Project Profile - **Buildings & Commercial Construction**

PROJECT

Ma On Shan Water Treatment Works, Sai Kung, Hong Kong

SUMMARY

Roof refurbishment project Phase 1 (totalling 3,300m^2)

PRODUCTS

Roofdex HB (reinforced with Cemprotec GFM 225) Year System)

CLIENT

Water Supplies Department (WSD), Hong Kong

CONTRACTOR

MNP (Inter) Company Limited

DISTRIBUTOR

Technicient Engineering Company

BACKGROUND ▶

With treated water output of 227,000 cubic metres per day, Ma On Shan Water Treatment Works (WTW) treats raw water from Plover Cove Reservoir and High Island Reservoir. Meeting the demand for water in Ma On Shan and parts of Shatin, the WTW makes optimum use of the limited land available, incorporating specially designed landscaping features to blend in with the natural environment. The primary service reservoir only occupies five hectares; most of the units are closely located and three-layer sedimentation basins are adopted. A sophisticated Supervisory Control and Data Acquisition (SCADA) system is provided for automatic plant operation, monitoring and control.

The roof comprised concrete tiles and needed refurbishment to reinstate total weatherproof protection. The roof was water jet cleaned and the tile joints flush filled. It was important that the chosen roof weatherproofing system was hazard free and caused no disruption to normal plant operations during application.

THE SOLUTION ▶

Roofdex HB, a high build, waterborne liquid roof coating system, was chosen as it could easily be applied around upstands and complex protrusion details to provide seamless waterproofing when applied directly over the existing deck. Due to its water-based composition, it released no hazardous solvents or strong odour during application and could be safely applied during the normal functioning of the WTW with no need for processes to be interrupted. **Roofdex HB** is quickly resistant to rainfall and can also withstand ponding once it is cured. Ponding is ideal breeding ground for bacteria and **Roofdex HB's** inherent anti-microbial protection combats a wide range of micro-organisms. This makes **Roofdex HB** particularly suitable for use in sensitive areas, such as water treatment facilities.

It is especially suited for use in hot, humid climates due to its ability to reflect sunlight and withstand extreme temperature ranges without deterioration. It is highly elastomeric, vapour permeable and able to tolerate thermal and structural movement. **Roofdex HB** maintains a wet edge even in direct sunlight, so can be applied all year round. For this project, **Roofdex HB** was reinforced with **Cemprotec GFM 225** glass fibre matting to provide superior crack bridging properties by increasing the tensile strength and tear resistance, thus giving complete assurance of total waterproof protection for up to 20 years before first maintenance. **Roofdex HB** is available in a range of colours, of which light grey was chosen for this project. Plans are now in place to further enhance the appearance from the adjacent Ma On Shan Country Park by applying **Roofdex HB** in special Pantone colours to replicate the Water Services Department logo on the roof.

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FM 41091 Quality
EMS 597350 Environmental
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