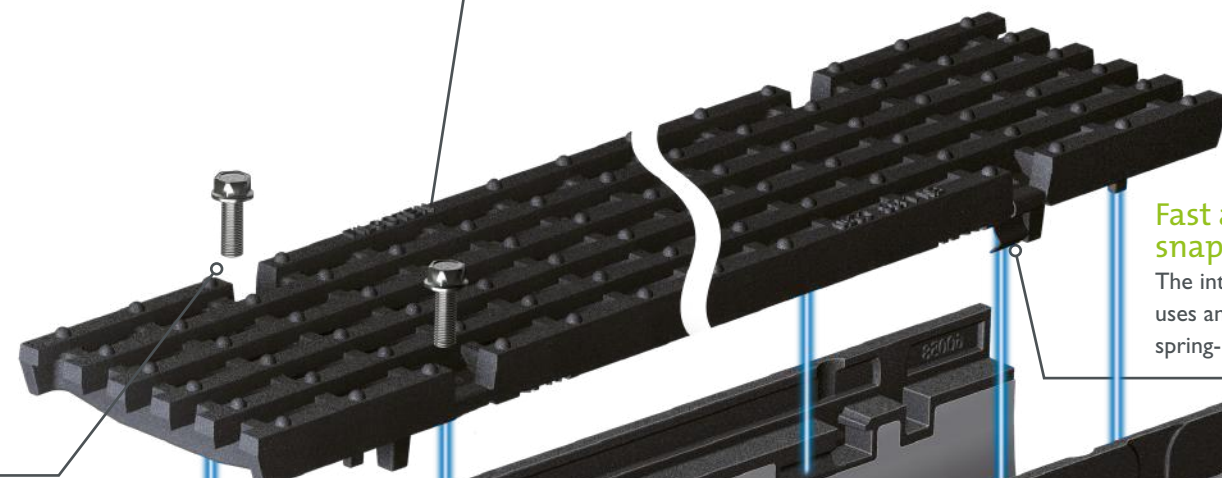


A heavyweight when it comes to Engineered features:

With our **FILCOTEN® pro** channel, you don't have to compromise on quality or durability. It's stable yet lightweight and can be adapted to site conditions. **FILCOTEN®** 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).



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



Fast and secure fiX snap-on-anchoring system

The intelligent **fiX** connection is amazingly simple. It uses an integral secure four-point, quick-release, and spring-loaded design to securely hold the grate in place.

Bolted iron grip

In addition to the **fiX** closure system, the bar grating can also include a 4 point bolting system which fastens directly 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 channel interior

The particularly flat inner surface of **FILCOTEN®** channels achieves the best possible flow characteristics and a self-cleaning effect.



Rail choices

The **FILCOTEN®** channel system is available with various integral rail types made of Cast Iron, Stainless Steel and Galvanized Steel.

Engineered channel exterior

The supporting ribs are computer designed to support the channel and increase the exposed surface area, providing far better adhesion to the surrounding concrete.

Vertical outlet on every channel

Every channel body can have the possibility of a vertical outlet.

Applications

- Distribution centers
- Factories
- Warehouses
- Garages
- Railway stations
- Ports and Airports
- Pedestrian or residential areas

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



The simplest ideas are often the best. The new, revolutionary FILCOTEN[®] one is a good example. Channel and grating cast in one piece and for the first time made from the most innovative material on the market: FILCOTEN[®] HPC (High Performance Concrete).

Made from one piece, brilliantly simple.
We have invested a lot of work and it has paid off: Many hours of construction, design, planning and testing brought a unique product that combines a great number of exceptional properties. Surprisingly, the first of its kind.

Monolithic structure, environmentally-friendly in many ways.
FILCOTEN[®] HPC combines its excellent properties with sustainability. Therefore, the new FILCOTEN[®] one is in a class of its own when it comes to environmental friendliness. 100% recyclability, certified absence of harmful substances and extremely low greenhouse gas emission levels are beneficial for both humans and the environment.

Tongue/groove/tenon 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 setting of the elements
- predefined distance in the joint for optimum function of the insertable sealing profile

Highly efficient flume

- 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 causing turbulences in the inflowing water

Easy-to-handle sealing system

- 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

Inflow opening in the channel joint

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

Optimized 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 inflow 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 (life cycle assessment)¹⁾

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



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 HPC and concrete

Integrates fully with the surrounding environment.

Fine finished concrete structure and surface.

One solution for all kinds of applications.

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 a one-channel system.

An overview of applications:

- industrial spaces
- logistic centers
- airports
- highway central lane
- temporary highway crossings due to construction
- railway crossings
- roundabouts
- harbours
- parking facilities
- asphalt surfaces



¹⁾ According to ISO 14040, ISO 14044, EN 15804 | ²⁾ No use of synthetic resins



Commerical Duty
 tec E (Stainless Steel)
 tec V (Galvanized Steel)
 with integral 2mm galvanized steel rail
 4" channels

up to load class E (EN1433)



Heavy Duty
 pro E (Stainless Steel)
 pro V (Galvanized Steel)
 with integral 4mm steel rails
 4", 6", 8", 12" channels ¹⁾

up to load class E (EN1433)



Heavy Duty
 pro mini E (Stainless Steel)
 pro mini V (Galvanized Steel)
 Shallow trench drain with integral 4mm steel rails
 4", 6", 8", 12" channels

up to load class E (EN1433)



Extra Heavy Duty
 pro G
 with integral cast iron rail
 4", 6", 8", 12" channels

up to load class F (EN1433)



Extra Heavy Duty
 one
 Monolithic trench drain
 6", 8" channels

up to load class F (EN1433)

Various grating for FILCOTEN® tec & pro



Mesh grating
 galv. or stainless steel
 cl. B through cl. D



Reinforced slotted
 galv. or stainless steel
 cl. A through cl. C



Perforated steel
 galv. or stainless steel
 cl. A through cl. C



Slot top
 galv. or stainless steel
 cl. A through cl. C for NW100



Ductile iron slotted
 cl. C through cl. E



Ductile iron longitudinal
 cl. C through cl. E



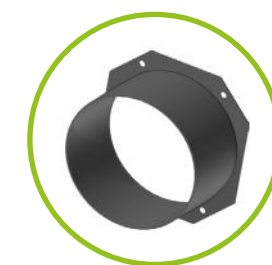
COMBee composite -
 Honeycomb cl. B & cl. C
 for NW100 only



Ductile iron design
 "VILLE" cl. E

Suitable Accessories for FILCOTEN® tec & pro

i For more information
 please visit us at
bg-graspointner.com



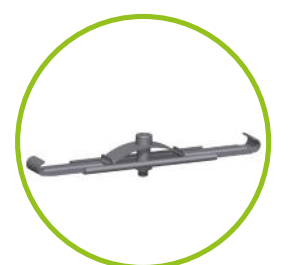
No Hub bottom outlet DN 100 to 200
 for NW 100 to 300



Bottom outlet on site installation

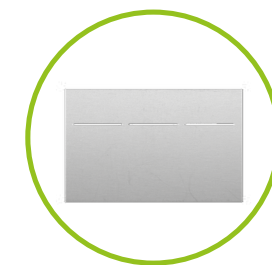


Catch basin

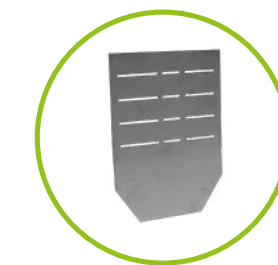


Anti-vandal locking

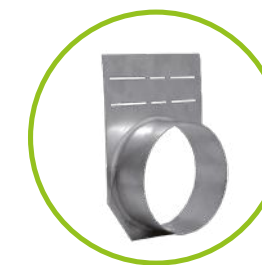
i Positioning of outlet drilling: channel end to outlet centre = 250 mm



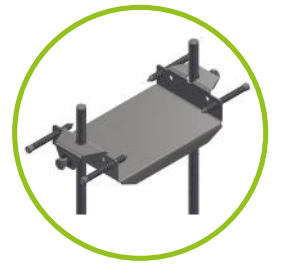
Front-/end cap
 FILCOTEN® mini



Front-/end cap
 FILCOTEN®

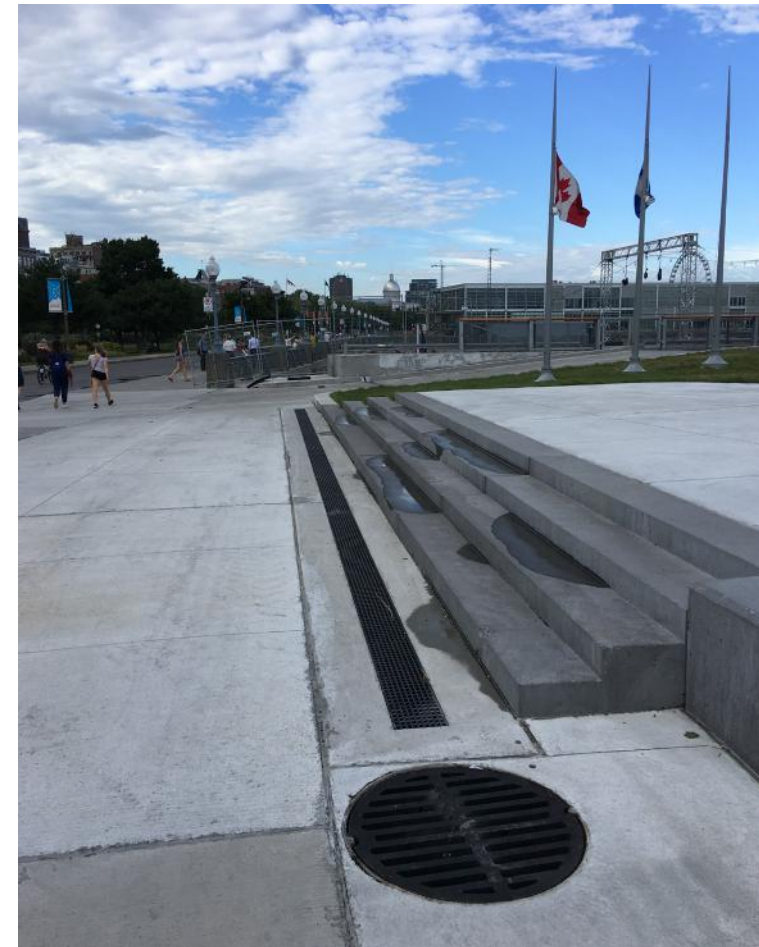


End cap with outlet
 FILCOTEN®



Rebar clips

Projects



Sustainable in every respect,
high-performance down to the last fibre,
or simply FILCOTEN®.



As of 2018

51,33%	Hydroelectric power
44,12%	Biomass (solid & liquid)
2,11%	Biogas
1,27%	Wind power
1,14%	Solar energy
0,03%	Other green energy
100%	Sustainable energy mix.

Sustainability and innovation are the central components of our company's culture. This can be seen from the materials, the manufacturing processes and the energy used. Thus, we are a member of Climate Alliance Austria: the largest municipal climate protection network in Austria. FILCOTEN® HPC (High Performance Concrete) is not just a highly advanced material, but ultimately the result of all our efforts to create cutting-edge technology that is in harmony with nature.



Environmentally friendly production process.

We also focus on environmental protection in the production process. Whether it be in selecting raw materials or avoiding unnecessary waste. Consequently, we have implemented a certified environmental/energy management scheme in line with ISO 14001 and 50001 at our site in Oberwang, Austria.



Mineral raw material, recyclable and energy-efficient.

FILCOTEN® HPC is a mineral raw material that is 100% recyclable (certified by BPS GmbH, the Upper Austrian soil and construction materials test center) and free from resins and solvents. To manufacture it, we rely 100% on green electricity and it is nearly free from the use of resins and solvents.



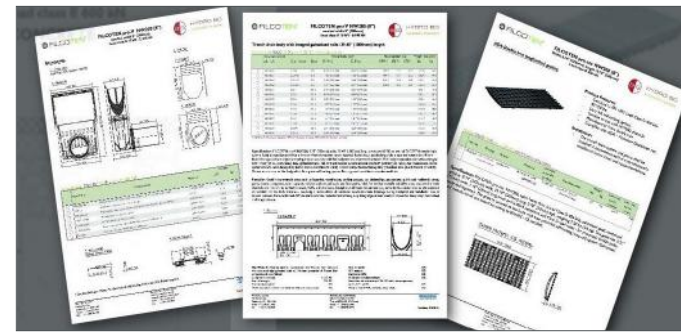
Certified: non-toxic.

- meets the strict criteria of the Rosenheim Institute for Building Biology (IBR)
- does not harm people's health and the environment
- guaranteed to be ecologically safe as it is tested for biocides, solvents, VOC, heavy metals and radioactivity



¹⁾ No use of synthetic resins

FILCOTEN technical resources and brochures



FILCOTEN Spec Sheets & Installation Drawings



FILCOTEN tec



FILCOTEN pave slot



FILCOTEN mini



FILCOTEN pro E - V



FILCOTEN pro-G



Parking Drainage Solution



FILCOTEN one

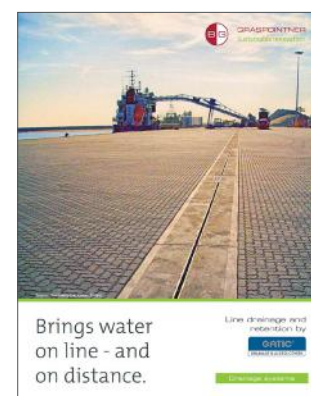


FILCOTEN Installation Manual

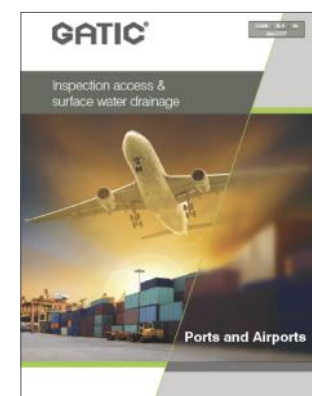


FILCOTEN Slot Top Installation Manual

Gatic technical resources and brochures



Gatic Slotdrain



Gatic Port & Airport



Gatic Access Covers



Gatic Installation Manual



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