

CASE HISTORY ~ CH-049

BIO-DUR 561 REPAIRS PENSTOCK GATE SEALS UNDERWATER

THE CHALLENGE: Erosion damage in the concrete faces surrounding the underwater penstock gates of a concrete dam prevented proper sealing. Water loss was excessively high in the closed position, and since reservoir water is “money in the bank” to an operator something had to be done. Lowering the water level to effect repairs was an unacceptable, “last ditch” alternative.

THE SOLUTION: TFT Kevlar® reinforced BIO-DUR® 561 epoxy coating was chosen to effect repairs to the sealing faces underwater. This material has unlimited potable water approval granted in Australia and has no effect on the environmental quality of reservoir water. A diving company with experience using BIO-DUR 561 to repair worn manholes was chosen by the dam operator to rebuild the concrete sealing faces. A trial application was closely monitored for one year to confirm the practicality of the application before commencing full-scale repairs the following summer.

BIO-DUR 561 is a completely solvent-free, 1/1 volume mix product. 1/1 volume ratio mixing is the ideal ratio from a practical point of view since minor mixing errors have the minimum effect on performance. The components were supplied in contrasting colors of Red Oxide epoxy base and White curing agent to yield a uniform Red mixture.

APPLICATION: The concrete surfaces were prepared for coating by high pressure water blasting. About 3,000 psi held close in to the surface is effective at removing all organic fouling from submerged concrete surfaces. BIO-DUR 561 was applied to the freshly blasted surface using straight-edged plastic spreaders. Unlike traditional “Splash-Zone” type products its viscosity permits application by “buttering” which gives a very smooth surface.



Since BIO-DUR 561 is smoothed onto surfaces rather than having to be pressed on in a “patty-cake” style its production rate is much higher. During the repair work the divers became so adept that losses became negligible.

RESULT: Application by spreader was effective and yielded an excellent, tightly adherent film. The BIO-DUR 561 applications cured well overnight and formed a tough, tightly adherent protective coating over the concrete sealing surfaces. After repairs were completed the dam operators reported that they were able to achieve a proper seal for the first time in years.

For more information regarding this project, contact:

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PRODUCT: BIO-DUR 561

YEAR: 2007

LOCATION: USA

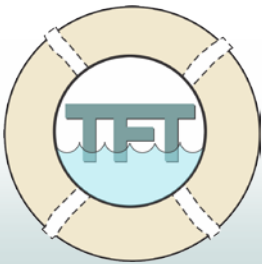
We go where others fear to spread!

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