GWT NatZeo™ Filtration Media

Product Application Data Sheet

Around the world there is an increasing need for enviromentally safe methods of providing high-quality drinking water and for the treatment of a wide range of commercial, industrial, and municipal water contamination and air pollution issues.

NatZeo™ is an inorganic micro porous alumino-silicate material with many unique filtration properties including a high cation exchange capacity (CEC). GWT NatZeo media is a cost effective, environmentally safe solution for the filtration of both water and wastewater treatment.

PHYSICAL PROPERTIES

Density (lb/ft³): 50-55
Bed depth (inches/cm):
24-48in / 61-122cm
Color: Grey-Green
Particle Size:
14x40 (.41-1.41mm)

CONDITIONS OF OPERATION

Service flow (gpm/ft²) PV: 12-18 gpm/ft2 (700-1050 m3/m2d), GV: 4 gpm/ft2 (233 m3/m2d)
Backwash flow (gpm/ft²):
PV: 13-17 gpm/ft2 (762.5 m3/m2/d -992 m3/m2d), GV: 13-17 gpm/ft2 (762.5 m3/m2/d - 992 m3/m2d)
Filter Bed Depth: 36in / 92cm for optimal filtration (depending upon flow rate)
Freeboard: 50%-55% of bed depth
Pressure Vessel Filtration Bed Expansion: 30-40%
Gravel Underbed Required in PV configuration, in GV configuration underdrain will need to be configured with smaller apertures than media particle size if no underbed is used to minimize media loss.

Media will need to fully soak prior to initial backwash (12-24 hours)

OPTIONAL AIR SCOUR

Use 2 to 3 scfm/sq.ft. air @ 90 psi with 3 to 5 gpm/sq.ft. water backwash (@77ºF/25C)

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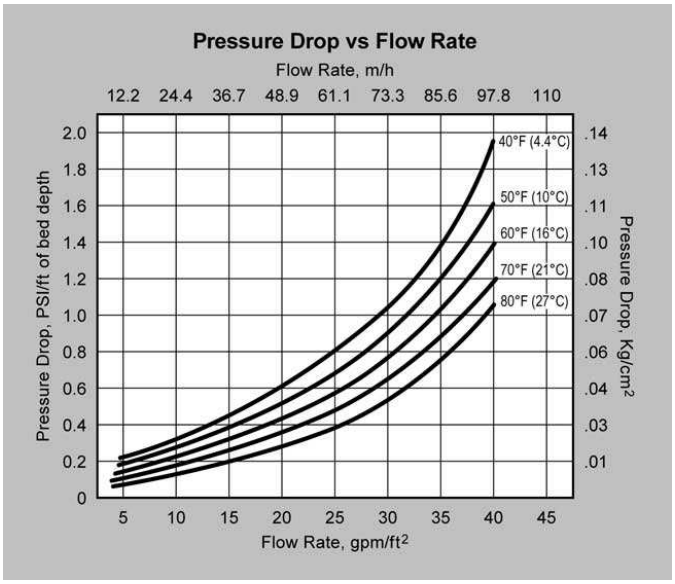
Typical Backwash Flow Requirement vs. Water Temp

Flow	79 F (26C)	69 F (21C)	59F (15C)	49F (9C)	39F (4C)
US gpm/ft2	22.2	19.9	17.1	14.7	12.5
M/h	54.4	48.3	42	36.1	30.7

Based on filtration bed expansion of 40%

Typical Pressure Drop vs. Flow Rate



Applications:

Water Treatment:

- Turbidity Reduction to 3-5 micron for water filtration systems
- Removal of heavy metal cations, certain hydrocarbons and other contaminants including bacteria
- Can be used as a direct replacement media for sand or multimedia filtration systems with up to 2.8x sediment loading capacity

Waste Water Treatment/Pollution Control:

- Waste water ammonia removal in municipal/industrial waste water
- Pollution Control – media can increase biological activity, reduce nutrient levels, cut sludge volume and odors, reduce ammonia and BOD levels in ion exchange columns or bed effluent, can be back flushed and regenerated, with ammonia recovered for fertilizer, increases sewerage plant capacity and life cycle.

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Radioactive Water Treatment:

- Nuclear cooling and waste waste treatment of Cesium and Strontium and site remediation/decontamination

Water Treatment:

- Turbidity Reduction to 3-5 micron for water filtration systems
- Removal of heavy metal cations, certain hydrocarbons and other contaminants including bacteria

Aqua Culture / Fishing Industry:

- Fish Hatchery water treatment
- Ammonia control
- Biofiltration media

Mining:

- Gas/Odor Removal
- Absorption and Retention of certain dangerous heavy metals and oils in mining waste water

Industrial Oil/Gas Applications:

- Absorbents for oils/hydrocarbon in water and oil spills

BENEFITS & ADVANTAGES

*- Cost-effective **r**eplacement for sand, garnet & multimedia*
- Lower pressure drop for a given flow rate (gpm/ft2 or m3/m2/d)
- High CEC (cation exchange capacity) for ion exchange of charged contaminants (dissolved metals, sodium, ammonia)
- Highest solids loading reduces backwash interval frequency and consumption of backwash water
- Superior filtration performance at high flux rates
- All natural, environmentally safe product
- Low Density media reduces shipping and handling costs

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