DRAIN BLOCK

SUSTAINABLE WATER MANAGEMENT SOLUTIONS

CLIMATE CHANGE AND THE RISING RISK OF EXTREME WEATHER

PREVENT FLOODING WITH DRAINBLOCK WATER RETENTION AND INFILTRATION BLOCKS

CLIMATE CHANGE, FLOODINGS, GROWING WATER SCARCITY, URBANISATION, AND INCREASED DEMAND FOR WATER ARE CHALLENGES FOR TODAY'S COMMUNITIES.

ABOUT DRAINBLOCK

Drainblock provides sustainable and practical solutions for these water resources management challenges.

After numerous years of fundamental research & development and dozens of long-term test projects Drainblock was established in 2017 in Amsterdam, the Netherlands. Due to high demand and fast growth several regional offices were set-up throughout Asia. Further expansion throughout Europe and the US is planned for 2018.

Drainblock is dynamic and innovative and helps clients by offering total solutions. We provide both services and products for sustainable water resources management. Our solutions are efficient and effective. Many companies and governments have chosen Drainblock as their preferred partner in solving water quantity and water quality problems.

DRAINBLOCK ADVANTAGES

DRAINBLOCK IS MADE OF BASALT, A 100% NATURAL AND ENVIRONMENTAL FRIENDLY MATERIAL.

Basalt taken from the soil is melted at 1500 degrees Celcius and spun like a sugar candy. With high-tech engineering the strength and water absorption is given to the blocks.

Drainblock is dimension stable and will not change overtime. Temperature differences will not impact Drainblock nor its functioning. Tests show it cannot burn and is rated with fire-class A1 nor can it crack or break at arctic temperatures.

Drainblock is stone that is put back into the ground after being mechanically upgraded. If ever needed Drainblock can be recycled. Therefore it is a perfect circular economy product.

ECO FRIENDLY

SUSTAINABLE

LONG LIFETIME

DRAINBLOCK ADVANTAGES

Drainblock is very light and highly porous. It only weighs 75 kg/m3 and can retain almost 100% of its volume in water. Still, Drainblock is a particularly strong material that cannot break and is hard to compress. It has great load bearing capacities and offers double land use opportunities.

With Drainblock we can create large scale underground water retention reservoirs to store stormwater while on top life goes on. It allows for reservoirs under parking areas, roads, sportsfields, parks or any other construction.

LIGHT AND STRONG

DOUBLE LAND USE

Drainblock systems barely need maintenance. We design the Drainblock system such that the main reservoir is always free of maintenance. The main reservoir cannot get clogged with sediments or waste. Drainblock system cannot be inspected because they do not need to be inspected. We can guarantee systems that last for at least 50 years without any issues.

LOW MAINTENANCE

LONG LIFETIME

DRAINBLOCK SOLUTIONS

FLEXIBLE AND SUSTAINABLE UNDERGROUND WATER RETENTION SOLUTIONS.

WATER RETENTION AND INFILTRATION

In cities there is no place for stormwater to go. Rainfall events lead more and more often to floods. Heavy rainfall is alternated for prolonged periods of drought. It is a challenge to capture and store stormwater for these dry spells.

Drainblock is an innovative, scientifically proven technique that can help solve many water related issues by reducing the chances of floods, storing flash floods and relieving the influence of dry spells by creating large scale underground water retention reservoirs.

Direct absorbtion

Water collected from roofs, parking areas or roads is diverted to and immediately absorbed by Drainblock. Water can be re-used for general water supply or it can be infiltrated into the soil for groundwater recharge groundwater. Drainblock offers the possibility to integrate stormwater management with proper landscaping. The water in the reservoir can also be slowly discharged into the drainage system.

Perfect solution
Drainblock offers urban planners total design freedom. Underground water reservoirs of any size and shape are easily created, making Drainblock the perfect solution for urban areas. You do not necessarily need a square box shape - on the contrary. Other shapes or a combination of shapes is often preferred to optimise and maximise water retention and infiltration while minimising storm water drainage systems. Once Drainblock is saturated and the soil infiltration rate is surpassed, Drainblock functions as regular drain. While combining storage, infiltration and drainage over the entire length of the system.

Design freedom
We will support you with the design of the system to maximise value for money and provide you with the best possible and most economical solution. Because with proper design the net effective storage can be significantly more than the installed volume Drainblock.

Installing Drainblock is as easy. It is not necessary to cover the blocks with a geotextile. The blocks shall be installed next to eachother. A connector between the blocks is not needed.

PRODUCTS

- Drainblock HD
- Drainblock Xtrm
- Drainblock Xtrm-LS

DRAINBLOCK IS EUROPE'S NUMBER 1 SYSTEM TO PROVIDE SUSTAINABLE, LARGE SCALE UNDERGROUND WATER STORAGE.

WATER TREATMENT

The open structure and porosity are perfect features for a great water prufication system.

Filtering
Drainblock has a very high permeability making it an excellent mechanical water filter.
Before channeling the water to a Drainblock underground water reservoir suspended solids will be filtered out by our Drainblock filter thereby minimising maintenance to cleaning the filter only.

Our pre-treated Cleanblock solution is inorganic and has great permeability providing a superior environment for bacteria colonisation. Our Cleanblock solution is widely used to treat contaminated open water streams and effluent from septic tanks. It is a simple, practical and highly effective way to treat polluted streams. Once the filter is no longer needed the filter can be dismantled and recycled.

PRODUCTS
- Drainblock Filter
- Cleanblock

LAND SCAPING

As Drainblock is an inert, inorganic material with great water holding characteristics it is also a perfect substrate. The Drainblocks for landscaping are designed with different fibre structure and different densities that hold and retain the water longer to optimise growing.

Green roofs
Drainblock is an extraordinary product for low main-tenance, sustainable green roofs. With almost 100% water retention capacity and a very low weight it can be applied at almost all rooftops.

Drainblock's landscaping block is a superior substrate that provides an underground water buffer for plants and trees in gardens. Drainblock is the landscape architects favourite and best friend in creating a beautiful lush green environment.

Drainblock provides the combination of storing stormwater from roads and buildings, and making it available for the greenbelt alongside these roads.

PRODUCTS
- Drainblock Xtrm-LS
- Drainflocks
- Draincubes

DRAINBLOCK PRODUCT OVERVIEW

PRODUCT	WATER RETENTION	LANDSCAPING	WATER TREATMENT
Drainblock HD	💧		
Drainblock Xtrm	💧		
Drainblock Xtrm-LS	💧	💧	
Drainflocks		💧	
Draincubes		💧	
Drainblock Filter			💧
Cleanblock			💧

DRAINAGE & WATER RETENTION

DRAINBLOCK HD

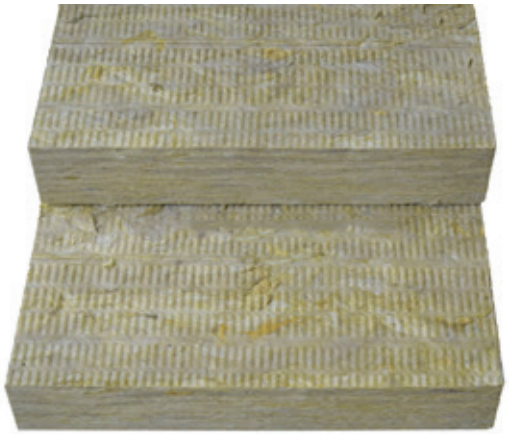
SPECIFICATIONS	
Density	80 kg/m^3
Water retention capacity	95%
Hydraulic conductivity	12 mm/s
Load bearing weight	direct 45 kPa
Lifetime	Unlimited

SIZES	L x W x H
Drainblock HD 180	1200 x 150 x 1000
Drainblock HD 90	1200 x 150 x 500

FEATURES

- Most commonly used Drainblock
- Very high water retention capacity
- High hydraulic conductivity
- For any volume or shape
- Load bearing for all traffic categories (coverage 50 - 70 cm)
- Installation: vertically, latitudinal direction pointing downwards

DRAINAGE & WATER RETENTION



DRAINBLOCK XTRM

SPECIFICATIONS	
Density	120 kg/m^3
Water retention capacity	92%
Hydraulic conductivity	6 mm/s
Load bearing weight	direct 120 kPa
Lifetime	Unlimited

SIZES	L x W x H
Drainblock Xtrm 90	600 x 150 x 1000

FEATURES

- High water retention capacity
- Medium hydraulic conductivity
- For any volume or shape
- Load bearing for all traffic categories, for shallow conditions (coverage 30 - 50 cm)
- Installation: vertically or horizontally - latitudinal direction or direction of width pointing downwards

LANDSCAPING
& GREEN ROOFS

DRAINBLOCK XTRM-LS

SPECIFICATIONS	
Density	120 kg/m^3
Water retention capacity	92%
Hydraulic conductivity	6 mm/s
Load bearing weight	direct 50 kPa
Lifetime	Unlimited

SIZES	L x W x H
Drainblock Xtrm-LS	600 x 40 x 1000

FEATURES

- For landscaping and green roofs
- Installation: horizontally
- Green roofs: directly under sedum mats
- High water retention capacity
- Long water retention period
- For any volume and shape
- Landscaping: 10-20 cm under surface

LANDSCAPING & GREEN ROOFS

DRAINFLOCKS

SPECIFICATIONS	
Mineral wool fibres without binder to be mixed with soil	
Lifetime	Unlimited

SIZES	L x W x H
Drainflocks	-

FEATURES

- Unprecedented ground improvement capabilities
- Improves drainage & water retention reduces run-off
- Boosts plant growth and plant quality
- Decreases impact drought

LANDSCAPING
& GREEN ROOFS

DRAINCUBES

SPECIFICATIONS	
Density	70 kg/m^3
Porosity	98%
Lifetime	Unlimited

SIZES	L x W x H
Draincubes	2 x 2 x 2

FEATURES

- Draincubes are used as soil improvements in landscaping
- To be mixed with top-soil until root depth
- Very high efficiency
- Improves water retention
- Decreases impact drought

WATER TREATMENT

DRAINBLOCK FILTER

SPECIFICATIONS	
Density	120 kg/m^3
Water retention capacity	92%
Hydraulic conductivity	7 mm/s
Load bearing weight	-
Lifetime in general conditions	5 years before renewal

SIZES	L x W x H
Drainblock Filter	1200 x 40 x 150
Drainblock Filter	Made to order

FEATURES

- 90% suspended solids capture
- Good hydraulic conductivity

WATER TREATMENT

CLEANBLOCK

SPECIFICATIONS	
Density	80-90 kg/m^3
Porosity	98%
Lifetime in normal conditions	5 years

SIZES	L x W x H
Cleanblock	2 x 2 x 2

FEATURES

- Cleanblocks are pre-treated and used as biological water treatment
- Extremely high contact surface and bacteria colonisation possible
- Very high efficiency

DRAINBLOCK PARAMETERS

PARAMETER	DRAINBLOCK
Water retention	95%
Maximum direct load	25 kPa
Minimum coverage for SLW30 trafiic	50 cm
Impact if max load is exceeded	max 5% settlement - system does not break
Geotextile Cover	Not needed
Clogging with sediment	No
Material	Basalt (100% natural
Flexible installment	Fully flexible - fast water flow between blocks

Impact roots	None
Fit for high water tables	Yes
Infiltration surface	Full volume
Applicable under incline	Yes - Drainblock holds water against gravity
Lifetime	> 50 yr
Flexible dimensions	Yes - easy to cut
Standard dimensions	L = 1200 / 1000 mm H = 20 - 1000 mm W = 150 mm
Weight	75 - 120 kg/m^3
Installment pace	Very fast
Environmental	Eco-friendly
Inspection needs	N/A

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