



"ONE COMPANY FOR ALL YOUR FILTER MEDIA"

World Headquarters
28205 Scippo Creek Rd
PO Box 787
Circleville, OH 43113

Phone: 1-800-344-5770
Fax: 888-204-9656
www.ceifiltration.com

Technical Data Sheet

Pyrolox



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MnO₂

CAS # 1313-13-9 HS NO. 26020000 EC No. 215-202-6

Product description:

APPLICATION:

Pyrolox® is a graded Manganese Dioxide filter media designed for the removal of Iron and Manganese from potable and waste water filtration systems.

STORAGE & SHELF LIFE:

Product should be kept unopened in its original packaging and sealed when not in use. Store in a dry environment free from extremes of heat or cold. Shelf life when these conditions are met is indefinite.

Pyrolox® is a granular water filtration media used for the removal of iron, manganese, arsenic and hydrogen sulphide. A naturally mined ore, Pyrolox® in water treatment for over 75 years.

Through a natural chemical reaction, Pyrolox® filter media works by oxidising iron, manganese, and hydrogen sulphide in problem water. The trapped particulate is then removed from the media bed during the backwash cycle. An oxidant feed is recommended to maintain and further augment the performance and removal capacity of the media. Chlorine injection, such as sodium hypochlorite, or calcium hypochlorite, immediately upstream of the filter feed is a simple way to meet this recommendation. Other acceptable oxidants include air injection, potassium permanganate and sodium permanganate.

Pyrolox® is ideally suited for private, industrial and municipal water treatment systems. It is important that Pyrolox® media is backwashed properly to ensure adequate bed expansion and continued service life.

Physical Properties (typical)	US	Rest of World
Bulk density	120 lbs/ft ³	1900 kg/m ³
Particle size	2.36 x 0.85 mm/ 0.85 x 0.425 mm	2.36 x 0.85 mm/0.85 x 0.355 mm
Accreditation	NSF 61	-
Colour & form	Black granular ore	-
Porosity	0.52	-
Effective size	1000/500 µm	-
Uniformity Coefficient	1.75/1.5	-

Chemical Analysis (typical)	US	Rest of World
Mn	51 %	-
MnO ₂	77 %	-
Fe ₂ O ₃	5 %	-
Al ₂ O ₃	3 %	-
SiO ₂	3 %	-
Moisture	1 %	-

Limitation of Warranty and Liability

The information and recommendations contained herein are based on data we believe to be reliable and does not imply any warranty or performance guarantee, as conditions and methods of use of our products are beyond our control. The data herein is determined using Vibrantz's standard test methods. Hazard and safety information with respect to this product is available in the applicable SDS. Vibrantz will not be liable under any circumstance for consequential or incidental damages, including but not limited to, lost profits resulting from the use of our products.



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Conditions for Operation	Recommended range US	Recommended RoW
pH range	6.5 – 9	-
Typical oxidant	Chlorine feed	-
Fe	1 mg/L Cl ₂ per 1 mg/L Fe	-
Mn	2 mg/L Cl ₂ per 1 mg/L Mn	-
Service flow rate	6-12 gpm/ft ²	15-30 m ³ /h/m ²
Backwash flow rate	20-25 gpm/ft ²	49-62 m ³ /h/m ²
Minimum bed depth	12 in	300 mm
Free board	40 %	-
Empty bed Contact time (EBCT)	Min 4 minutes	-

Standard packaging	Product Code
PX1844 – 1000 kg	104878
PX1844 – 25 kg	104879
PX820 – 25 kg	104880
PX820 – 60 lb	131123
PX820 – 1000 kg	121174

Selection

Media depth, volume, and flow rate must be selected to optimize the bed contact time and achieve the desired reduction in contaminant concentration. Higher concentrations of contaminants will require increased contact times.

Initial Commissioning

Pyrolox® does not require activation to generate a catalytic manganese surface. We acknowledge that the filter installation will require sterilization prior to use & backwashing to remove fines from the media; the use of sodium hypochlorite is recommended and has no detrimental effect on the media. The use of hydrogen peroxide is not recommended at any stage based on the advice of BS:EN 13752:2012¹; it can lead to increased manganese concentrations if used with any manganese-based media.

Use

Pyrolox® can be used in gravity or pressurized systems. Treated water should be monitored and regular backwashing performed. In catalytic configuration, the incoming raw water requires 60 % oxygen saturation for optimum removal of iron and hypochlorite (OCl⁻) levels commensurate with the manganese concentration.

Backwash

Iron and manganese are precipitated and retained by the filter media. Periodic backwashing is required to ensure the efficiency of the filter media. Excessive run time without backwashing, or incomplete backwashing, will reduce the filter efficiency and deplete the oxidation capacity of the media surface. Maximum run time should be determined by the filter designer specific to the raw water composition. Bed expansion is 20 – 40 %.

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