



ACTIVATED GLASS FILTER MEDIA

Technical Data Sheet

SPECIFICATION

ACTIVATED GLASS FILTER media is made from up-cycling virgin plate glass designed to produce a unique glass filter media consisting of sub-angular, spherical shape particles with a high surface area for superior mechanical filtration and adsorption. When in contact with water flowing through the filter free radicals (O⁻ and HO⁻) are formed on the surface of the glass media. These free radicals have a very strong oxidation potential which protects the media from bacterial growth (bio resistant).

ACTIVATED GLASS FILTER Grades & Specification

ACTIVATED GLASS FILTER media is available in three grades:



Code	Grade	Particle size (mm)
AGF-00	Grade 0	0.425mm to 0.597mm
AGF-01	Grade 1	0.59mm to 1.433mm
AGF-02	Grade 2	1.4mm to 2mm
AGF-03	Grade 3	2mm to 4mm
Bulk density	1310kg/m ³	1310kg/m ³

Metal oxide catalysts within the glass produce a slight negative charge to electrostatically attract and remove suspended particles (micro plastics), organic matter and heavy metals from water. The surface negative charge density also works well with coagulants and flocculants to remove dissolved components.

PURITY

During the glass manufacturing process, raw materials are fed into a furnace, heated to a temperature of up to 1600 °C. These raw materials include Silica (SiO₂), Soda (Na₂O), Lime (CaO) and numerous metal oxides.

The metal oxides melt at a lower temperature in comparison to Silica, Soda and Lime. A slurry is formed during the melting process, when the slurry is cooled a glass structure is created.

What makes ACTIVATED GLASS FILTER so unique is its high level of purity, containing very little iron oxides (Fe₂O₃). A negative charge is created by the introduction of a small concentration of metal oxides (Cr₂O₃, TiO₂, Al₂O₃, K₂O etc.). These molecular structures are all negatively charged (X⁻) molecules.

If the metal oxide content in glass media is too high, the water filtering through the media will have a high conductivity, hence affecting the ability of glass filter media to adsorb numerous metals (X⁺). This filter media contains the perfect balance of metal oxides to “perfect” this adsorption process.

PACKAGING



ACTIVATED GLASS FILTER media is supplied in bags of the following size:

- 15 kg plastic bags
- 20 kg plastic bags
- 1000 kg bags with bottom discharge

ACTIVATED GLASS FILTER comparison with SILICA SAND

Silica sand is a natural resource, hence over time as water passes through the media either via normal filtering or backwashing, its particle size decreases and in some cases the media hardens. It therefore creates pressure fluctuations, affecting the efficiency of your water filtration system. ACTIVATED GLASS FILTER media doesn't harden or cause pressure drops in your filter system. The media is much more durable and consistent during the filters lifecycle.

Below results were obtained when testing the effectiveness of ACTIVATED GLASS FILTER vs SILICA SAND in the removal and performance in:

- Turbidity
- Saving water during backwash
- Aluminium content in final treated water

RESULTS FROM PILOT PLANT TRIAL			
Media	Glass vs Silica %	Ultra Clear Media	Silica Sand Media
Turbidity Filtered Water Average (NTU)	>300%	0.13	0.58
Water Filtered before Backwash was Required	30%	592 L	458 L
Filter Backwash Time	250%	1 min 49 seconds	4 min 46 seconds
Aluminium (mg/l as Al)	22%	0.009	0.198

Applicability of ACTIVATED GLASS FILTER MEDIA

- Ground and surface water treatment for potable use.
- Removal of arsenic, ferric, iron and manganese at high flow rates.
- Pre-treatment prior to membrane filtration – brackish and sea water.
- Post treatment of wastewater to be recycled as potable water.
- Storm water runoff.
- Swimming pool filtration - private & public.
- Irrigation water to remove most of the unwanted contaminates.
- Aquaculture and public aquaria marine or freshwater.
- High purity water for process and production use.
- Boiler feed and cooling tower side-stream filtration.
- Tertiary treatment of effluent.
- Municipal treatment of raw and waste water.

BENEFITS OF USING ACTIVATED GLASS FILTER MEDIA WATER SAVINGS

With superior permeability, backwash time is reduced and less frequent backwash cycles are required in comparison to using sand filter media, contributing to approximately 50% backwash water loss saving.

EQUIPMENT SAVINGS

Doesn't harden, minimizing the risk of pressure drops in your filtration system. Saving time and cost on equipment maintenance.

- Less friction loss
- Increased filtered water volume

INCREASED QUALITY

Prevents the growth of bacteria (Legionella) on filter media and does not build-up biofilm in the filter bed, completely eliminating bio-coagulation and the wormhole channelling that occurs in sand filters.

CHEMICAL COST SAVINGS

Product water will have a substantial lower chlorine oxidation demand, reducing the usage of chemicals to treat and disinfect water and filter media.

- pH control
- Disinfection

HEALTH

Lower chlorine oxidation demand reduces the presence of by products such as Chloramines & Trihalomethanes.

ECO-FRIENDLY

ACTIVATED GLASS FILTER media is 100 % recyclable and reusable. Glass filter media is one of the few products born to utilise an existing surplus by recycling glass to create an effective filtration media.

ENERGY CONSUMPTION SAVING

Reduction in operation of backwash pumps. Lowering the amount of carbon emissions sent into the environment.