

Aquality Filter Media

(Item No. G70300)

Aquality Filter Media is a natural engineered bio-remediation soil that captures suspended solids and adsorbs dissolved heavy metals whilst helping to break down hydrocarbons. It can be used to treat surface water run-off so that it can be used in rain and surface water harvesting systems.



Typical applications:

- Treatment for water re-use systems
- Infiltration basins
- Bio-retention basins
- Rain gardens

Key features:

- Filtration- Meets the 0.8+ Mitigation Indices for the three main pollutant groups - TSS, Hydrocarbons and Heavy metals. Independently tested and approved by DIBt, supported with field test data.
- Heavy metal absorption/desorption and precipitation - Nickel – sorption; Lead, cadmium, copper and zinc – sorption, precipitation and PH balancing; Chromium – ion exchange
- Water retention - Soil microbiology performs a valuable degradation role, particularly during periods of warmer weather
- Hydraulic capacity - Filter Media has a water permeability coefficient of 9×10^{-4} m/s.
- Filter Media uses an organic matrix and a specific activated carbon that supports bonding and degradation of organic pollutants.
- Oil bonding and degradation - The large void space within Filter Media allows oil to lose its fluidity and cover the pore space where microorganisms can degrade it.
- Phosphate bonding - The enhanced adsorption capacity within Filter Media is crucial to maintaining clean water courses.
- pH Value - The carbonate buffer range of the media is above pH 7.2
- Cation exchange capacity - Filter Media acts as an ion exchanger.
- Design life - 10-20 year design life dependant on traffic load

Key Benefits:

- Forms part of a SuDs solution
- Excellent hydraulic capacity
- Excellent solids retention
- Suitable for large projects
- Available in large sizes
- Low maintenance
- Reduced space of installation
- Simple replacement of filter-media in the event of accidental spillage (e.g. oil spillage)

Functioning Principles:



Absorption area/
Exchanger

Water storage/Filter

Organic Matrix /
Settlement area

pH - Buffer area/
Acid Limiter

The Filter Media is a unique series of mediums that perform different functions in order to clean surface water runoff using the processes of filtration, adsorption, ion exchange, retention.

Many contaminants attach themselves to sediment particles. The smaller the particle, the higher its concentration. The filter-media retains these sediments by depth filtration, ensuring they are retained in the upper 5-10cm of the filter media. This significantly reduces the risk of surface clogging (Colmatage) and ponding, particularly in extreme events, something which some surface filtration systems, such as permeable paving are prone to.

Specification Clause:

The Stormwater treatment Filter Media system shall be by Aquality Trading & Consulting Ltd. The system shall have been tested and approved in accordance with DIBt requirements and verified by field testing data. The filter media shall have been designed to DWA A 138 to remove TSS to sub 63 µg, hydrocarbons and nominated dissolved heavy metals (Zinc and Copper) to the 0.8+ Mitigation Indices in C753 The SuDS Manual.

NBS Specification:

The Filter Media should be specified in NBS section R17:315. Assistance in completing this clause can be found in the Aquality Trading and Consulting Ltd entry in NBS Plus or a model specification can be downloaded from www.aquality.co.uk. For further assistance, please contact the Aquality Engineering Team.