



The Holy Mosque Expansion Project

Mecca – Saudi Arabia

CUSTOMER

General Presidency of the Two Holy Mosques

SECTOR

Buildings

DATE

2012 - 2014

PRODUCTS

- Fosroc Proofex OFB: Fully-bonded TPO waterproofing membrane. Total Area: 120,000m²

THE PROJECT

The “King Abdullah Haram Expansion” Project is the largest expansion of the Grand Mosque in history. At a cost of US\$22 billion, the new expansion will comprise new pray-yards, walkways, tunnels and toilets. It will also include development of existing service facilities and will increase the capacity of the mosque to more than 2 million people.

The new buildings, including all related facilities, will be at a non-stop service throughout the year. They require an extremely durable waterproofing system especially for the walkways, service rooms, and water network channels. The waterproof membrane must be environmental friendly and has to be compatible with potable water.

THE SOLUTION

Fosroc Proofex OFB, a fully-bonded Thermoplastic Polyolefin (TPO) membrane was selected due to its high flexibility, long-term durability and practicality. It has no VOC's and has no harm to water for human consumption.

Unlike Loose-laid membranes, Proofex OFB, with its fleece-backed surface, bonds to the concrete substrate via Proofex OFB Adhesive to produce a fully-bonded waterproof system that prevents water tracking between the membrane and the concrete in case of any leakage. To ensure water tightness, adjacent rolls are overlapped using hot air guns, producing a seamless and continuous waterproof system. For the large areas walk-ways, automatic welding machines were used, making the application extremely fast and easy.

In addition to the waterproofing systems, Fosroc provided solutions for various applications such as tile adhesives, joint sealants and protective coatings; giving the client comprehensive solutions at all stages of the construction works.

THE BENEFITS

The high flexibility of Proofex OFB made its applicaiton extremely versatile especially when dealing with the various intricate details such as trenches, corners and joints. It is UV resistant and is not affected by the aggressive UV exposure in the days of application, a feature that brought peace of mind to DAR engineers, the consultant, who confirmed that “Proofex OFB was an excellent waterproofing system for this application”.

The first phase of the project has been completed successfully, and Proofex OFB system remains the ideal solution for waterproofing the roofs, the walkways and the service channels in the new buildings of the expansion project.



Proofex OFB membrane fully bonded to the concrete substrate



Adjacent rolls of Proofex OFB with hot-air welded overlaps



Right: Applying Proofex OFB Adhesive
Left: Unrolling Proofex OFB rolls on tacky substrate