

FERARRIUM M Filter Media

FERARRIUM M is a filter media designed for water treatment to remove iron, manganese, hydrogen sulfide, suspended solids, and petroleum products. It significantly reduces color, turbidity, phenols, and phosphates.

Alkaline silicates and alkaline earth metals are the basis for this loading.

It is used both for drinking water treatment and for treatment of water for industrial needs, as well as wastewater (including additional treatment of biologically treated wastewater) from iron, manganese, strontium, heavy non-ferrous metals, phosphates, petroleum products, phenol.

FERARRIUM M can be used in both pressure and non-pressure systems.

Unlike other media, it is not treated with additional chemical coatings based on manganese or other catalytically active metals, preventing operational failures caused by coating depletion or washout. This is one of the fundamental differences from other filter media. Catalytically active components are evenly distributed within the granules, ensuring efficiency even if the granules break.

FERARRIUM M is a highly durable and reliable material.

The media does not degrade during use, has a high contaminant retention capacity, and ensures compliance with required filtration standards.

It is especially effective when used with **FERARRIUM C** as the bottom layer in multimedia filters.

Multimedia filters with a mixture of **FERARRIUM M** and **F** media of different fractions have proven to be the best.

Advantages

- Operates effectively at $\text{pH} \geq 6.7$;
- Reduces permanganate oxidizability by 20–25%;
- Works in the presence of hydrogen sulphide;
- Removes hydrogen sulfide by oxidizing it to elemental sulfur, which is retained in the filter layer;
- Pre-chlorination does not reduce **FERARRIUM M** activity;
- Increases water pH by 0.9–2 units during startup, improving the removal of iron and manganese;
- Requires no chemical regeneration; backwashing with water is sufficient;



- High contaminant retention capacity ensures extended intervals between backwashes while maintaining water quality (iron content below 0.2 mg/l and minimal pressure drop);
- Enhances the performance of sand filters by enabling higher filtration rates;
- Free of chemically active coatings, eliminating failures due to depletion or washout;
- Reduces operational costs when replacing quartz sand with **FERARRIUM M**;
- Suitable for non-pressure filtration systems;
- Filters manganese effectively through oxidation by air, depending on its valence and concentration.

Application Recommendations

- Filtration speed: 8–15 m/h (up to 20 m/h for mechanical impurities);
- Backwash speed: 35–50 m/h;
- Backwash duration: 3–7 minutes;
- Layer expansion during backwashing from 30%;
- Minimum layer height: 40 cm for mechanical impurity filtration;
- Layer height in clarifying and iron removal filters: 700–1200 mm;
- Suitable for multilayer filters with **FERARRIUM C** as the bottom layer (ratios 20/80 or 30/70) and multimedia filters with C, M, F media combinations;

Usage Conditions	Significance
Iron concentration	Up to 20 mg/l
Permanganate oxidizability	Max 6 mg/l
pH	Not less than 6.7
Water temperature	2 - 80°C

Composition: silicates and alkaline earth metals	
Density, kg/m ³	2850
Bulk density, kg/m ³	1350–1450
Color	Dark brown, black
Nonuniformity Coefficient	1,4–1,6
Particle sizes: 0,3–0,7 mm, 0,7–1,4 mm, 0,7–2,0 mm, 1,5–3,0 mm (custom sizes available)	
Packaging: 25 kg bags ≈ 18,5 litra. 40 bags per pallet (1000 kg total)	