Background

AquaGate+PAC (Powdered Activated Carbon) is a patented, composite-aggregate technology comprised of a dense core of various sizes and fine grained material coatings using polymers. AquaGate+PAC utilizes powder activated carbon as the coating material.

![Figure 1. Configuration of PAC-coated particle.](image)

Primary Advantages:

1. Sand size for easy blending with sand capping materials.
2. Similar specific gravity and size as sand for uniform distribution when blended with sand and applied through a water column during application.
3. Sand-sized particles of specific chemically active minerals can be used to deliver treatment for multiple contaminants.

Contaminant Adsorption:

Activated carbon has been shown to be effective at reducing bioavailability of PCBs in sediments with surface application. Other contaminants addressed include a range of PAHs and metals.

Product Specifications

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<th>Core Material:</th>
<th>Sand-sized aggregate with a wide range of mineral properties. Nominal sizing generally from No. 10-25 Mesh (0.0625 mm to 2 mm), to include aggregates up to AASHTO #8 or custom-sized to meet project-specific need</th>
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| Clay:                  | Bentonite (or montmorillonite derivative)                                                                                    *
|                        | Typically 5 – 10% by weight                                                                                                  *
| Activated Carbon:      | Powdered                                                                                                                      *
|                        | 99% (minimum) through 100 mesh sieve                                                                                           *
|                        | 95% (minimum) through 200 mesh sieve                                                                                           *
|                        | 90% (minimum) through 325 mesh sieve                                                                                           *
|                        | Typically 2 – 5% by weight                                                                                                   *
| Binder:                | Cellulosic polymer                                                                                                             *
| Permeability:          | $1 \times 10^{-2}$ to $1 \times 10^{-5}$ cm/sec                                                                                 *
| Dry Bulk Density:      | 85 – 100 lbs/ft³                                                                                                                *
| Moisture:              | 10 – 12% (maximum)                                                                                                             *