GK ENTERPRISES

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What is Activated Carbon?

Activated carbon is a granular material produced mostly by roasting charcoal from coconut shells or coal at 800 to 1000°C to "activate" it. Impurities are removed by acid washing. Typically, it has pore sizes ranging from 500 to 1000nm and a surface area of about 1000m2/gram. A much purer form of activated carbon is produced by paralyzing polymer beads.

The process of Activated Carbon:

- First Stage - We put the Raw Bituminous coal/anthracite coal/char coal & Steam coal in washed than dray.
- Second Stage - Then Coal gets crushed and graded.
- Third Stage - Then Graded Coal goes into Kilen for heating & steaming for activation.
- Final Stage - Then finally Activated Carbon has to be washed, dried and segregated.

What does Activated Carbon remove from water?

In laboratory water purification, activated carbon is used in pre-treatment to remove free chlorine and chloramines from the feed water to reverse osmosis membranes and to remove trace organic impurities from purified water. In larger systems cylinders of activated carbon may also be used to adsorb larger quantities of organic impurities, the activated carbon removes unwanted color from water and improves taste in it.

How does Activated Carbon work?

Activated carbon reduces free chlorine to chloride and carbon dioxide. It also breaks down chloramines by a relatively slow catalytic reaction to produce ammonia, nitrogen and chloride. Organic compounds are adsorbed in the pores of the carbon matrix. The large surface area of the activated carbon enables significant quantities of organic material to adsorb through ionic, polar and Van der Waals forces.

The very large surface area of activated carbons provides ideal growing areas for bacteria. Adding a bactericide, such as silver, has been used to minimize this effect but the carbon cartridges need to be changed regularly to keep bacterial build-up and shedding under control.

What are the benefits of Activated Carbon?

Its major use in pre-treatment is to remove free chlorine and chloramines before reverse osmosis to prevent membrane damage due to oxidation. Activated carbon reacts very rapidly with free chlorine in water to produce chlorides; a relatively small volume of carbon can be effective. Over 5 times the volume of carbon is needed to catalyze the removal of chloramines.

High purity activated carbon is a highly effective absorber of organic compounds and is used to remove residual organic compounds in purified water. These may come from the feed-water or leached from the system or the ion exchange resins. It

is a valuable aid in maintaining low TOC values, complementing UV oxidation.

The affinity of activated carbon for organics can also be used in vent filters to protect reservoirs of purified water. Activated carbon diagram

SPECIFICATIONS:

Activated carbon IDV-600.

Sl. No	Parameters	Unit	Parameters Measurement	Test Method
01	pH @ 26*c	-	8.0	BY pH meter
02	Colour	-	Black Granules	Visual
03	Ash Content	Number	18.22	IS:877
04	Moisture	%	2.2	IS:877
05	Hardness	%	83.5	IS:877
06	Density	Gm/cc	0.53	IS:877
07	Iodine Value	%	600	IS:877
08	MB Value	-	120	IS:877

Activated carbon IDV-750.

Sl. No	Parameters	Unit	Parameters Measurement	Test Method
01	pH @ 26*c	-	8.2	BY pH meter
02	Colour	-	Black Granules	Visual
03	Ash Content	Number	11.5	IS:877
04	Moisture	%	2.3	IS:877
05	Hardness	%	85	IS:877
06	Density	Gm/cc	0.51	IS:877
07	Iodine Value	%	750	IS:877
08	MB Value	-	140	IS:877

APPLICATION OF GRANULAR ACTIVATED CARBON

- Effluent Treatment Plant
- Waste Water Treatment For Reduction in the level of BOD & COD
- Catalyst in Chemical-Metallurgical Industries & Petroleum Refineries
- Swimming Pools & Soft Drink Plant For De-Chlorination
- Purification Of Drinking Water & Industrial Gas
- Solvent & Gold Recovery
- Absorption Of Dissolved Organic Matter
- Water And Gas Mask Filters
- Breweries & Distilleries

Thanks & Regards
Gk Enterprises