

ZEOSORB®

Absolute Replacement for Sand



FEATURES

- High purity Aluminosilicate,
- Natural mineral,
- Large Surface Area > 270 m²/g
- High Porosity 24 – 32%
- Lighter than Sand, 820 kg/m³
- Reduction of turbidity down to 3 micron,

BENEFITS

- Higher filtration capacity:
 - Fewer Backwash cycles,
 - Less Backwash water,
- Low media replacement frequency, > 10 years,
- High Service Flow 15 – 35 m/h, up to 50 m/h.
- Cation exchange capacity: 1,7 – 1,9 mg/g.
- Single media filtration,
- Broad variety of applications:
 - Drinking Water Filtration
 - RO Pre-Treatment
 - Pool & Spa
 - Seawater
 - Waste Water Treatment
 - Well & Surface Water
 - Industrial Processes
 - Cooling Tower makeup
 - Oil/Water separation

Filtration / Adsorption of

- Turbidity down to < 3 micron
- Suspended Solids
- Sediments
- Organics
- Ammonia
- Nitrogen
- Colour

Applications

- Drinking Water
- Ground Water
- Reverse Osmosis Pre-Treatment
- Surface Water
- Swimming Pool Water
- Waste Water

What is ZEOSORB®?

ZEOSORB® has been introduced to the process purification of drinking water and wastewater due to its large specific surface area and the selective adsorption of substances, such as ammonia, dissolved organic matter and many other cations. Moreover, **ZEOSORB®** has advantageous hydraulic properties, that is - the filtration capacity of large quantities of water. Compared with other adsorbents, **ZEOSORB®** is more stable, has better filter features, accessible and relatively cheaper. Based on numerous studies, it can be concluded that **ZEOSORB®** has great potential as effective adsorbent in numerous processes of purification of drinking water and wastewater, such as water softening, the removal of ammonia (from municipal wastewater, wastewater from livestock farms, the barn manure, water from ponds and swimming pools), the removal of nitrogen, the removal of dissolved organic matter and colour, the removal of heavy metals (from natural water, acid mine water, industrial wastewater), the removal of radioactive substances from wastewater, desalination seawater and many others. The **ZEOSORB®** media is classified as a GRAS (Generally Recognized As Safe) product. It is also listed under German Trinkwasserverordnung (TVO) 2011.

Properties

ZEOSORB® is a high purity natural Aluminosilicate micro crystalline mineral. It is available in particle size of 0.5 - 1.0 mm (18x35 Mesh) or 1.5 - 2.5 mm (8x14 Mesh). The bulk weight is about 820 kg/m³. **ZEOSORB®** made by Watch® Water has high porosity and high specific surface and it is resistant to abrasion. **ZEOSORB®** performs as polyfunctional sorbent in the wastewater treatment process and it binds a number of harmful components. However, it does not possess the ability of anions adsorption due to negative charge of its aluminosilicate network. Superficial modification of **ZEOSORB®** by means of organic modifiers, allows partial neutralization of negative charge of external surface of **ZEOSORB®** media. All drinking water standards for microorganism pathogens, and turbidity can be most easily met using a natural, relatively low-cost material, such as **ZEOSORB®** rather than "sand" which is chiefly quartz grains.



Performance Test Data for Pressure Filtration

Filter Media	Nominal Rating	Solids Loading
Zeosorb (18 x 35 mesh)	< 3 µm	~ 2,6x
Sand (20 x 40 mesh) + Anthracite	~ 20 µm	1x
Multimedia	~ 12 µm	1,6x

Recommended System Operating Conditions

Bed Depth	Swimming Pool	400 – 1000 mm
	Pressure Filter	800 – 1200 mm
Freeboard	30 - 50%	
Service Flow Rate	8 – 19 gpm/ft ²	20 – 48 m/h
Backwash Velocity	10 – 20 gpm/ft ²	25 – 50 m/h
Backwash Time	6 min.	
Cation Exchange Capacity	1,7 – 1,9 mg/g	
Thermal Stability	Up to 600 °C	

Physical Properties

Appearance	Pale green/grey grains	
Porosity	24 – 32%	
Surface Area	> 270 m ² /gram	
Available Mesh Sizes	8 x 14	18 x 35
Available Particle Sizes	0,5 – 1,0 mm	1,5 – 2,5 mm
Bulk Density	820 kg/m ³	
Water Retention	Holds 50% of its weight	
Filtration / Capacity	< 3 micron / 3.000 mg/L	
Surface Absorption	Hydrophilic	

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