PROJECT SHEET

Jing Hong Hydropower Dam

2009

ABOUT THIS PROJECT:

Market Segment:
Dams & Irrigation, Water Holding Structures, Power & Utilities

Location:
Lancang (Mekong) River in Yunnan Province, China

Products Used:
Admix C-Series NF
Concentrate
Patch'n Plug

THE CHALLENGE

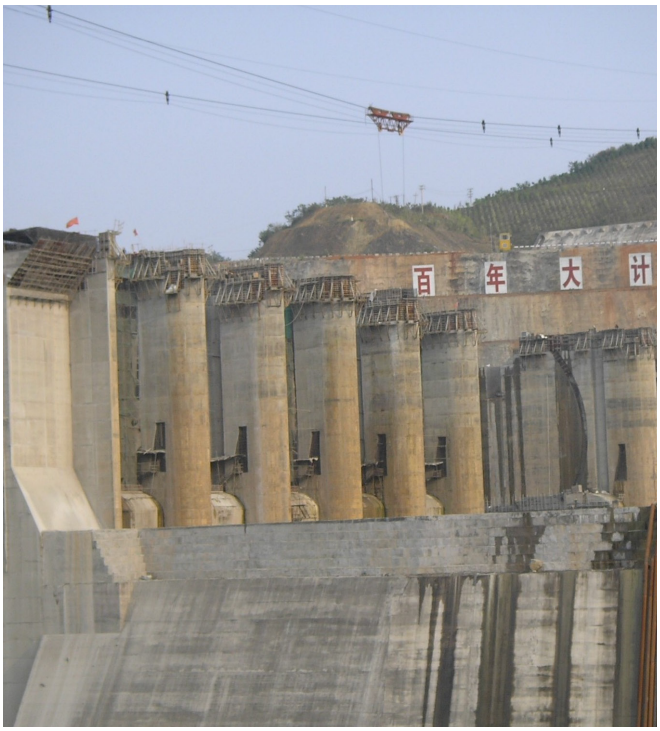
The Jing Hong Hydropower Dam, situated on the Lancang (Mekong) River in Yunnan Province, China, stands as a testament to engineering excellence. Constructed between 2004 and 2009, this roller--compacted dam reaches a towering height of 108 meters, boasting a storage capacity of 1.14 billion m^3 of water and a generation capacity of 1.75 million kW.

With a total investment of 10.1 billion RMB (approximately 1.22 billion USD in 2004 exchange rate), this project is a significant milestone in sustainable hydro-electric power development.

THE XYPEX SOLUTION

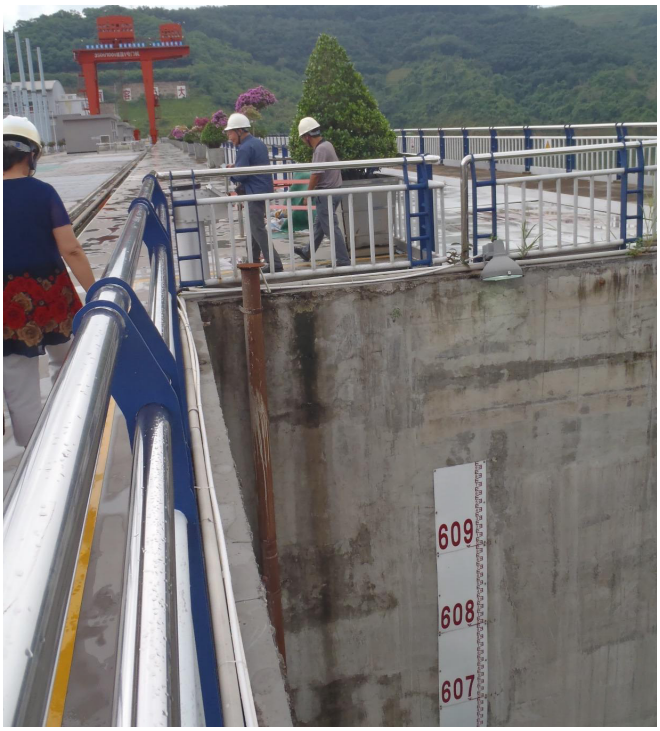
Xypex C-Series NF admixtures, Xypex Concentrate, and Xypex Patch'n Plug were used as a three-part system, effectively addressing the waterproofing challenges in the upstream dam faces, internal corridors, and plant rooms.

This innovative approach not only provided a durable and long-lasting solution but also helped extend the service life of these critical structures, ensuring their continued functionality and reliability for years to come. Xypex Admix treated mortar was applied throughout the positive side of the dam.



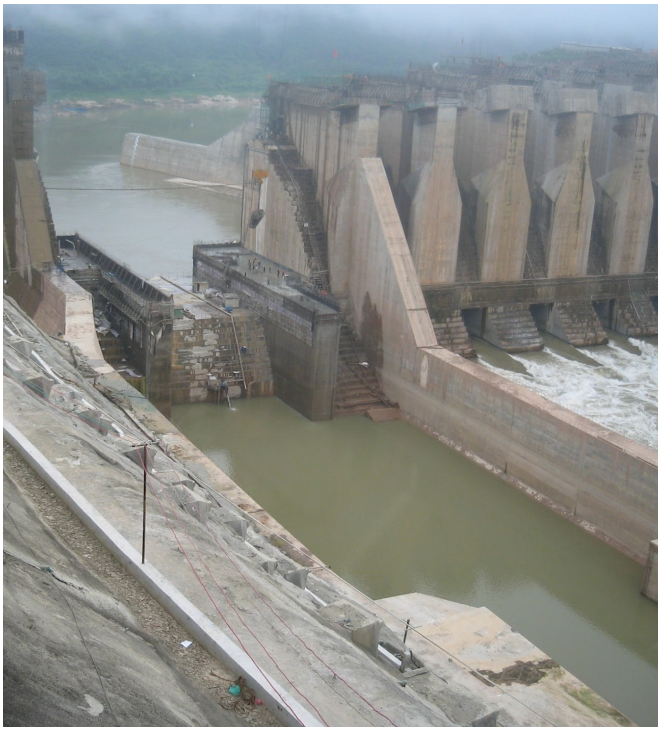
Xypex not only reduced permeability but also enhanced anti-freeze-thaw capabilities and improved concrete tensile strength. The mortar used a dosage rate of 1.5% of NF admixtures by weight of cementitious.

Other areas of the dam were treated with Xypex Concentrate. The concrete in these areas showed a significant decrease in the permeability coefficient when tested 90 days after application. The testing conducted is an excellent example of the efficacy of Xypex as a viable alternative to conventional waterproofing solutions.



Comprehensive Testing and Results

Extensive testing, including tensile strength assessments and evaluations of freeze-thaw durability reinforced the effectiveness of Xypex solutions. The results were compelling—tensile strength increased by up to 30%, the permeability coefficient of concrete reduced by an order of magnitude, and freeze-thaw durability had increased by 17.9%.

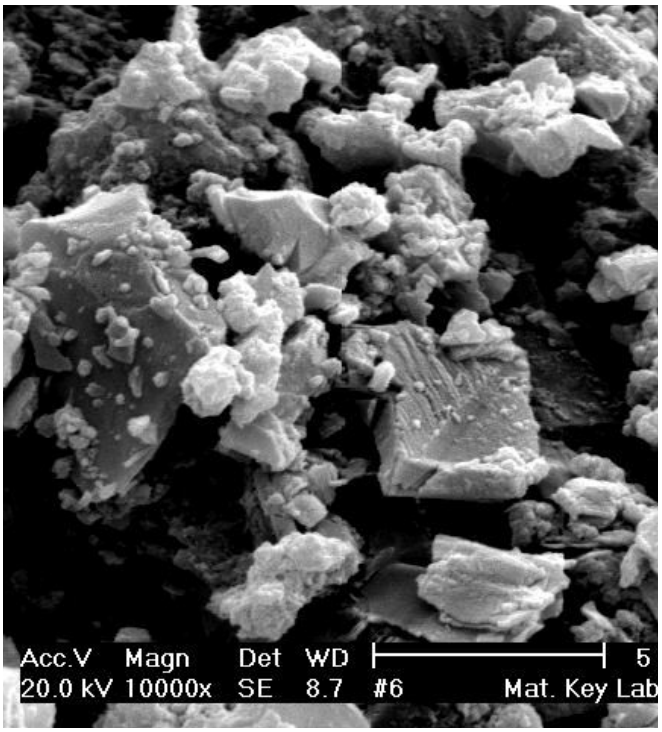


Third-party testing laboratories corroborated these findings, providing an additional layer of validation. The project validated the cause of the increased performance and durability by analysis of concrete samples with a scanning electron microscope or SEM showing Xypex-treated concrete at various magnifications. The images show Xypex crystal formations with distinct superiority of Xypex-treated samples over control samples.

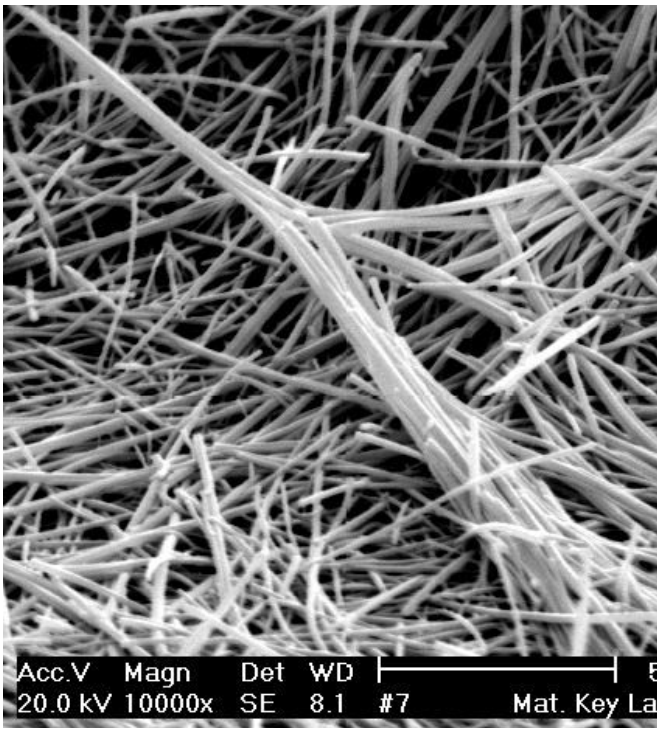
A Long-Lasting Legacy

The Jing Hong Hydropower Dam exemplifies the effectiveness of Xypex Crystalline Technology in concrete waterproofing and protection and extending the dam's service life. Approval letters from stakeholders across the construction process, including contractors, design companies, third-party laboratories, and the owner, solidify the position of Xypex as a reliable and groundbreaking waterproofing solution in the field of concrete infrastructure.

As we celebrate the achievements of the Jing Hong Hydropower Dam, it serves as an inspiration for future projects, showcasing the transformative impact of engineering innovation and sustainable construction practices.



Control, 10.000x



Xypex Admix, 10.000x