



## Benefits of Hydrorock Blocks

### Benefits of a proper sustainable water management system?

- o **Totally green**
  - Made from 100% natural rock and 100% recyclable
  - Prevents soil dehydration/super saturation
  - Aids soil condition and integrity, whilst also helping plants and wildlife
  - Uses precious water resource more efficiently
  - Enables the use of other green initiatives such as Green Roofs and Sponge cities

### Filtration benefits of Hydrorock?

- o **Filters rainwater & road surface runoff**
  - Naturally captures pollutants, greatly reducing amount entering the soil & water courses
- o **Dissolves chemical contaminants**
  - E.g. Polycyclic Aromatic Hydrocarbons (PAHs) from thermal decomposition caused by vehicle exhausts
- o **Hydrorock filters metals and solid particulate matter**
  - E.g. zinc/copper and particles from vehicles
- o **Fast and efficient filling and absorbency**
- o **Non-disruptive cleaning**
- o **Scalable (from a flower bed to an airport runway)**
- o **Increasing capacity/ dispersal improves infiltration rate**

### Versatility and flexibility benefits?

- o **In functionality**
  - Can be used for drainage of ground water, buffering of run-off, harvesting of rainfall and run-off, infiltration and irrigation
  - Can be used in new buildings, green environmental schemes, horticulture, new drainage and irrigation, leisure spaces, existing sewer relief, existing roof guttering, existing sump augmentation, existing sump remediation, existing sump replacement and Green Roofing
- o **In configuration**
  - Completely scalable
  - Unlimited arrangement of modules and arrays
  - Vented and self-venting systems
  - Accommodates existing infrastructure and immovable obstacles (can go around corners and over/under and around pipes)
  - Directional drainage and irrigation
  - Can work for difficult projects with restricted spaces/ access and poor conditions
- o **In installation**
  - Minimise hole size and spoil
  - Enables simultaneous excavation and backfill
  - Simple and fast, and only requires a plug and play
  - Difficult sites
  - Minimises project site/local disruption
  - Load bearing integrity (up to 4,000 kg per m2)

## Multi-functional membrane benefits?

o Hydrorock Blocks are available for immediate use

- Makes handling easier
- Ensures faster installation
- Protects against handling damage

o Resistant

- Remains in optimal condition protecting integrity underground
- Prevents incursion of sand, soil or other materials
- Ensures efficiency in life-long operation
- Protects against plant or tree root damage
- Treatable wholly/ in-part for directional drainage or irrigation

## Benefits of a modular system constructed from Hydrorock Blocks?

o Decentralised system

- Capable of disaggregation but retaining total connectivity through Blocks/ Modules/ Arrays
- Increases area of optimal soil water balance

o Forms a unitary aquifer system

o Module internal circulation system

## Cost benefits?

o Installed fully loaded cost is at least 20% less than alternatives

o No ongoing life cycle costs of inspections, maintenance etc.

## Design benefits?

o Efficient water permeable substrate aquifer

- Acts as a sponge/ reservoir/ watering can
- Fast absorbency and release
- Porosity better than existing soil which aids infiltration and percolation

o Water held in suspension

- Hydrorock Blocks absorb and hold 94%-97% of its volume
- Very low hydrostatic pressure on base which allows infiltration from the bottom of the Hydrorock block
- Prevents soil saturation

o Directional fibres

- The direction of the fibre determines the usage
- Fibres are aligned vertically for buffering and infiltration
- Fibres are aligned horizontally for drainage so that no slope is needed
- Multi directional fibre for artificial sports pitch and Green Roof



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