Manganese Greensand is capable of reducing iron, manganese and hydrogen sulfide from water through oxidation and filtration.

Manganese Greensand

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

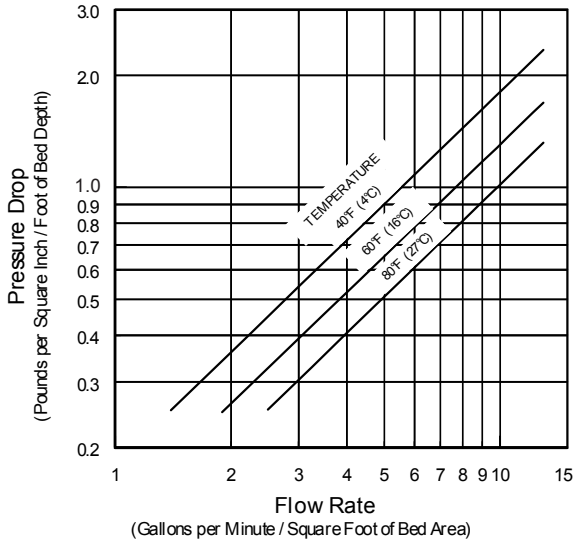
PHYSICAL PROPERTIES
- Color: Black
- Bulk Density: 85 lbs./cu. ft.
- Specific Gravity: 2.4-2.9
- Effective Size: 0.30-0.35 mm
- Uniform Coefficient: 1.6
- Mesh Size: 16-60
- Attrition Loss Per Year: 2%

CONDITIONS FOR OPERATION
- Water pH range: 6.2-8.5
- Maximum water temperature: 80°F/26.7°C
- Bed depth: 30 in.
- Freeboard: 50% of bed depth (min.)
- Regeneration: 1.5-2 oz of $KMnO_4$ by weight per cu. ft.
- Service flow rate: 3-5 gpm/sq. ft., 8-10 gpm/sq. ft. intermittent flow possible
- Backwash flow rate: 10-12 gpm/sq. ft.
- Backwash bed expansion: 40% of bed depth (min.)
- Maximum practical limit of iron (Fe++) or manganese (Mn++) in raw water: 15 ppm
- Maximum practical limit of hydrogen sulfide (H_2S): 5 ppm

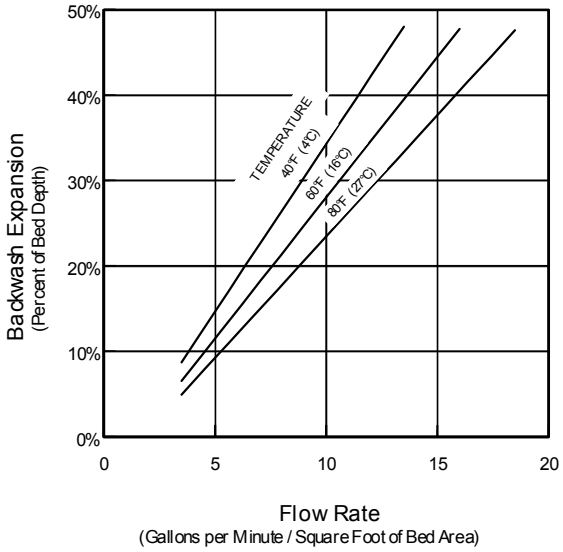
CAPACITY PER CU. FT.
- Iron alone
  600 grains (10,000 gal. of water containing 1 ppm iron/cu. ft.)
- Iron and manganese
  400 grains (7,000 gal. of water containing ½ ppm iron and ½ ppm manganese/cu. ft.)
- Hydrogen sulfide
  175 grains (3,000 gal. of water containing 1 ppm hydrogen sulfide/cu. ft.)

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 power of the Manganese Greensand bed is exhausted, the bed has to be regenerated with a weak potassium permanganate ($KMnO_4$) solution thus restoring the oxdizing capacity of the bed. 1½ to 2 ounces of potassium permanganate, in solution, per cubic foot of Manganese Greensand is considered sufficient for normal regneration. 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.

Service Flow Pressure Drop



Backwash Bed Expansion



Certified to ANSI/NSF Standard 61

Manganese Greensand
is manufactured by Inversand Co.

ORDER INFORMATION

Part No.	Description	Cu. Ft./Bag	Wt./Cu. Ft.*	Bags/Pallet	Weight/Pallet	Pallet Dimensions
A8041	Manganese Greensand	1	85 lbs.	25	2175 lbs.	48” x 40” x 27”

*Weight per cubic foot is approximate.

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