

Catalytic - High Activated Carbon (CAT-HAC) may be used for a variety of water treatment applications including the reduction of chloramines and hydrogen sulfide from potable water.

Catalytic-High Activated Carbon (CAT-HAC)



Clack Catalytic Activated Carbon is a high activity coconut shell based granular carbon that is specifically designed for the reduction of chloramines and hydrogen sulfide from potable water.

Manufactured from select grades of coconut shell coal to produce a high density, durable granular product capable of withstanding the abrasion and dynamics associated with repeated hydraulic transport, backwashing and mechanical handling. Activation is carefully controlled to produce exceptionally high internal surface area with optimum pore size for the adsorption of a broad range of low molecular weight organic contaminants and oxidizing agents like chlorine and ozone.

The catalytic activity of CAT-HAC makes it highly effective for the reduction of chloramines and hydrogen sulfide from potable water. Its large micropore volume also makes it particularly well suited for the removal of low molecular weight organic compounds and their chlorinated by-products such as chloroform and other trihalomethanes (THMs).

To obtain maximum efficiency of the activated carbon in the adsorption process,

it is desirable to have the greatest possible surface area in the smallest practical volume. This is necessary because the rate of adsorption is proportional to the amount of surface area of the adsorbing media. CAT-HAC has a surface area of 1,060 square meters per gram. This results in high efficiency and greater system economy. Clack has for many years provided activated carbon to the OEM and replacement market as a pre-treatment for other water purification systems as well as for use in individual treatment equipment for the removal of specific impurities.

CAT-HAC requires dissolved oxygen concentration of 4ppm (mg/L) to insure effective removal of iron and hydrogen sulfide.

CAT-HAC requires periodic backwashing to eliminate accumulated suspended matter and to re-grade the filter bed. CAT-HAC has an extremely high capacity but must be replaced when the filter bed loses the capacity for reduction of chloramines and hydrogen sulfide. CAT-HAC may be used in either domestic or industrial applications using gravity flow or pressurized filter vessels.

ADVANTAGES

- CAT-HAC is an outstanding coconut shell based material for applications requiring chloramine, hydrogen sulfide and dissolved organic compound reduction. This product can be used for filtering water having a wide range of pH levels.
- Large surface area results in an exceptionally high capacity and efficiency.
- Balanced pore structure gives a more efficient adsorption range.
- CAT-HAC is very durable so losses due to attrition are kept to a minimum.
- CAT-HAC has a very high carbon, low ash content.
- CAT-HAC will impart a high "polish" to the filtered water.

PHYSICAL PROPERTIES

- Color: Black
- Mesh Size: 12 x 40
- Bulk Density: 28 lbs./cu. ft.
- Effective Size: 0.55-0.75 mm
- Ash Content: Max 4%
- Iodine Number: 1,000 mg/g
- Moisture as packed: Max 5%
- pH 10

CERTIFICATIONS AND APPROVALS

- NSF/ANSI Standard 61
- AWWA B604-96
- EN12915

$$\text{Empty Bed Contact Time in Minutes} = \frac{\text{BedVolume (ft}^3\text{)} \times 7.481 \text{ gal/ft}^3}{\text{Flowrate (gpm)}}$$

CONDITIONS FOR OPERATION

- Water to be filtered should preferably be free of oil and suspended matter
- The water to be filtered should be relatively free of turbidity for maximum service life
- Water pH range: wide range
- Bed depth: 26-30 in.
- Freeboard: 50% of bed depth (min.)
- Empty bed contact time 3 minutes minimum
- Dissolved Oxygen Concentration 4 ppm (mg/L)
- Service flow rate: 5 gpm/sq. ft.
- Backwash flow rate: 8-10 gpm/sq. ft.
- Backwash bed expansion: 30-40% of bed depth
- Upon installation, backwash to remove carbon fines before placing unit into service