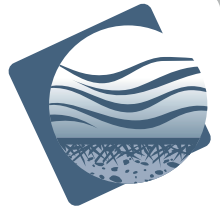




At the Lab. In the Field.
By Your Side.

MUNICIPAL CORPORATION OF DELHI: SEWAGE PUMPING STATION

New Delhi, India



CONCRETE
WATERPROOFING

Page 1 of 2

QUESTIONS: 604-324-8280 or www.kryton.com

BACKGROUND

The Sewage Pumping Station of the Municipal Corporation of Delhi is located next to a tributary of the Yamuna River in Jasola, New Delhi. It serves an important purpose as a treatment facility and sewage pumping station. Its location along the bank of the Yamuna River entails a very high water table and the base of the building is situated at an astounding 9 meters (29.5 feet) below-grade. It is no surprise that the high levels of hydrostatic pressure led to leaking through joints and cracks in the thick concrete walls and raft slabs after the initial construction of the Pumping Station's plant room.

The gushing water into the large plant room, where equipment and pumping machinery would be located, would fill up a significant area of 2 meters (6.6 feet) in height. In order to dewater the plant room, the Delhi



Severe leakage through the walls and joints of the Sewage Pumping Station.

Development Authority (DDA), a department of The Government of India, was required to constantly dewater the machine room by deploying two powerful pumps.

Although the water pumps provided an effective interim solution, maintenance to keep the machine room dry by constantly employing the water pumps was very costly and unreliable on a long-term basis. Repair of the cracks and joints also provided many challenges, as the positive (water) side of the structure was virtually inaccessible. A permanent repair solution from the inside was needed to keep this sewage pumping station dry.

SOLUTION

When Kryton Buildmat Co. Pvt. Ltd (KBCPL) initially proposed a negative-side repair process using Kryton's Integral Crystalline Waterproofing technology, the Delhi



The Sewage Pumping Station, first constructed and subsequently repaired using the Krystol® crack repair system remains dusty dry almost 8 years later.

PROJECT CASESTUDY

The Kryton Group of Companies.

1645 East Kent Avenue, Vancouver, BC Canada V5P 2S8 Tel.: 1-604-324-8280 Toll Free: 1-800-267-8280 Fax: 1-604-324-8899 E-mail: info@kryton.com Web: www.kryton.com

SEWAGE PUMPING STATION

New Delhi, India

July 2006

Page 2 of 2



“Kryton Buildmat Co. Ltd. has carried out the repair process of plugging the leakage of the pump house effectively at the depth of 9 meters below-grade!” - Office of the Executive Engineers/Delhi Development Authority

Development Authority was reluctant because they were used to treating these types of repairs with traditional waterproofing systems, such as membranes. Recognizing the difficulty, cost and temporary nature of an external repair, the DDA decided to give Integral Crystalline Waterproofing a try.

KBCPL suggested using Kryton's Krystol® crack repair system, a straightforward, easy-to-use application. The treatment was carried out from the inside (negative side) of the plant room. First, a 2.54cm (1 inch) chase was chiseled along the length of the major cracks and leaking joints along the wall and raft slabs. The chase was then filled with Krystol Plug™, which immediately arrests the seepage of water through the concrete walls. Within two minutes the leakage had stopped. The cracks and joints were then treated with Krystol T1® dry pack followed by Krystol Bari-Cote™, a waterproofing grout. A final finishing coat of Krystol T1®/Krystol T2® in

slurry form was applied to the entire concrete surface.

Krystol® products contain a high concentration of crystalline waterproofing chemicals. These proprietary chemicals cause a reaction within the concrete matrix to form billions of needle-like crystals that block pores, voids and micro-cracks from water intrusion. The chemicals sit dormant until another dose of water (through a new crack or rising water table) causes the chemical reaction to begin again. The ability to reactivate in the presence of water gives crystalline-treated concrete the ability to self-seal, thus providing a permanent solution.

The leakage to the pump room slowed down immediately after the repair process, and stopped altogether within days. As a result the DDA was able to stop the dewatering process. The work was executed in Fall 1999, and even today the plant room of the Sewage Pumping Station remains dusty dry.

LOCATION

Yamuna tributary at Jasola, New Delhi, India

OWNER

Municipal Corporation of Delhi

APPLICATOR

Kryton Buildmat Co. Pvt. Ltd. (KBCPL)

ENGINEERS

Executive Engineer of the Municipal Corporation of Delhi

CLIENT

Delhi Development Authority, a department of The Government of India

The Kryton Group of Companies.

1645 East Kent Avenue, Vancouver, BC Canada V5P 2S8 Tel.: 1-604-324-8280 Toll Free: 1-800-267-8280 Fax: 1-604-324-8899 E-mail: info@kryton.com Web: www.kryton.com