

Manganese Greensand®

for reduction of iron, manganese and hydrogen sulfide from water through oxidation and filtration

Manganese Greensand is formulated from a glauconite greensand which is capable of reducing iron, manganese and hydrogen sulfide from water through oxidation and filtration. Soluble iron and manganese are oxidized and precipitated by contact with higher oxides of manganese on the greensand granules. The hydrogen sulfide is reduced by oxidation to an insoluble sulfur precipitate.

Precipitates are then filtered and removed by backwashing. When the oxidizing capacity of the Manganese Greensand bed is exhausted, the bed has to be regenerated with a weak potassium permanganate (KMnO₄) solution thus restoring the oxidizing capacity of the bed. 3 gr KMnO₄ / Ltr. Manganese Greensand is considered sufficient for normal regeneration. It is required to vigorously backwash and regenerate the bed when it is placed in service and before its oxidation capacity is totally exhausted. Operating the bed after oxidation capacity is exhausted will reduce its service life and may cause staining.

ADVANTAGES

- Iron reduction over wide pH range
- Effective reduction of hydrogen sulfide in addition to iron and/or manganese
- No harmful effects by a chlorinated feed
- Low attrition for long bed life



PHYSICAL PROPERTIES

- Color: black
- Bulk Density: 1,35 kg/dm³
- Specific Gravity: 2.4-2.9 kg/ dm³
- Effective Size: 0.30-0.35 mm
- Uniformity Coefficient: 1.6
- Mesh Size: 0,19 – 1,2 mm
- Attrition Loss per Year: 2%

CONDITIONS FOR OPERATION

- Water pH range: 6.2 – 8.5
- Maximum water temp: 30°C
- Bed depth: 750 + mm
- Freeboard: 50% of bed depth (min.)
- Regeneration: 2,5 – 3 gr of KMnO₄ per Liter media
- Service flow rate: 5 – 12 m/h continuously
20 – 25 m/h intermittent
flow possible
- Backwash flow rate: 25 – 30 m/h
- Backwash bed expansion rate: 40% of bed depth (min.)
- Maximum practical limit
Fe⁺⁺and/ or Mn⁺⁺ : 15 ppm
- Maximum practical limit of
hydrogen sulfide: H₂S : 5 ppm

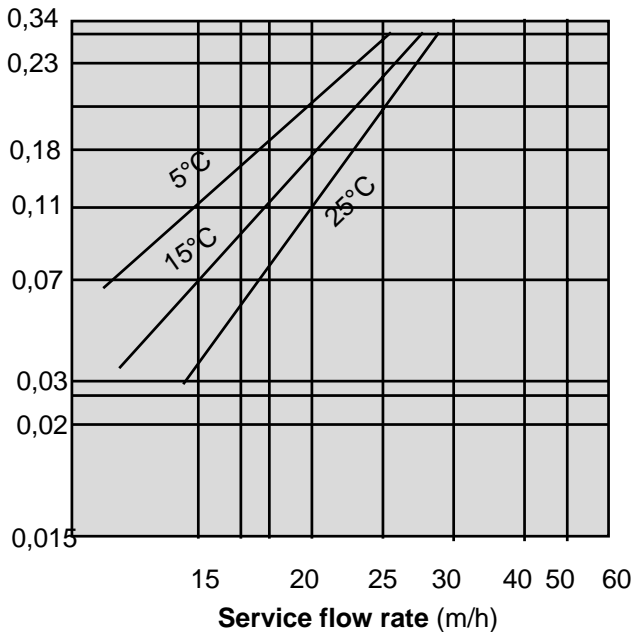
CAPACITY per Cubic Feet (28,3 Ltr)

- Iron (Fe⁺²) alone 350 gr
- Iron and manganese 235 gr
containing ½ iron
and ½ manganese
- Hydrogen sulfide (H₂S) 100 gr

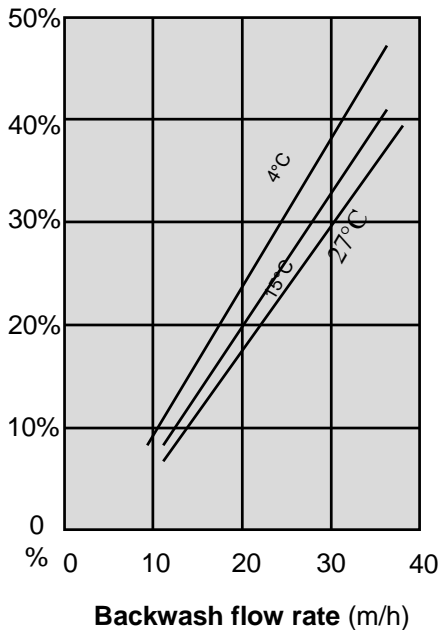
Manganese Greensand[®]

for reduction of iron, manganese and hydrogen sulfide from water through oxidation and filtration

Pressuredrop per m bed depth (bar/m)



Bettexpansion in %



Manganese Greensand[®] is tested and listed under ANSI / NSF and classified by UL INC. as drinking water treatment system components acc. to ANSI/NSF 61-(1991)-57Y3

Packing unit. 28,3 Liter (1 ft³) Säcke

Distributed by:

INAQUA Vertriebsgesellschaft mbH

Langmaar 7

D-41238 Mönchengladbach

Tel.: 02166 - 62199 - 0

Fax : 02166 - 62199 - 26

website: www.inaqua.de



The information and recommendation in this publication are based on data we believe to be reliable. They are offered in good faith, but do not imply any warranty or performance guarantee, as conditions and methods of use of the products are beyond our control. Original brochures are valid. Specifications are subject to change without notice.