

# ACTIVATED CARBON

High Activity Carbon (HAC) may be used for a variety of water treatment applications requiring the reduction of chlorine, tastes, and odors.

## ADVANTAGES

- HAC is an outstanding material for applications requiring taste, odor and dissolved organic chemical removal from water with suspended matter present. This product can be used for filtering waters 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.
- HAC is very durable so losses due to attrition are kept to a minimum.
- HAC is a very high carbon-low ash content.
- service rates of 5 pgm/sq. ft. are practical for ordinary taste, odor and chlorine loads.
- HAC will impart a high "polish" to the filtered water.

## PHYSICAL PROPERTIES

- Color: Black
- Mesh Size 12 x 40
- Bulk Density: 31 lbs./cu. ft.
- Specific Gravity: 1.4-1.5 gm/cc
- Effective Size: 0.55-0.75 mm, 0.65 typical
- Water Soluble Ash: less than 0.5%
- Iodine #: 850 min., 900 typical
- Abrasion #: 75 min., 81 typical
- Moisture as packed: 2% max., 0.7% typical
- Meets American Water Works Association standard B604-96

## 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 iron and turbidity for maximum service life
- Water pH range: wide range
- Bed depth: 26-30 in.
- Freeboard: 50% of bed depth (min.)
- Service flow rate: 5 pgm/sq. ft.
- Backwash flow rate: 10-12 gpm/sq. ft.
- Backwash bed expansion: 30-40% of bed depth
- Upon installation, backwash to remove carbon fines before placing unit into service

Granular activated carbon is designed for reduction of tastes, odors and dissolved organic chemicals from municipal and industrial water supplies. Manufactured from select grades of bituminous 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 high and low molecular weight organic contaminants.

One of the most common applications for (HAC) is the reduction of the undesirable tastes and odors present in many chlorinated water supplies. HAC has been successful for many years in the reduction of free chlorine from water supplies. The end product is clean, fresh water with no objectionable taste or odor characteristics.

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 medium media. HAC has a surface area of 850 square meters per gram. This results in high efficiency and greater system economy.

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

