



Introduction

Clino-X is based on a rare natural mineral that is highly processed and graded. It's unique properties allow it to radically alter the performance and cost of media filtration. The hardness, stability and microporous character of Clino-X makes it a perfect filtration media for virtually every application in the water and wastewater treatment industry.

Filtration Performance

Water filtration, apart from the removal of solids and colloids, increasingly demands the efficient removal of contaminants including heavy metals and other toxic substances, bacteria and other parasites. Conventional sand filter systems do not remove all contaminants and therefore alternative or additional systems are required so that the water quality meets compliance regulations. The filtering abilities of Clino-X offer a versatile and environmentally friendly option to capture most contaminants found in water systems. Natural Clino-X can perform these functions due to their high ion exchange capacity, adsorption-desorption energies and ability to modification.

Clino-X can remove ammonium (NH₄⁺) and metal cations Pb, Cu, Cd, Zn, Co, Cr, Mn and Fe from solutions with the recovery of ammonium and some metals as high as 97%

Applications

- RO Pretreatment - *superior SDI reduction*
- Cooling Towers - *unequaled Turbidity removal*
- Municipal Water Treatment, pressure and gravity filters - *higher flow, lower pressure drop and superior filtration performance*
- Wastewater Polishing - *exceptional TSS removal*
- Precipitated metals removal
- Carwash reclaim and recycling
- Irrigation
- Aquarium
- Borehole Water Filtration - *iron & manganese removal*

CLINO-X - Superior filtration media

PHYSICAL PROPERTIES	
COLOR	Dark Green
BULK DENSITY	55 lbs. per cu. ft.
SPECIFIC GRAVITY	2.2 gm/cc
GRANULAR SIZE	1.0-3.0mm
UNIFORM COEFFICIENT	1.9
HARDNESS (MOHS SCALE)	4
CONDITIONS OF OPERATIONS	
MINIMUM BED DEPTH	20"
RECOMMENDED FREEBOARD	50% of bed depth
SERVICE FLOW RATE	12 - 20 GPM/sq. ft.
BACKWASH FLOW RATE	12 - 16 GPM/sq. ft.
BACKWASH BED EXPANSION	40% - 50%
Note: Allow bed to soak overnight before initial backwash.	



CLINO-X crystal structure

Features and benefits

- Higher solids loading capability
- Superior filtration performance
- Reduced backwash frequency
- Removes finer particles
- Reduces pressure drop
- Provides higher flow rates
- Light weight / Easy to handle
- Reduces shipping costs

CLINO-X vs conventional filter media

MEDIA	NOMINAL MICRON RATING	LOADING CAPACITY
Sand	20	1.0 x
Sand and Anthracite	15	1.4 x
Multimedia	12	1.6 x
CLINO-X	< 5	2.8 x

CLINO-X Ion Exchange Performance Chart

Exchange Capacity: 30,000 mg/l for every 1KG of media			
Contaminates Removal - tested at water hardness of 200 mg/l			
Color : 58%	Turbidity : 95%	Total Hardness : 62%	Fluorine : 32%
Phosphorous : 55%	Ammonia : 99%	Iron : 99%	Manganese : 92%
Copper : 70%	Zinc : 88%	Cyanide : 62%	Chloride : 11%
Haloform : 55%	Volatility Phenol : 85%	Arsenic : 30%	Lead : 98%
Mercury : 28%	Cadmium : 92%	Molybdenum : 70%	Nickel : 25%
Free Chlorine : 96%			

If raw water hardness is above 200 mg/l, which can effect the contaminates removal efficiency mentioned above.

When CLINO-X is fully absorbed with contaminates, it can be regenerated like water softener using 30% of sodium chloride (Salts) to soak the media for 2 hours time. Regeneration is only required when the filter is designed for ion exchange purpose. If the filter is designed for turbidity removal, only periodically backwash is required to ensure the media's life time.

Pressure Drop vs Flow

