US Army Corps of Engineers®
Engineer Research and Development Center

High-Performance Materials and Systems Selection

Description

ERDC researchers are developing innovative materials and systems that will reduce the costs associated with operation, maintenance, and rehabilitation of existing structures. High-performance materials and systems are also being developed that will enable the Corps of Engineers to produce more durable structures with significant reductions in project delivery times and construction costs.

Capabilities

The U.S. Army Corps of Engineers owns and operates more than 1,200 civil works structures, including navigation locks and dams, flood control dams, hydropower projects, coastal structures, and major ports. To meet current and future Corps needs related to construction, repair, and rehabilitation of these structures, innovative materials and systems are being developed to reduce costs and improve performance.

Current research focuses on the following areas:

- High-performance repair materials for concrete structures.
- Environmentally acceptable coatings.
- Field evaluations of advanced coatings.
- Commercial item description for overcoating lead-based paints.
- Civil works advanced materials selection guide.
- Electro-osmotic pulse technology for civil works structures.
- Composite piles.

Supporting Technology

Technology products are available at http://www.wes.army.mil/SL/HPMS/.

- Technical reports.
- Information bulletins.
- Articles.

Benefits

Development and implementation of high-performance materials and systems in Corps structures will ensure their continued safety and operational adequacy and reduce costs associated with operation, maintenance, and rehabilitation.

Success Stories

The ERDC-CERL's Paint Technology Center investigated new protective coating systems in actual field applications to determine their ability to effectively and economically protect hydraulic structures, floating plant, and steel pilings. Results of more than 100 product applications have been provided to Corps personnel and are posted on the Center's Web site [http://www.cecer.army.mil/pl/project/index.cfm].

Point of Contact

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