Pyrolusite
M.dOX 80

FILTRATION
PYROLUSITE
M.dOX 80

Pyrolusite M.dOX 80 is a filter media used for the treatment of iron, manganese and hydrogen sulfide, through an oxidation-reduction reaction combined with filtration and a very high level of performance.

It contains 80% manganese dioxide, with a unique structure that enhances its performance and maximizes its capacity.

Pyrolusite M.dOX 80 significantly outperforms all other media due to its purity, its oxidation and filtration capacity, and its service life.

In most cases, simple air oxidation or chlorine addition is sufficient, without the need for potassium permanganate. Certified NSF/ANSI 61-2010a for drinking water production applications.



CHARACTERISTICS

- Mn content: > 85 %
- Hardness: 3° to 5° Mosh
- Stable over pH 5.0 to 9.0
- Certified NSF/ANSI 61-2010a

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TECHNICAL DATA

Calculation of total equivalent Fe (TFE):
TFE = Fe (ppm) + 2 Mn (ppm)

Filtration rate as a function of TFE:

TFE (ppm)	Service flow rate (m/h)
1.0	15
1.4	12
2.0	11
3.0	10
5.0	8
10.0	6

Minimum backwash velocity: 25 m/h

ADVANTAGES OF PYROLUSITE

◊ Stable over pH 5 to 9.
◊ Contains 80% manganese dioxide.
◊ Checking oxidant requirement: simple Redox and pH measurement.
◊ High filtration rates.
◊ Contact time reduced to a few seconds.
◊ Only 40 to 50% pyrolusite mixed with sand.

OPERATING PH

Pyrolusite is stable for pH ranging from 5.0 to 9.0. If the pH is below 6.5 or above 8.5, an oxidant must be added.

When should an oxidant be added:

A simple redox potential test shows whether an oxidant needs to be added. If the Redox potential is below 170 mV, an oxidant is required (equivalent to 0.2 ppm of chlorine per ppm of TFE).

Special case of iron complexed with organic matter:

Can also be treated by the systematic addition of potassium permanganate.

Cases where an oxidant is required:
Redox < 170 mV
5.0 < pH < 6.5
8.5 < pH < 9.0
TFE ≥ 5

It is always preferable to install, when possible, oxidation ahead of the Pyrolusite to ensure a complete oxidation-reduction reaction and the longevity of the media. Air oxidation is simple and inexpensive; chlorine oxidation remains more effective and helps control bacterial growth in the filter.

Possible oxidants:

- Oxygen (air)
- Chlorine
- Chlorine dioxide
- Ozone
- Hydrogen peroxide
- Potassium permanganate

Maximum hydrogen sulfide concentration:

4 to 7 ppm.

SAFETY

Consult the Safety Data Sheet (SDS) for Pyrolusite M.dOX 80 before any handling, storage or use of the product. Wear appropriate personal protective equipment (gloves, goggles, mask) when handling.

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