

FILTEC Specialty Water Treatment Media

Filter Media

Filter Coal / Anthracite

Anthracite Filter Coal is used extensively in water filtration and in water treatment because of its excellent filtration properties.

Anthracite coal is a top quality coal that consists of hard, durable coal particles that come in various sizes. Anthracite is used along with silica sand (dual media system) or with silica sand and filter rock (mixed media system) or by itself (mono media system).

Anthracite promotes higher service flow rates and longer filter runs with less head loss than single media filter beds. Backwash rates are reduced as well. Low uniformity coefficient anthracite filter media extends the life of your filter before the media must be changed out

- Higher service flows and longer filter runs than equivalent filters
- Durable material with long life and temperature range
- Requires lower backwash rate
- Ideal for DI sub-fill requirements and hot process filtering applications
- Contains no silica



Filter Sand

Filter sand is hard grained quartz or silica sand having no constituent and is not friable or liable to mechanical breakdown when subject to pressure.

The sand contains no carbonaceous matter, clay or silt and the loss on acid washing and ignition in each case is less than 2% by weight. Its specific gravity is not less than 2.2 or more than 2.5, and is within the size range of 0.6 mm to 2 mm.



Filter Gravel

Filter Gravel is an extremely effective filter media because of its ability to hold back precipitates containing impurities.

Filter gravel size, angularity and hardness are the important filter sand characteristics to ensure proper filtering. Specific Gravity: 2.70.



Garnet

Garnet is a high hardness, high density granular filter media. It is normally used as the lower (final) filtration in a multi-media bed down flow filtration system.

A properly designed multi-media system will maintain its unique grading of large grains on top and small grains on the bottom and provide superior performance even after many backwashings. This stable condition of large grains above finer ones is achieved by the use of materials of different sizes and specific gravities.

Garnet with its high specific gravity of 4.0 forms the lower fine grain layer, its 0.3 mm effective size can filter down to the 10-20 micron range. Filter Sand, (effective size of 0.5 mm) and Anthracite, (effective size of 0.9 mm) can form the larger, less dense layers.

- Two grades:
A = course
C = fine



Aqualite™

Aqualite™ can only be used in FILTEC designed, installed or approved systems and as per NZDWS2008 FILTEC are required to give a written guarantee on performance.

For filtration applications that demand high flow rates and increased water quality, Aqualite™ Engineered Ceramic Media delivers more performance on a smaller equipment footprint. Available in common filtration sizes, Aqualite™ media spheres optimise filtration performance with their remarkably greater surface area. Aqualite™ is tough and durable. It's a chemically inert medium that provides excellent resistance to acids, caustics, oxidants, and ferric salts.

Uniform properties of Aqualite™ include the shape, size, sphericity, density and composition of the filter granules. These qualities bring uniformity to filter bed porosity, bulk density and macroscopic behaviour.

- Ideal for use in surface water filtration and membrane pre-filtration
- Removes Cryptosporidium to 2 logs
- Aqualite™ has been tested by Massey University to meet AS/NZ4348:1995



AQUALITE®

Adsorption Media

Activated Carbon

Activated carbon, also called activated charcoal, activated coal, carbo activatus or an "AC filter", is a form of carbon processed to have small, low-volume pores that increase the surface area available for adsorption or chemical reactions.

Due to its high degree of microporosity, just one gram of activated carbon has a surface area in excess of 500 m², as determined by gas adsorption. An activation level sufficient for useful application may be attained solely from high surface area; however, further chemical treatment often enhances adsorption properties.

FILTEC supplies a wide range of bulk Granular Activated Carbon (GAC) filter media to handle organics removal in industrial, municipal, remediation and other applications. We have an extensive line of granular activated-carbon filter media for both liquid phase and vapour phase adsorption applications. FILTEC can supply virgin coconut activated carbon and coal-based GAC as well as reactivated carbon for various adsorption processes.

- For standard chlorine and organic removal use Part No. PJ1240H



MEDIA G2-R®

MEDIA G2-R® is an iron-based adsorption treatment technology for removing arsenic from water, specifically groundwater, for potable use.

The technology involves adsorption of arsenic onto a filter media (G2-R®) as water passes through it. G2-R® adsorption media consists of granular, calcined diatomite upon which ferric hydroxide is chemically bonded. Iron attracts the arsenic in water and binds it to the substrate by chemisorption. Although it was developed specifically for adsorbing arsenic, MEDIA G2-R® will also adsorb iron, manganese, uranium and chromium. The adsorption capacity for arsenic is in the range of about 800 to 2400 Fg/g, depending on operating pH and other contaminants in the water.

Two boreholes, Tuna Place and The Grove, supply water for the Onemana community. Daily demand varies between 250 m³ in the winter to 450 m³ in summer months. This water, extracted from a nominal 50 m depth, is thermal in nature having a low pH and moderately high in minerals, one of which is arsenic at a level of up to 26 ppb.

Over 10 years of regular analysis of drinking water treated by ADI International's MEDIA G2-R® in Onemana, New Zealand confirms that the iron-based adsorptive filter media system consistently reduces arsenic levels from 26 parts per billion (ppb) in raw water to a level below five ppb.



pH Neutralising Media

Akdolit® CM G (Gran)

Granulated dolomitic material for fast neutralisation

Akdolit® CM G (Gran) is a highly reactive half-burnt dolomitic filter material with a spherical granular form, especially suitable for pneumatic conveying and silo feeding. It is used for the neutralisation of water (by filtering) in order to achieve the calco-carbonic equilibrium and to meet the requirements of the Drinking Water Ordinance. Through this calco-carbonic equilibrium process, an increase in the concentration of the calcium, magnesium and hydrogen carbonate ions is achieved, which is favourable to prevent corrosion.



Oxidation Media



Greensand Plus™

Greensand Plus™ is a purple-gray filter media used for removing soluble iron, manganese, hydrogen sulfide, arsenic and radium from well water supplies.

The substrate media has a manganese dioxide coated surface that acts as a catalyst in the oxidation- reduction reaction of iron and manganese. The difference between Greensand Plus™ and manganese greensand is in the substrate that forms the core of the media and the method by which the manganese dioxide coating is attached to that substrate. Greensand Plus™ has a silica sand core and the coating is fused to it while manganese greensand has a glauconite core and the coating is ionically bound to it.

The silica sand core of Greensand Plus™ allows it to better withstand operating conditions in waters that are low in silica, TDS and hardness. Thus, if you currently are using manganese greensand and are feeding sodium aluminate, you will likely be able to eliminate the aluminate feed by switching to Greensand Plus™.

Also, Greensand Plus™ can withstand higher operating temperatures and higher differential pressures than can manganese greensand. The higher differential pressure may allow for a longer run length, but, if nothing else, allows for more operational margin of error.

- Greensand Plus™ uses chlorine to regenerate – removing the need to use potassium permanganate



Ion Exchange Media



Softener Resin

Part No. HCR-S – for Standard Domestic and Commercial use

Part No. 1000H – for scale (Calcium) removal as well as iron and manganese

A water softener is packed with resin beads. Hard water with calcium and magnesium flows through this resin and, in a process called ion exchange, the hardness ions in the water trade places with soft ions on the resin beads. The result is soft water.

Over time, the resin beads in the water softener will become covered with calcium and magnesium ions, diminishing their capacity to soften hard water. Through a process called regeneration, water is automatically flushed through the water softener with a concentrated amount of regenerant. Now the resin beads pick up the soft ions from the regenerant in exchange for the hardness on the beads.

Colour Change Resin Beads

Part No. MB-6113 (Mixed bed)

Contains the highest grade Gel PolyStyrene Crosslinked with DVB resin. This mixed bed (cation and anion) moist spherical bead deionization resin is ideal for ultra-pure water applications (medical, dental, aquarium, etc.) with LOW flow rates

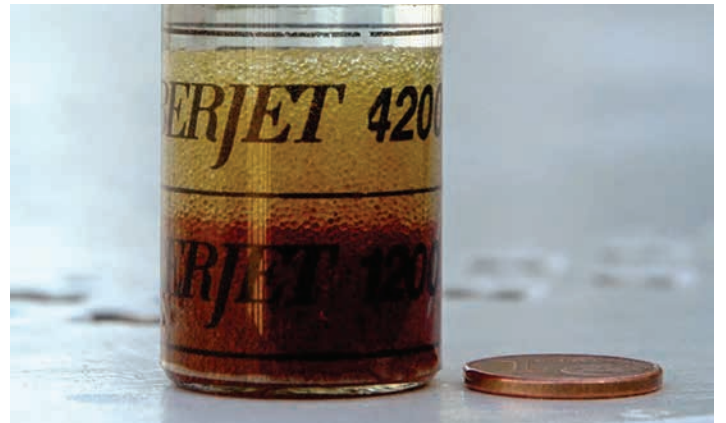
- Colour change resin beads throughout the media give visual indication as the media becomes exhausted (from purple to light brown)
- Laboratories and low water use applications (<5 L/min)
- Corrosive test chambers
- Dentistry

Deionising Resin (Ion/Cation)

Part No. 4200CL Amberjet Anion Resin

Part No. 1000 Amberjet Cation Resin

Used in High Quality Water Systems to provide less than 2 micro siemens conductivity water for boilers, membrane rinsing, after Reverse Osmosis Systems (ROs), steaming, etc.



Non-colour Change Resin

Part No. MB20 (Mixed bed)

This mixed bed (cation and anion) moist spherical bead deionization resin is ideal for ultra-pure water applications (medical, dental, aquarium, etc.) with HIGH flow rate.

Used in Reverse Osmosis Polishers (as used by Auckland University), or for making up Deionised Water for power stations, etc.

- This is a more cost effective resin, used in applications with higher water flows up to 75 L/min
- Media is replacement only and not regenerated

Note: FILTEC does not warranty the effectiveness or water quality resulting from equipment using the media in this brochure. The media is supplied to specification only.