



**AGM**  
AGUA GLASS MEDIA

*Dive into Crystal Clear  
Waters: Where  
Cleanliness Meets  
Brilliance!*





Welcome to Agua Glass Media (AGM), where innovation meets excellence in pool filtration. With over 15 years of dedicated research and development, we've perfected a revolutionary product that's poised to transform the way you maintain your pool.

Certified by the prestigious National Institute of Technology, Agua Glass Media is a testament to our unwavering commitment to quality and advancement. Our product is not just a replacement for sand – it's a leap forward in filtration technology.

Crafted from carefully selected green and brown glass, AGM undergoes a unique activation process that imbues it with remarkable self-sterilizing properties. This means your pool stays cleaner for longer, with minimal effort on your part.

But that's not all. AGM isn't just effective; it's versatile too. Designed to be a direct replacement for sand, it can be effortlessly installed in all types of sand filters without the need for modifications. This makes upgrading to AGM a simple and seamless process, allowing you to enjoy superior filtration performance without any hassle.

What sets AGM apart is its exceptional mechanical and electro-static filtration capabilities. By harnessing the power of both, AGM ensures that even the smallest particles and contaminants are captured, leaving your pool water clearer and healthier than ever before.

At Agua Glass Media, we're dedicated to providing you with the best possible pool maintenance solutions. Join us in embracing a cleaner, clearer future with AGM – the ultimate choice for discerning pool owners everywhere.



## POWERFUL FEATURES

Self-sterilizing  
surface  
resistant to  
bacterial  
growth

Increased  
surface area  
for superior  
filtration  
properties

Activated surface  
charge for the  
adsorption of  
fine particles &  
organic matters

## UNIQUE BENEFITS

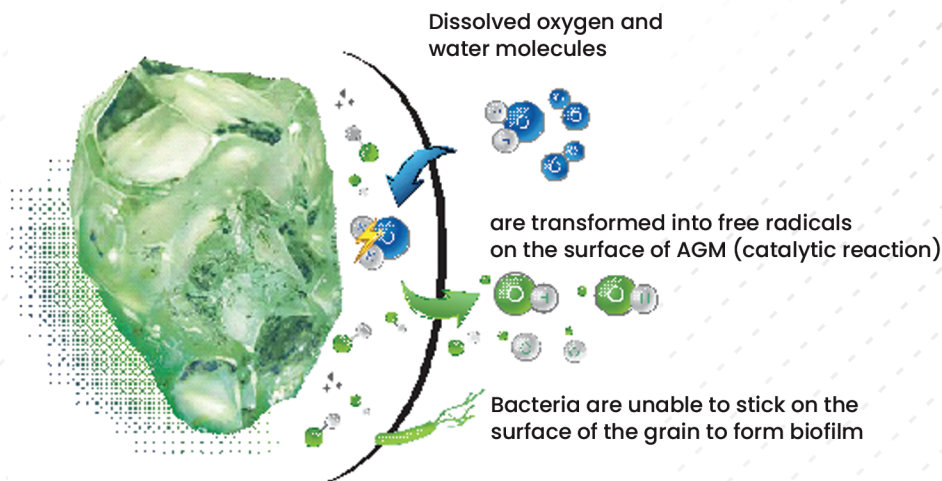
- **The Safest Water:**  
Prevents the transmission of pathogens (E.g. Crypto)
- **The Clearest Water:**  
Offers a stable 1 micron filtration rate.
- **The Healthiest Air:**  
Prevents the formation of DBPs and chlorine smells.
- **The lowest operating Costs:**  
Saves backwash water and chemicals.
- **The Most Sustainable Filtration:**  
Outlasts all other filter media.

Tested and certified as the best filtration media by **National Institute Of Technology** as Per BIS Code ( IS 8419/ Part 1 )





# THE HEALTHIEST SWIMMING EXPERIENCE



## Unique 100% bio-resistant filter media

One of the main differences between AGM and other filter media such as sand and crushed glass is its bio-resistance. When in contact with water flowing through the filter, a small amount of free radicals ( $O\cdot$  and  $OH\cdot$ ) are formed on the surface of the grains. Thanks to their strong oxidation potential, free radicals protect AGM from colonisation by bacteria and fully prevent the formation of biofilm.

## How do bacteria survive in a swimming pool ?

Within just a few days, bacteria will colonise all surfaces in contact with water. The largest surface in contact with water in a swimming pool is the quartz sand in the filter. 1 m<sup>3</sup> of quartz sand has a surface of 3000m<sup>2</sup> and it is an ideal breeding ground for bacteria. Bacteria will attach to the surface of the sand grains and, within seconds, will form a biofilm that protects them from oxidants. In this protective biofilm, bacteria can grow and multiply. Even high chlorine concentrations and good backwashing cannot stop this development completely.



## AGM offers the finest filtration

AGM filters are much finer than quartz or glass sand. The National Institute of Technology has tested AGM, quartz sand, and various glass sands. The tests were conducted with fresh filter media without any biofilm. At 20m/h filtration velocity, without the addition of flocculants, the following results were achieved:

- AGM: Filters 95% of all particles down to 1 micron.
- AGM: Filters 95% of all particles down to 4 microns.
- Sand: Filters 95% of all particles down to 20 microns.
- Glassand: Filters 95% of all particles >25 microns

## THE 3 MAIN PROBLEMS OF BIOFILM

### INCONSISTENT AND UNRELIABLE FILTRATION

After 6 – 12 months, biofilm on the sand has developed to a degree where the grains stick together, forming clumps and causing channeling of the filter bed that reduces filtration performance and allows unfiltered water to reach the bathers.

Filtration performance with AGM is predictable, reliable, and remains stable over the years. There is no possibility of unfiltered water reaching the pool.

### PATHOGENS

The filter develops into a breeding ground for pathogens, such as legionella and pseudomonas. Periodically, bacteria flocs will break through the filter. AGM prevents the growth and transmission of these pathogens. Pool water is therefore much safer.

### TRICHLORAMINE - CHLORINE SMELL

Pool users add sweat and urine in the pool water. They consist of 80% of urea. Bacteria in the biofilm convert this urea into ammonia which then reacts with chlorine to form inorganic chloramines (mono-, di- and tri-chloramine). Trichloramine ( $\text{NCl}_3$ ) is very volatile and is responsible for the unpleasant chlorine smell. It is also a severe health hazard causing skin, eye and lung irritation. With AGM, there is no biological conversion from urea to ammonia inside your filter : No biofilm No trichloramine No chlorine smell !



# WHAT MAKES AGM PERFORM BETTER THAN OTHER FILTER MEDIA?

## SUPERIOR MECHANICAL FILTRATION AND ADSORPTION PROPERTIES

### MESOPOROUS STRUCTURE

Our patented activation process creates a mesoporous structure to strongly increase the surface area (m<sup>2</sup>) of AGM in contact with water. This feature enables AGM to mechanically capture more particles than sand and other glass filter media and offers a much larger surface for the adsorption of fine particles.

### ACTIVATED SURFACE CHARGE

Our activation process modifies the surface charge of the glass to give AGM unique adsorption properties. The activation of the glass enables AGM to remove particles down to 1 micron and about 50% more organic substances than sand and other glass filter media.

## WHY IS ACTIVATION IMPORTANT?

### Reduced chlorine consumption

It is easy to remove large particles but it is the sub 5 microns that are difficult to remove and in this particle size range AGM excelled. Everything that can be filtered out and removed in the backwash process doesn't have to be oxidized with chemicals. The greater filtration efficiency of AGM therefore saves chlorine and acid. Chemical savings are approximately 20% to 30%.

### Crystal-clear water and the best air quality

Chlorine is an excellent disinfectant. But in reaction with organic substances, it also produces undesirable, toxic reaction by-products called Trihalomethanes (THMs), including chloroform. Thanks to its very large activated surface, AGM can remove far more organic substances than sand or glass sand. The better the filtration – the lower the chlorine consumption and less disinfection by-products are produced. AGM reduces by up to 50% the formation of chloroform and other THMs.



## THE LOWEST OPERATING & MAINTENANCE COSTS

### Up to 50% less backwash water

Sand needs – according to DIN standards – to be backwashed at 60m/h for 5 minutes. AGM only needs 40 to 50 m/h backwash velocity. The backwash efficiency is higher, because no biofilm is coagulating the grains and a backwash duration of 4 minutes is enough to remove all particles. As a result, approx. 50% of the backwash water can be saved.

### Filter maintenance

A major cost factor is the cost of replacing the media (removal, disposal and filling with new media). These costs are the same for AGM and sand, but the life expectancy of AGM is much higher than sand. AGM outlasts all other filter media and offers a guaranteed return on investment.

## ADAPTED TO ALL TYPES OF SAND FILTERS

For the best filtration results and energy savings :

Use ideally AGM with a variable speed pump and set your pump's speeds as follows using a flowmeter :

Filtration speed : 15 to 30m/h  
Example:  $20 \times \text{filter surface (m}^2\text{)}$   
= Filtration flowrate (m<sup>3</sup>/h)

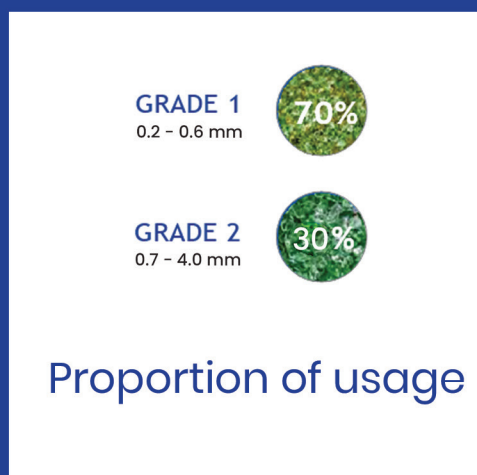
Backwash speed : 40 to 50m/h  
Example:  $40 \times \text{filter surface (m}^2\text{)}$   
= Backwash flowrate (m<sup>3</sup>/h)

### Important note:

For smaller filters (<800 mm diameter) and for all filters with nozzle plate beds, irrespective of filter diameter, use 70% of AGM Grade 1 and 30% of AGM Grade 2.

AGM is supplied in 20 kg bags.

AGM density = 1'250 kg/m<sup>3</sup>.





[www.agmindia.in](http://www.agmindia.in)

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