

AquaGATE⁺ Provect-IRM

Background

AquaGate+Provect-IRM is a patented, composite-aggregate technology resembling small stones that is typically comprised of a dense aggregate core. In this application of the technology, a powdered reagent for metals stabilization (Provect-IRM™) utilized (Figure 1) with varying percentages of additive layer by percent of total weight.



Figure 1. Photo of Provect-IRM coated particles

AquaGate+Provect-IRM serves as a delivery mechanism to reliably place reactive treatment and adsorptive materials into aquatic environments. The treatment material binds metals through a range of reactions including, precipitation, oxidation-reduction, and adsorption-desorption.

Metals Chemical Conversion and Adsorption Material



Figure 2. Placement of AquaGate+Provect-IRM

Product Specifications

Aggregate:	Nominal AASHTO #8 (1/4-3/8") or custom-sized to meet project-specific need * Limestone or non-calcareous substitute, as deemed project-appropriate
Provect-IRM:	Powdered – Approximate 50-200 Mesh <ul style="list-style-type: none"> ◦ Multiple hydrophilic, nutrient rich organic carbon sources ◦ Powder ZVI – 25ft reactive surface area/lb. ◦ Potassium magnesium sulfate to promote iron-sulfide complexes ◦ Powdered activated carbon (PAC) to sequester organo-metal complexes Manufacturer – <ul style="list-style-type: none"> ◦ Provectus Environmental, Inc.
Metals Stabilization:	From 0.5 – 5% coating quantity by weight
Binder:	Cellulosic polymer
Permeability:	1×10^{-2} to 1×10^{-5} cm/sec
Dry Bulk Density:	75 – 85 lbs/ft ³
Moisture:	10 – 20% (maximum)



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* **Provect-IRM is a Patented Product of Provectus Environmental Products, Inc.**