

GEOTECHNICAL SEALING SOLUTIONS > POND SEALING

DAM / LEVEE ENHANCEMENT

Dams and levees have become the focus of increased concern as recent failures have led to catastrophic flood damage. A main source of dam and levee degradation is internal erosion, where subsurface soils give way to seepage under and through embankments. If allowed to progress unchecked, seepage leads to soil loss and structural instability, causing blowouts or even a collapse of a dam or levee. AquaBlok is a proven method of seepage control when used in a vertical hydraulic barrier, or "cut-off" wall placed either within the embankment or in an apron upgradient from the direction of flow. This cut-off wall is simply an excavated trench with specified dimensions, backfilled with AquaBlok. Once it hydrates and swells, AquaBlok self-compacts within the trench to create a low permeability [1×10^{-8} cm/sec or lower] barrier with an added benefit of structural integrity from the

aggregate component. An AquaBlok cut-off trench can be installed during new construction, or used to repair leaks, seeps, or boils in existing dams or levees. Since AquaBlok remains plastic after hydration, it can resist seismic forces that could otherwise damage rigid barriers such as concrete or grout. Installation of AquaBlok is simple and fast, and saves significant labor costs over sheet pile, slurry walls, and other seepage prevention methods. AquaBlok can also be used to prevent seepage at the embankment surface as a horizontal barrier, and used around pipes, structures, and other penetrations as a permanent seal. Flood protection levees, hydroelectric dams, storage reservoir embankments, Coal Combustion Residual (CCR) impoundments, mine tailings dams, and many other applications have been successfully enhanced using AquaBlok.



BENEFITS:

AquaBlok in Geotechnical Applications

- Composed of high-quality Wyoming sodium bentonite coated over an aggregate core.
- Forms a reliable, extremely low permeability seal (10^{-8} to 10^{-9} cm/sec).
- Highly durable, withstands freeze-thaw cycles, will rehydrate.
- Provides the structural integrity of a crushed stone aggregate.
- Easy handling & targeted delivery; no mixing required and minimized product loss.
- Can be installed in wet and dry environments, often eliminating the need for dewatering.
- No need for compaction, inter-lift filling or tilling/mixing with parent soil.
- Reduces labor and installation costs while enhancing safe trench construction.

For technical support or questions regarding geotechnical engineering applications, please contact
Andy Durham, P.E. - Geotechnical Sales Manager
678.206.9483 | adurham@aquablok.com



175 Woodland Ave.
Swanton, OH 43558
419.825.1325
AquaBlok.com