

PRODUCT OVERVIEW

MD-80 by Napier-Reid Limited is a high-performance catalytic oxidative media. The media is used in water treatment applications for iron, manganese and hydrogen sulfide removal. It is also used in removal of other heavy metals such as lead and arsenic. It is a media that utilizes an oxidation, adsorption and filtration process similar to greensand and Birm, but at a much higher level of performance and capacity.

Because of MD-80 media's high content of manganese dioxide (MnO_2) it provides a higher catalysis and adsorption capability than other media. Manganese dioxide works as a catalyst to accelerate the oxidation reaction between the oxidants (dissolved oxygen or other oxidants injected) and the soluble iron, manganese and sulfide. The oxidized form will precipitate and then be filtered out by the media bed. Iron and manganese that are not oxidized become catalytically precipitated and adsorbed on the media .

The adsorbed iron, manganese are expelled during backwash. Any trapped solid form of iron, manganese and sulfur particles are also flushed out of the filter during backwash cycle. It is very important to make sure that the media receives a thorough backwash to break loose and remove the contaminant particles and keep the bed clean to maintain its high capacity. To ensure a good performance daily backwash is recommended. Air scour will help the regeneration of the MD-80 media especially when there is no continuous addition of oxidants.

Although MD-80 can be used without chemicals for most low-level contaminants the addition of oxidants, such as chlorine, ozone, hydrogen peroxide and potassium permanganate greatly enhances the performance and extends the service life of the MD-80 media.

MD-80 outperforms most of other media for iron, manganese and sulfide removal. It is also recommended as a pre-treatment step for ion-exchange softener, RO system and GAC contactor.

If there is presence of arsenic and iron in the raw water, iron will be oxidized to iron oxide and arsenic will be adsorbed onto iron oxide and removed from the water together with iron. This can either be a stand-alone process or as a pre-treatment step prior to other arsenic removal process based on adsorption principle to prolong the service life of the adsorption media. Ferric chloride solution can be added to increase the iron to arsenic ratio if necessary.

MD-80 is capable of removing virtually unlimited amounts of the above contaminants, but tends to work better in some geographic areas than others depending on the levels of TDS or Heme Iron (organics) in the local water supplies. If you have had success in the past with greensand, Birm®, Pyrolox™, or Filox-R™, then MD-80 will work for you using the same parameters.

TECHNICAL SPECIFICATIONS

PHYSICAL PROPERTIES

Colour:	Grey - Black
Active Ingredients:	75% - 85%
Physical Form:	Granular
Mesh Size:	20 x 40
Bulk Density:	110 lbs / ft ³
Specific Gravity:	4
Taste and Odour:	None
Life Expectancy:	Virtually unlimited for low contaminant conditions

SHIPPING INFORMATION

Packaging:	Heavy-duty paper bag. 55 or 1100 lbs per bag.
Pallets:	40 Bags/Pallet. 2300 lbs per pallet

OPERATING CONDITIONS

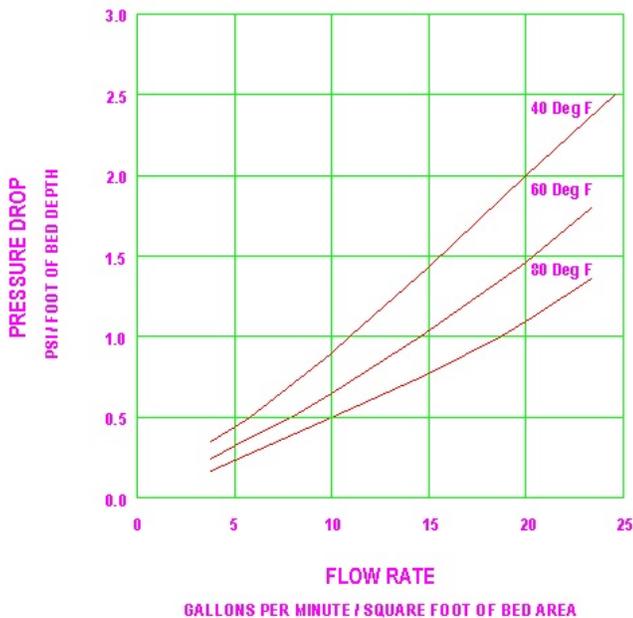
Service Flow Rate:	5 – 10 gpm/ft ²
Freeboard:	30% - 40%
Backwash Rate:	20 – 25 gpm/ft ² @ 60°F
Bed Depth:	20" to 35"
Terminal Headloss:	10 psi Max.
Backwash Frequency:	24 – 48 hrs
PH Range:	5.0 – 9.0

CERTIFICATION

The MD-80 media is certified to NSF/ANSI Standard 61 and is suitable for potable water applications.



SERVICE FLOW PRESSURE DROP



BACKWASH BED EXPANSION

