Successful Application

Braddock Dam Reduces Costs With Euco Admixture Technology

ADMIXTURES—BRADDOCK DAM

After construction of the Braddock Dam is completed, the capacity for traffic will be doubled

Euclid Chemical admixtures helped maintain pumpability without increasing the water to cement ratio

The Army Corps of Engineers used creative and time-saving construction methods throughout the entire project

Partnership Challenge

- Ensure consistent, high quality admixtures to make high quality concrete
- Supply mobile dispensing system for all admixtures

Engineered Solution

Managed by the U.S. Army Corps of Engineers, the Braddock Dam project in Pittsburgh, Pennsylvania, replaces a 100 year old, three segment fixed crest dam. Braddock is a gated, two lock and dam structure that will control water pool levels and allow a doubling of traffic for the next fifty years. J.A. Jones Construction Company and Traylor Bros., Inc. relied on the Euclid Chemical Company to provide the admixtures to build this dam using "in-the-wet" method. This technique offers a potential savings of $5 million dollars and one year construction time on the project versus traditional cofferdam construction. Using an on-site batch plant and conveyor system to avoid disrupting rail traffic along the Monongahela River, the concrete was made, placed on conveyor belt and transported by barge, where it could then be pumped to the construction site. Euclid Chemical admixtures made it possible to create high quality concrete that pumped well and could be used in an underwater application.

The Braddock Lock Dam used five different admixtures to achieve flow, water reduction, air entrainment, durability and anti-washout properties with various mix designs. EUCON 37, a high range water reducer and EUCON WR, a water reducing admixture provided mixture design flexibility that was durable and easily pumped. AEA 92 was included as air entrainment to provide the optimum air void structure to ensure freeze-thaw durability and EUCON MSA microsilica enhances late age strengths and reduced permeability. EUCON AWA was used to prevent the loss of cement and fine aggregates during placement of underwater concrete, which saved valuable time and money.

In partnerships across America, the Euclid Chemical Company continues to provide the products, service and technology needed to sustain the nation's navigation infrastructure.

Features

- Multi-Admixture mix design
- Mobile dispensing systems
- Technical service and support

Benefits

- Consistent, high quality concrete
- Design and construction alternatives
- Product selection and dosing expertise

Applications

- Bridges, dams, and all projects requiring innovative mix designs to support technology and cost efficiency in concrete construction

The Euclid Chemical Company • 19218 Redwood Road • Cleveland OH 44110 • (216) 531-9222 • www.euclidchemical.com