

Technical Brochure



MF-574

MF-574 is a catalytic filter medium, technically designed for the removal of iron, manganese, arsenic, aluminum, and hydrogen sulfide from water.

USE:

- Drinking water
- Industrial water
- Mineral water

ADVANTAGES: Compared to the usual methods for removing iron, aluminum, manganese, and arsenic, the MF-574 offers the following advantages:

- Low implementation cost.
- No need to use a regenerant (potassium permanganate).
- Approved for use in drinking water NSF/ANSI-61 and NSF/ANSI-372.
- The estimated lifespan of the MF-574 is up to 8 years when used within the technical specifications.

PHYSICAL PROPERTIES:

Color.....Dark brown

Form.....Granular

Density (g/cm³).....1,6 – 2,1

Hardness (Mohs).....3 - 5

Particle size (mm).....0,35 – 1,41

Uniformity coefficient.....< 1,60

OBS: All water to be treated must have a pH higher than 6.5.

CHEMICAL PROPERTIES:

Compound based on natural and synthetic zeolites, technically selected, processed, sterilized, and active, in order to achieve high catalytic activity. The removal of iron and/or manganese occurs through the process of oxidation and/or adsorption.

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USE RECOMMENDATION:

The usual procedure for pressure canister filters is to form the filter bed with 50 to 100 kg of MF-574 for each cubic meter of water to be filtered, as well as sand with a grain size of 0.50 to 1.00 mm, or 0.60 to 1.18 mm as a support layer.

Before use, the prepared bed of MF-574 and sand should be gently backwashed. Five bed volumes are generally sufficient to complete the washing. Afterwards, it is put into use by discarding the first half of a bed volume of filtered water.

The filtration rate indicated for gravity filtration systems is on the order of 10 to 15 m³/h/m², but higher rates can be used in pressurized systems. To achieve greater system efficiency, an average contact time of 3 minutes should be used. The recommended backwash rate is on the order of 35 to 45 m³/h/m².

The need for subsequent backwashing will be determined through periodic measurements of iron and manganese concentrations in the filtered water. If the pH, flow rate, and concentrations in the feed water are maintained, the frequency of backwashes will remain the same.

Due to losses occurring in the process, an annual replacement of 2% of the weight of MF-574 used in the filtration system is required.

STORAGE:

The MF-574 can be stored indefinitely. MF-574 should not be stored in contact with hydrochloric acid, sulfuric acid, sodium chloride, or acidic sulfates, as contact with these substances may result in the **formation of acidic gases**.

PACKAGING:

MF-574 is supplied in 20 kg bags or 1000 kg big bags.

APPLICATION: The product should be applied as described below:

- For each 1 m³/hour of flow, 50 kilograms (for iron + manganese levels below 5 ppm) to 100 kilograms (for levels above 5 ppm) of MF-574 should be used;
- The product should be introduced into the filter on top of the supporting layer;
- The filtration system should have bottom distributors with slots smaller than 0.30 mm to prevent the filter media from escaping during the filtration process;

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- To improve backwashing of the filter media, we recommend the use of a supporting layer, as described below:



Granulometry (mm)	Height (mm)
0,5 a 1,00	150
0,70 a 1,70	100
1,70 a 3,36	70
3,36 a 6,35	70
6,35 a 12,7	70

- The recommended filtration rate is around 15 to 20 m³/h/m²;
- The indicated backwash rate is at least 45 to 60 m³/h/m²;
- The product works well with water that has a pH above 6.5;
- Water containing organic complexes from biological and/or plant degradation of bacterial metabolism should be pre-chlorinated (pre-chlorination).

FILTERS - SPECIFICATIONS

Flow	Diameter	Height	A.F.	MF-574 (average value)
1,0 m ³ /hour	280 mm	1.200 mm	0,07 m ²	75 kilos
2,0 m ³ /hour	412 mm	1.200 mm	0,13 m ²	150 kilos
3,0 m ³ /hour	500 mm	1.200 mm	0,20 m ²	225 kilos
4,0 m ³ /hour	590 mm	1.200 mm	0,27 m ²	300 kilos
5,0 m ³ /hour	650 mm	1.200 mm	0,33 m ²	375 kilos
6,0 m ³ /hour	714 mm	1.200 mm	0,40 m ²	450 kilos
7,0 m ³ /hour	770 mm	1.200 mm	0,47 m ²	525 kilos
8,0 m ³ /hour	824 mm	1.200 mm	0,53 m ²	660 kilos
9,0 m ³ /hour	875 mm	1.200 mm	0,60 m ²	675 kilos
10,0 m ³ /hour	920 mm	1.200 mm	0,67 m ²	750 kilos

The information contained in items I and II is for guidance only, and should be reassessed based on the specific problems and conditions of each water source, as well as the volume to be treated.