



YOUR SPECIALIST SUPPLY PARTNER

# PURAGEN ACTIVATED CARBON

## Powdered Activated Carbon Attributes

Primarily used for liquid filtration. PAC is added to a vessel and mixed thoroughly with solution and either allowed to settle out in a sediment tank or filtered using filter aids such as Celite diatomaceous earth and CCF cellulose fibres.

- **High adsorption capacity**
  - Results in lower carbon feed rates which increases throughput and reduces disposal costs. Puragen offers high capacity chemically activated products for decolourization and steam activated products to remove impurities for taste and odour, total organic carbon and pesticides.
- **Higher purity**
  - Allows stringent extraction requirements to be met by minimising complications introduced from impurities. To reduce impurities, Puragen Activated Carbon selects the best materials available and tightly controls all aspects of manufacture.
- **Correct pH**
  - Correct pH control is critical for many steps and processes as a change in pH can significantly alter the availability of molecules. In the refinement of sugar cane a low pH can lead to inversion reducing sugar quality and volume, while a high pH leads to browning through the formation of melanoidins.

## Granular Activated Carbon Attributes

Predominately used for liquid filtration. GAC is held in a vessel with contaminated liquid pumped through the entire bed. When the carbon is exhausted, the entire carbon bed is removed and replaced. Additionally, GAC is often backwashed which extends the entire bed life and increases carbon efficiency.

- **Optimised Particle size distribution**
  - Results in improved filtration and reduces pressure drop across the filters. Puragen Activated Carbon typically sees increased cycle times, fewer change outs and higher throughput.
- **High abrasion resistance**
  - Required so that carbon can remain stable while minimizing ash produced during repeated thermal regeneration and to minimize losses during transport and handling.
- **Low ash**



YOUR SPECIALIST SUPPLY PARTNER

# PURAGEN ACTIVATED CARBON

- Puragen Acid Washed Carbon has significantly lower ash than unwashed carbon which minimises start up time, labour and maintenance costs while increasing the adsorption capacity.

## Extruded Activated Carbon Attributes

Predominantly used for air filtration. EAC is held in either single or double pass filter housings. Once spent the entire EAC column is removed and replaced.

- **Chemisorption with impregnations**
  - All of our activated carbons can be impregnated for specific chemisorption reactions. These impregnations are specific to the application and include a variety of chemicals such as KOH, KI, H<sub>3</sub>PO<sub>4</sub>, TEDA and K<sub>2</sub>CO<sub>4</sub>.
- **High Adsorption capacity**
  - Impregnated carbons with greater than 0.3 g/cc H<sub>2</sub>S capacity are available to meet the most challenging applications. The higher capacity results in results in longer bed life and reduced labour, disposal, and replacement costs to deliver a lower total cost of activated carbon treatment.
- **High mechanical hardness**
  - With the constant airflow across the bed, high hardness is important to prevent the carbon from attrition. Attrition causes higher pressure drop across the bed and results in higher operational costs.

## Carbon Block Attributes

- **Superior capability**
  - Results in carbon blocks with a higher rated capacity for free chlorine, monochloramine, taste and odour and volatile organic chemicals.
- **Dedicated carbon grading**
  - Rapidly adsorbs specific contaminants with good carbon block through-put rates and pressure drop.