



Your Fixing Systems Specialist

HAZ METAL

Global Project References



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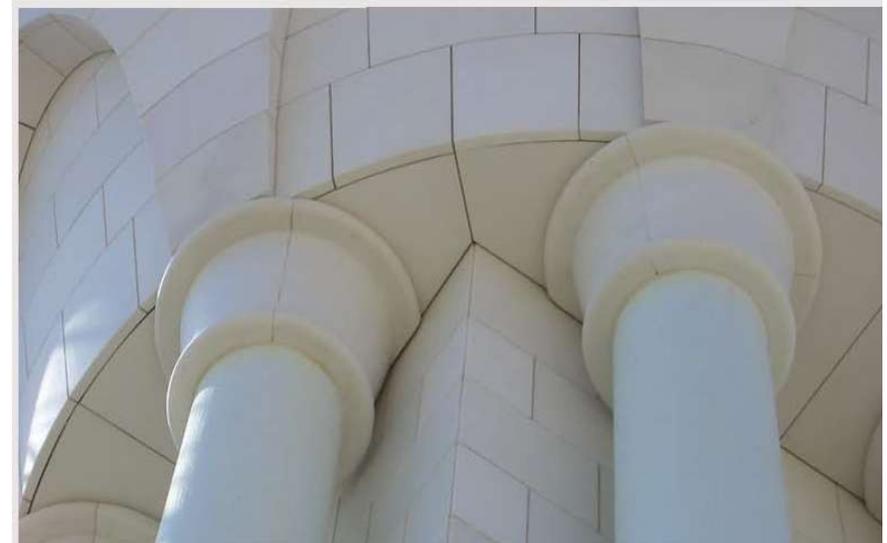
Case Study – Sheikh Zayed Grand Mosque





Case Study – Sheikh Zayed Grand Mosque

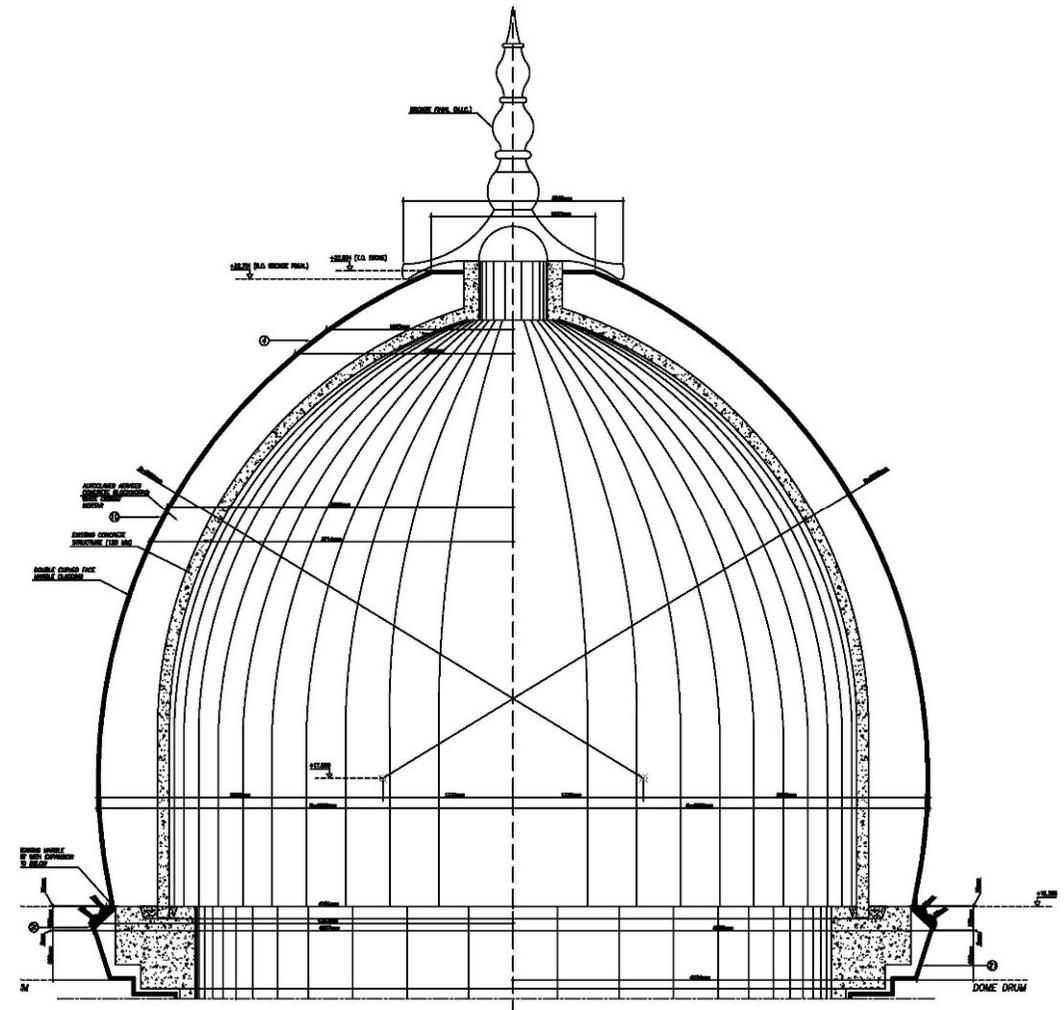
Project: Sheikh Zayed Grand Mosque
Location: Abu Dhabi, UAE
Contactor: SIX Co.
Consultant: Halcrow International
Installation: 145.000 sqm marble



Case Study – Sheikh Zayed Grand Mosque

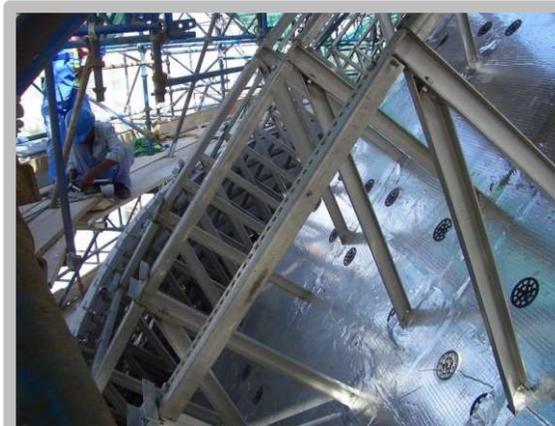
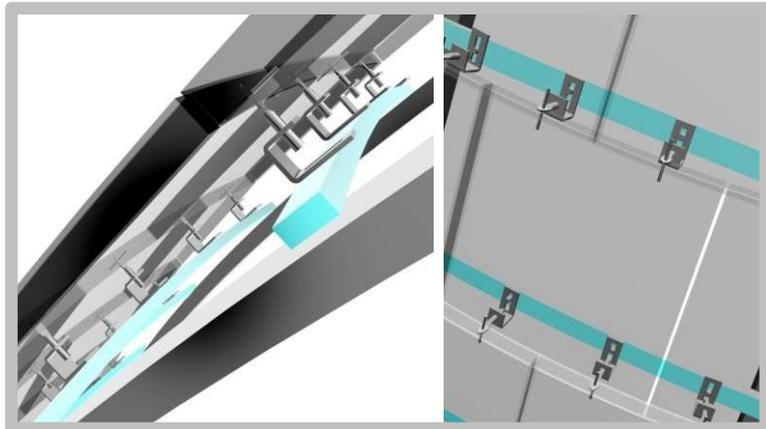
Project Unique Constraints

- Alteration of design during construction stage
- 70 metre high domes with 60 metre diameter
- Requirement of smooth surface



Case Study – Sheikh Zayed Grand Mosque

- 780 tons of stainless steel sub construction was used
- 65 tons steel was used on the biggest dome
- Parametric modelling was used for detailing installation sequence
- Stone panels were manufactured in 3d curvature





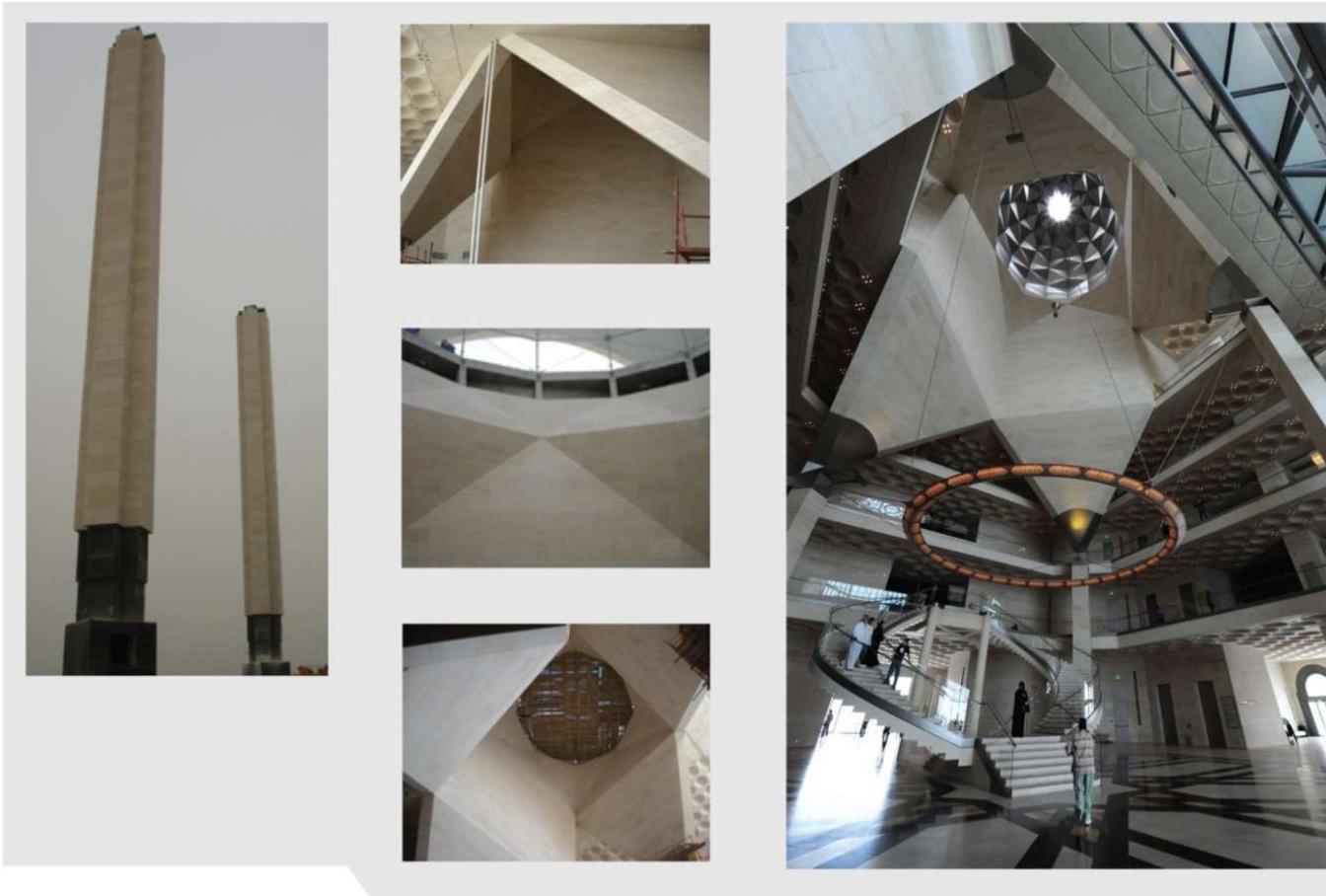
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Case Study – Museum of Islamic Arts



Case Study – Museum of Islamic Arts

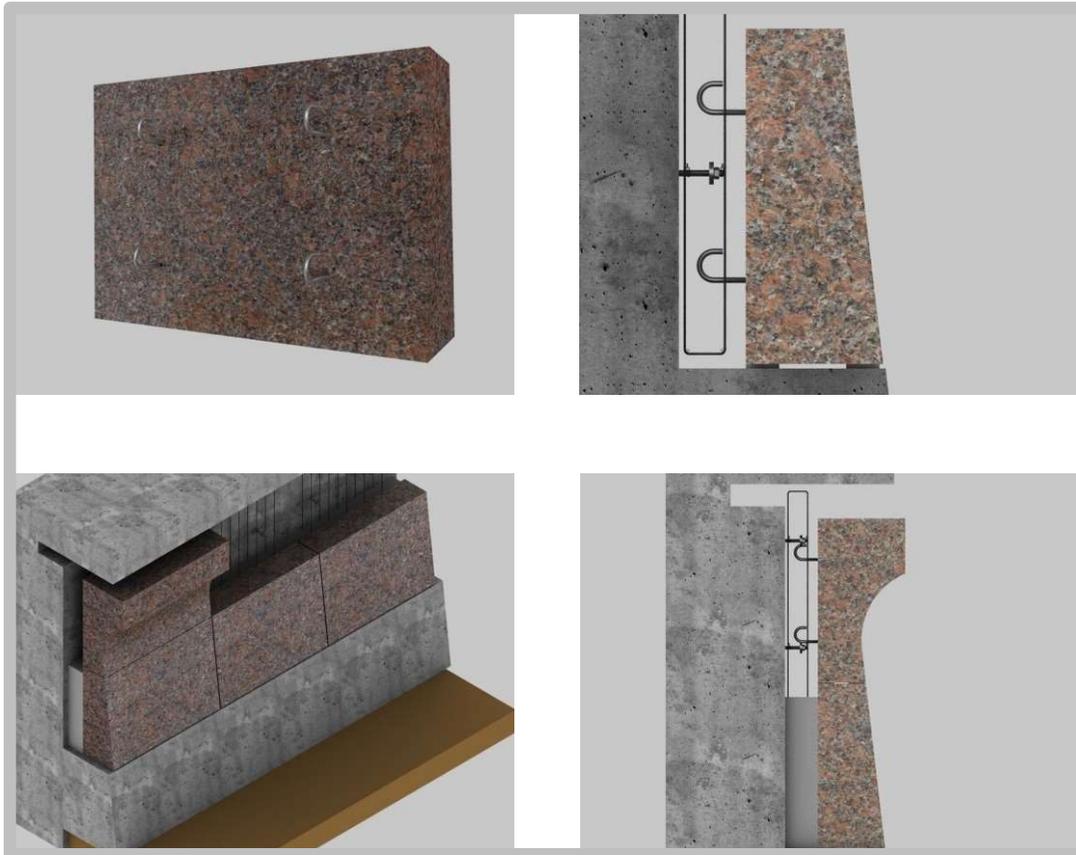
Project: Museum of Islamic Arts
Location: Doha, Qatar
Client: Kingdom of Qatar
Contactor: Baytur Construction
Architect: I.M. Pei
Area of Installation: 60.000 sqm limestone



Case Study – Museum of Islamic Arts

Project Unique Constraints

- Prominent elements of project is the Sea Wall; massive blocks of stone installed to be under sea level
- The design was to connect the blocks to the substrate as a precast insert, directly fixed to the concrete rebar
- The challenge was the erecting the blocks in to position of installation



Case Study – Museum of Islamic Arts

- Specially designed vacuum apparatus designed to lift the massive granite blocks
- Blocks were vertically and horizontally transported with cantilever lifts to fit the objects in to place

Lifting equipment



Erecting blocks into position





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Case Study – Adnoc New Headquarters





Case Study – Adnoc New Headquarters

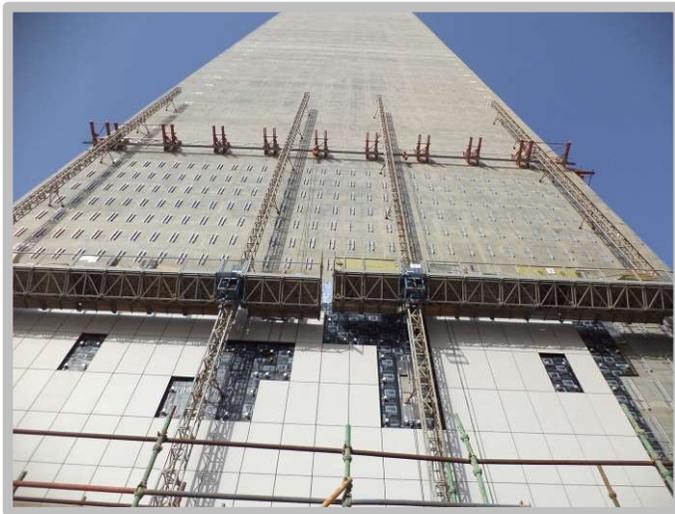
Project: ADNOC Headquarters
Location: Abu Dhabi, UAE
Contactor: Besix
Consultant: Meinhart
Area of Installation: 55.000 sqm granite





Case Study – Adnoc New Headquarters

- 320 kg stone panels fixed on blind façade at a height of 285 meters
- Wind load values taken from Wind Tunnel Test Reports were 3000 N/m² for pressure and 3500 N/m² for suction
- Special considerations were taking in the fixing design and methodology of the stone on account of these high loads





Case Study – Grand Algiers Mosque

Project:
Grand Algiers Mosque

Location:
Algiers, Algeria

Contactor:
China State Construction & Engineering Co

Architect:
KSP Jürgen Engel Architects

Consultant:
CMC Algiers

Area of Installation:
140.000 sqm travertine

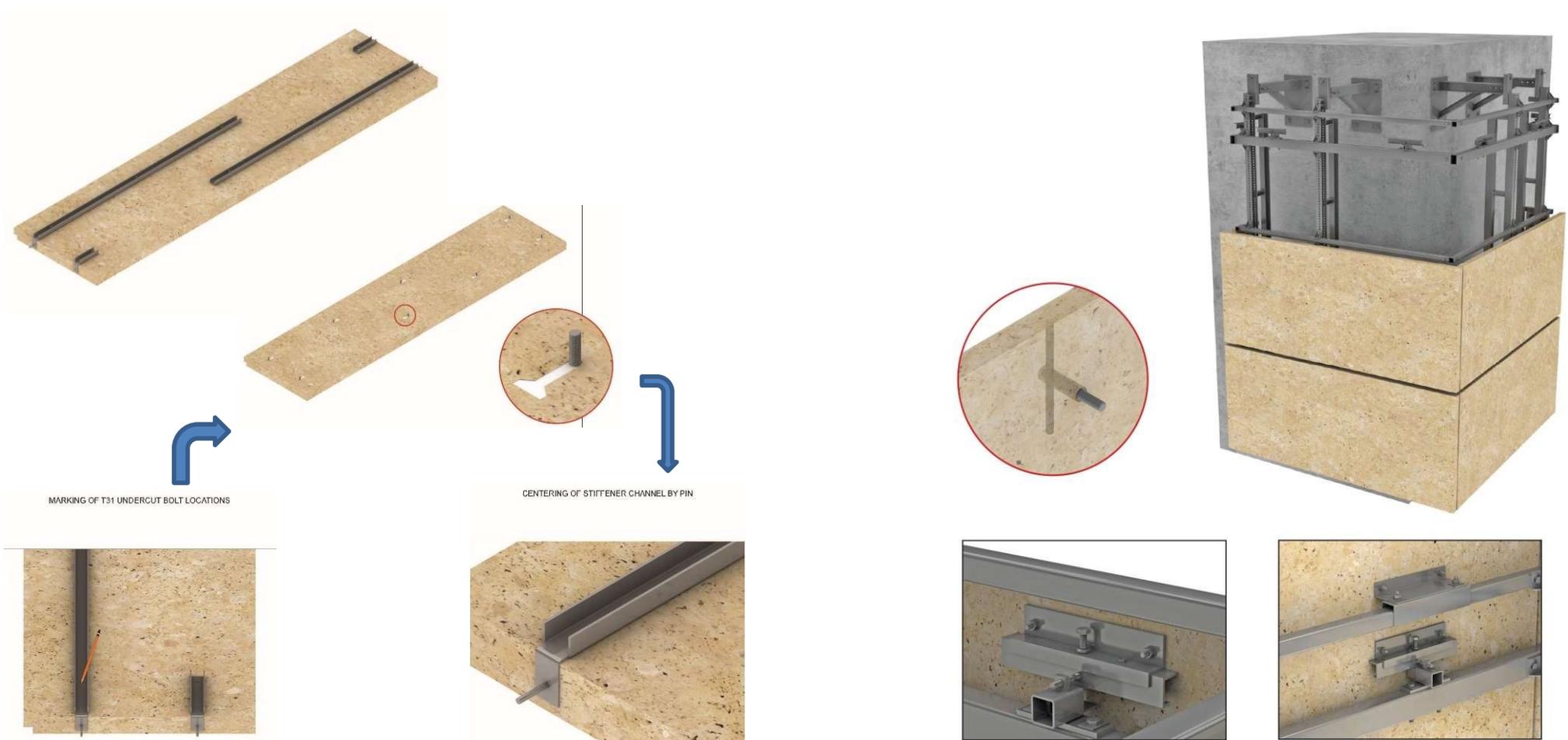


Case Study – Grand Algiers Mosque

Project Unique Constraints

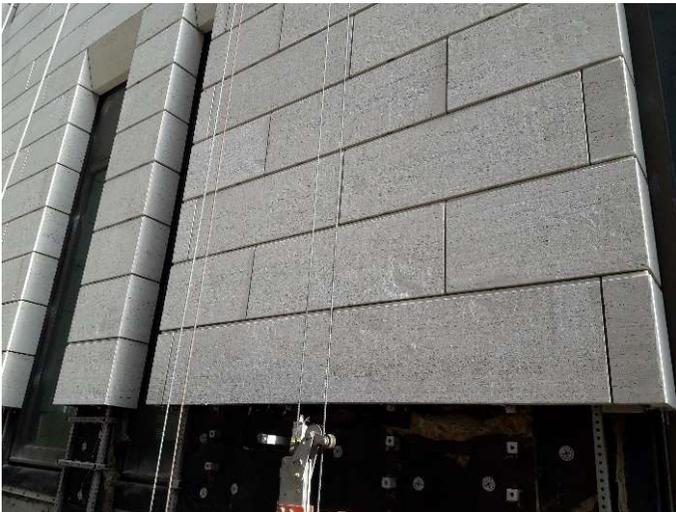
The specified material is Travertine – relatively brittle and cannot withstand bending stresses. Panel size 50 x 190 cm

- Under the load (wind load suction reaching 2541 N/m²) the specified material would surely fail
- HAZ designed a reinforcement system (stiffeners) for the stone panel itself, to overcome the limitation of the specified material

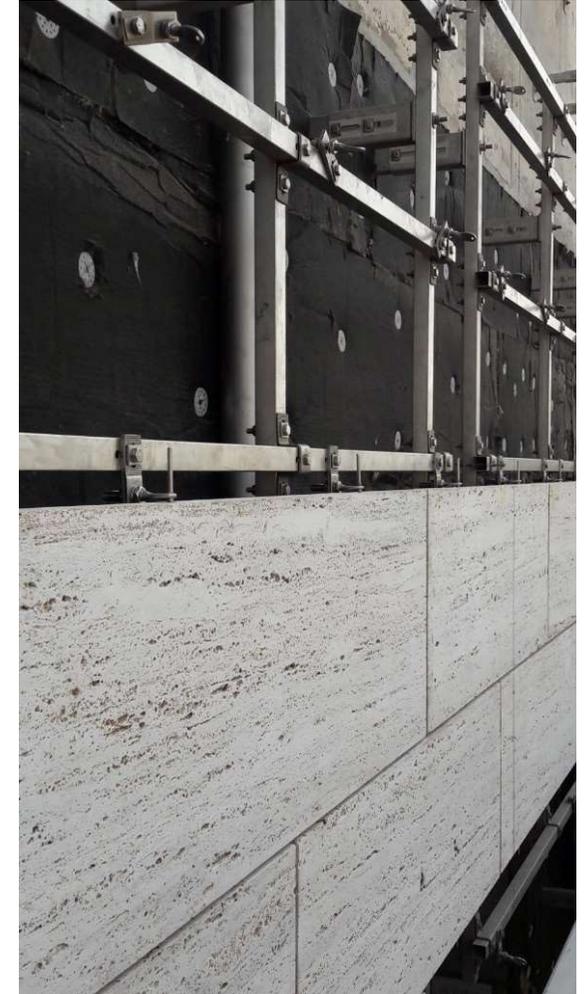




Case Study – Grand Algiers Mosque



Case Study – Grand Algiers Mosque



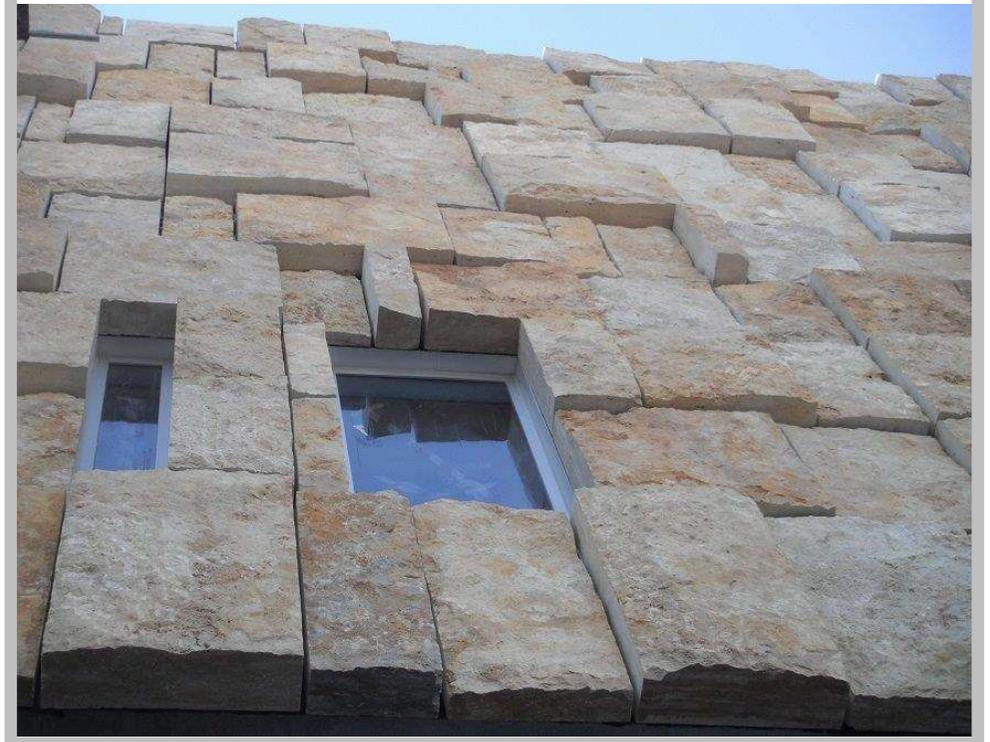
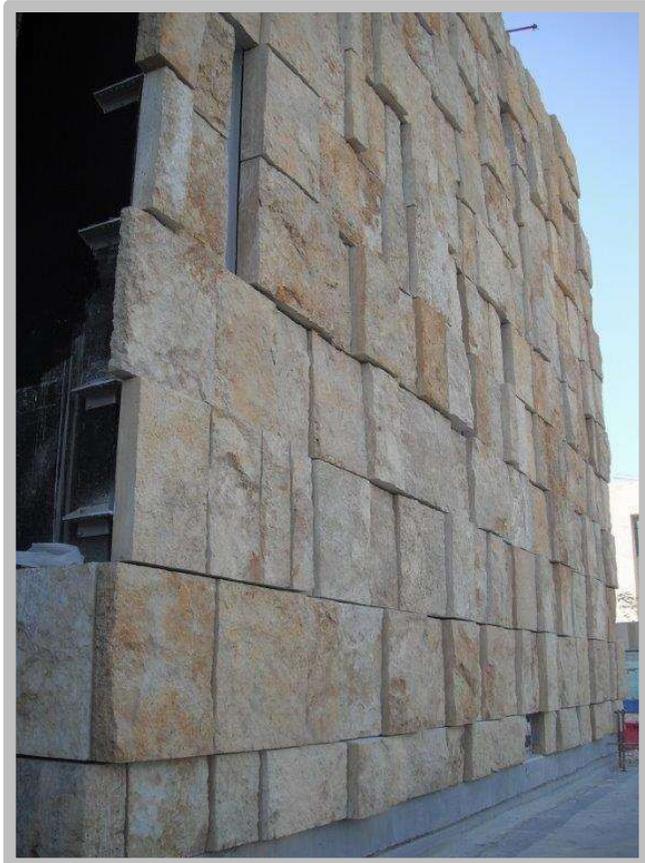
Case Study – CMC College





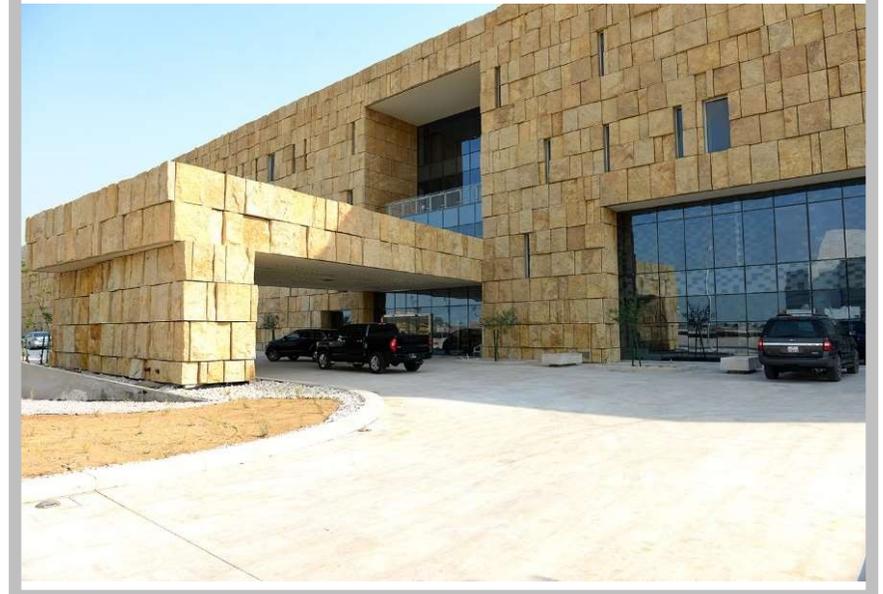
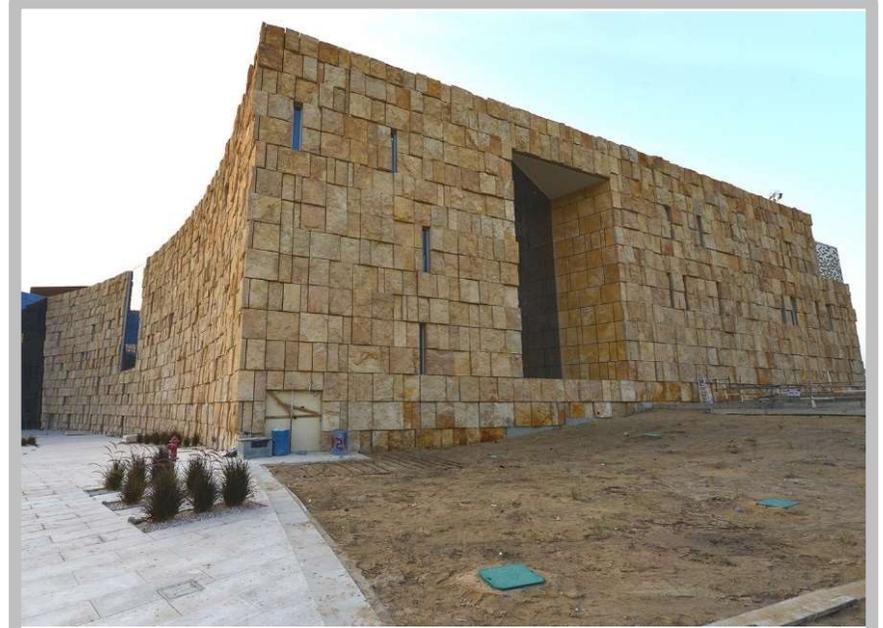
Case Study – CMC College

Project: CMC College
Location: Doha, Qatar
Contactor: Renaissance Construction
Architect: Burns & Mc Donnell
Consultant: Astad
Area of Installation: 8.500 split faced travertine





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Case Study – CMC College

Project Unique Constraints

- Massive travertine blocks in various sizes
- Production & fixing the blocks was a challenge

Production of massive blocks



Fixing of massive blocks



Case Study – Conference Palace





Case Study – Conference Palace

Project: Conference Palace Hotel
Location: Abu Dhabi, BAE
Contactor: Turner International
Consultant: KEO International Astad
Area of Installation: 160.000 sqm granite cladding

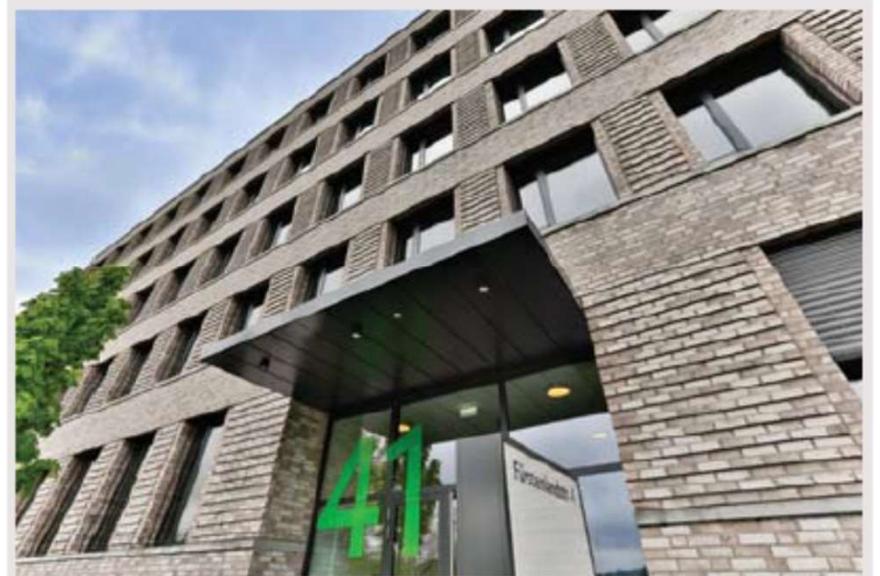




Project Reference:
Hour Glass– Amsterdam



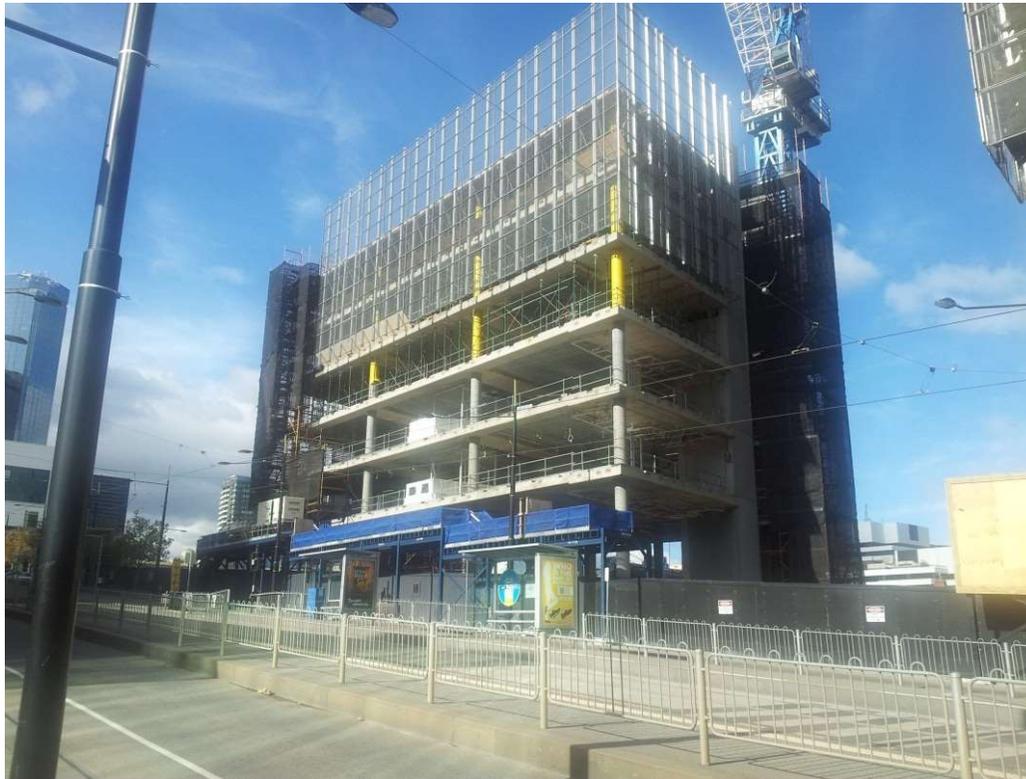
Project Reference:
BOSMOS Office Flats Switzerland



Project Reference:
Infinity Tower - Brisbane



Project Reference:
735 Collin ST Tower 4B – Melbourne



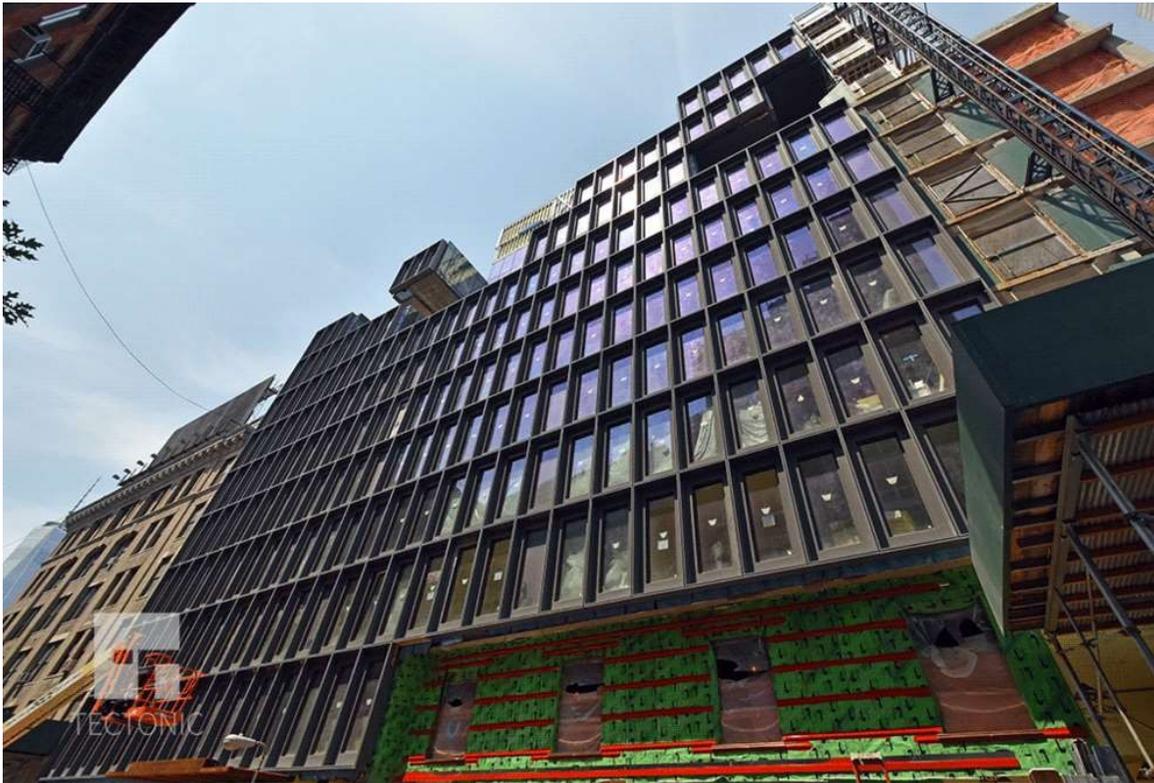


Project Reference:
Ritz Carlton Hotel – Kuala Lumpur



Project Reference:
Ruby Mills Tower - Mumbai

Project Reference:
15 Renwick Street – New York



Brickwork projects:



Sabanci University, Istanbul



Peninsula Yangon & Yoma Central, Myanmar



Village Centre Kirchberg



MA Quartier Brehmen



Leyton Highroad London