



# Catalytic Coconut Shell GAC PRODUCT DATA SHEET

## Product Description

Crystal Quest® catalytic granular activated carbon is designed for reduction of tastes, odors, dissolved organic chemicals and the ever growing presence of chloramines from municipal and industrial water supplies. Chloramines are commonly created in water through the combination of ammonia and residual free chlorine. Catalytic GAC is 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, chloramines and ozone.

One of the most common applications for Crystal Quest® Catalytic GAC is the reduction of the undesirable tastes and odors present in many chlorinated water supplies. GAC has been successful for many years in the reduction of free chlorine from water supplies and now with the enhanced Catalytic GAC chloramines are more effectively addressed. 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 media. Crystal Quest® GAC has a surface area of 1,050 square meters per gram. This results in high efficiency and greater system economy. Crystal Quest® has for many years employed activated carbon for use in individual treatment equipment for the removal of specific impurities.

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

## Advantages

- GAC 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.
- GAC is very durable so losses due to attrition are kept to a minimum.
- GAC has a very high carbon-low ash content.
- Service rates of 5 gpm/sq. ft. are practical for ordinary taste, odor and chlorine loads.
- GAC will impart a high "polish" to the filtered water.

## Physical Properties

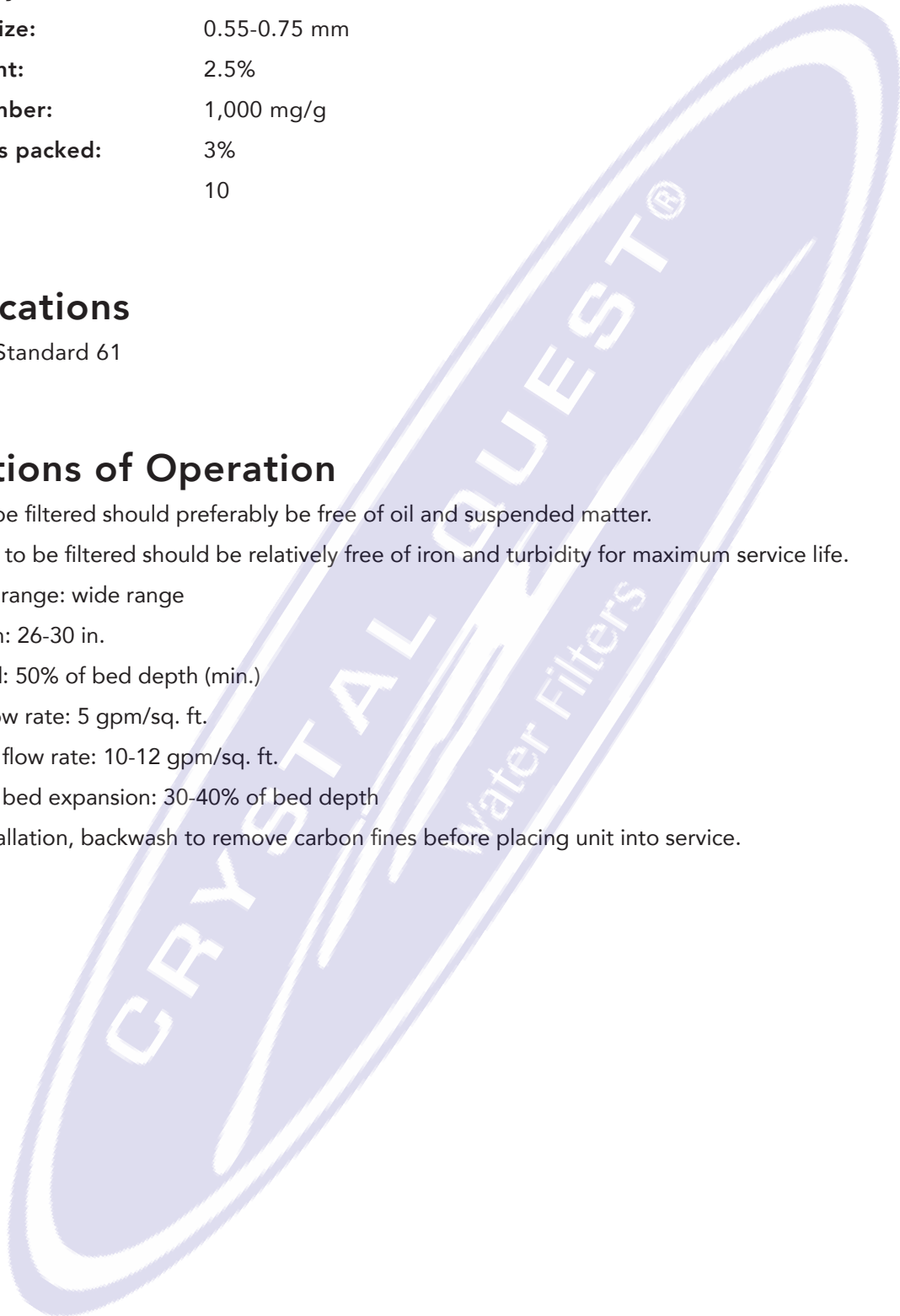
<b>Color:</b>	Black
<b>Mesh Size:</b>	12 x 40
<b>Bulk Density:</b>	28 lbs./cu. ft.
<b>Effective Size:</b>	0.55-0.75 mm
<b>Ash Content:</b>	2.5%
<b>Iodine Number:</b>	1,000 mg/g
<b>Moisture as packed:</b>	3%
<b>pH:</b>	10

## Certifications

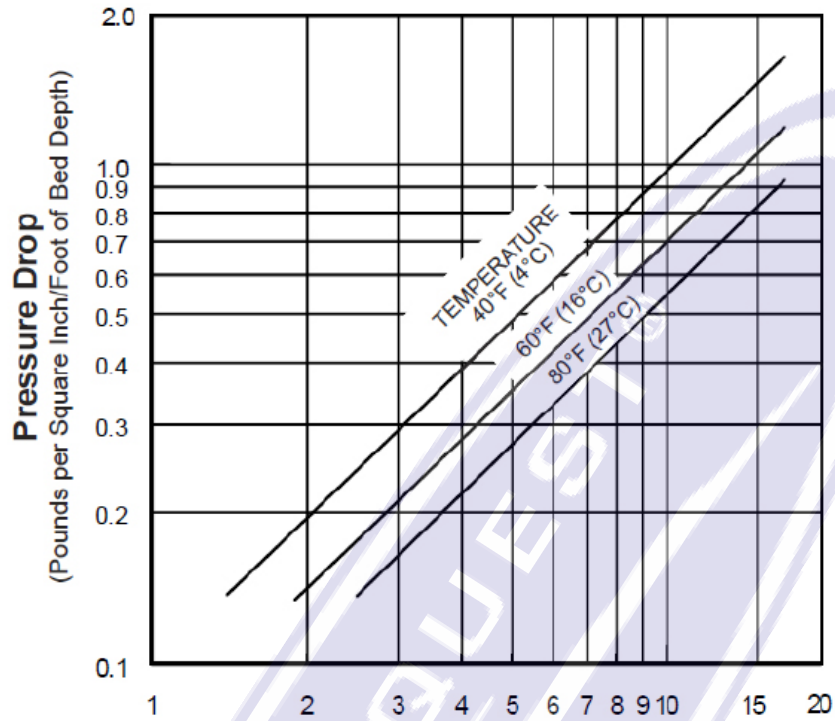
NSF/ANSI Standard 61

## Conditions of Operation

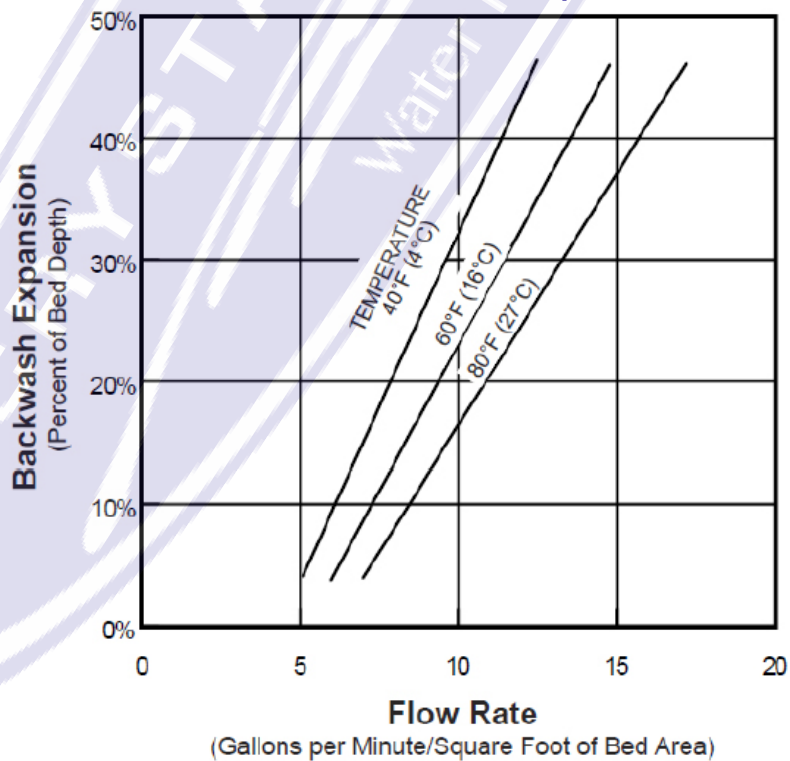
- Water to be filtered should preferably be free of oil and suspended matter.
- The water to be filtered should be relatively free of iron and turbidity for maximum service life.
- Water pH range: wide range
- Bed depth: 26-30 in.
- Freeboard: 50% of bed depth (min.)
- Service flow rate: 5 gpm/sq. ft.
- 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.



## Service Flow Pressure Drop



## Backwash Bed Expansion



## Dechlorination of Water (pH 7, 21° C)

