



*When viewed from different angles, the Museum seems to float in the sea, connected to land only by a pedestrian walkway, a pair of vehicular bridges, and a causeway. The first of its kind in the Gulf, the 45,000m<sup>2</sup> (~484,000 SF) structure greeted the public in November 2008.*

## The Project

Poised at the end of the corniche in the harbor of Doha, Qatar, the Museum of Islamic Art rises majestically from the waters of the Arabian Gulf. Designed by renowned architect I. M. Pei, the Museum's striking exterior conceals one of the finest collections of Islamic Art in the world.

The Museum found its primary inspiration in the Mosque of Ahmed Ibn Tulun in Cairo and was built through the combined efforts of several firms around the globe. The design reflects a modern interpretation of Islamic architecture and mirrors Qatar's vision as a bridge between past and present, East and West.

Grace brought a multi-national collaboration into this project and coached the partnership formed among an American-based architect, European- and Turkish-based contractors and local site teams.

**“...The first step in a monumental effort by Qatar to transform itself into the arts and education hub of the Middle East.”**

— *The Architect's Journal, UK, 05.02.2009*

**Client:** Qatar Petroleum (Qatar)

**Architect:** I.M. Pei (U.S.A.)

**Contractors:** SixConstruct (Belgium) and Baytur (Turkey)

**Structural Engineer:** Leslie R. Robertson Associates (USA)

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## ► The Challenge

The climate and corrosive salt environment of the Persian Gulf created a number of project challenges. Constructed on reclaimed land, the Museum's foundation rests below the water table, subjecting foundations to highly aggressive chloride and sulfate conditions which can quickly deteriorate the concrete and significantly reduce the life of the structure.

## ► Grace Solution

Deeply involved in the project, the Grace team recommended Preprufe® 300R waterproofing membrane applied below the slab to prevent water migration around the substructure. Bituthene® 8000 HC waterproofing membrane was chosen to protect the substructure walls from the harsh ground environment. Bituthene® Liquid Membrane and Servipak® protection boards rounded out the package. Grace also provided extensive training for site engineers and operatives on proper product application procedures. The solution was not only well suited for the corrosive salt environment of the Persian Gulf, but also for Qatar's severe heat – often in excess of 40°C (104°F). The result: a continuous waterproofing system, fully-bonded to the structural concrete surrounding the substructure and creating a positive and permanent barrier against the corrosive environment.

## Grace Product Solutions Used

- Preprufe® 300 R and Bituthene® 8000 HC waterproofing systems
- Bituthene® Liquid Membrane
- Servipak® protection boards

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