

**HAZ**  
Group of Companies

[www.hazgrp.com](http://www.hazgrp.com)



## HAZ Group at a Glance

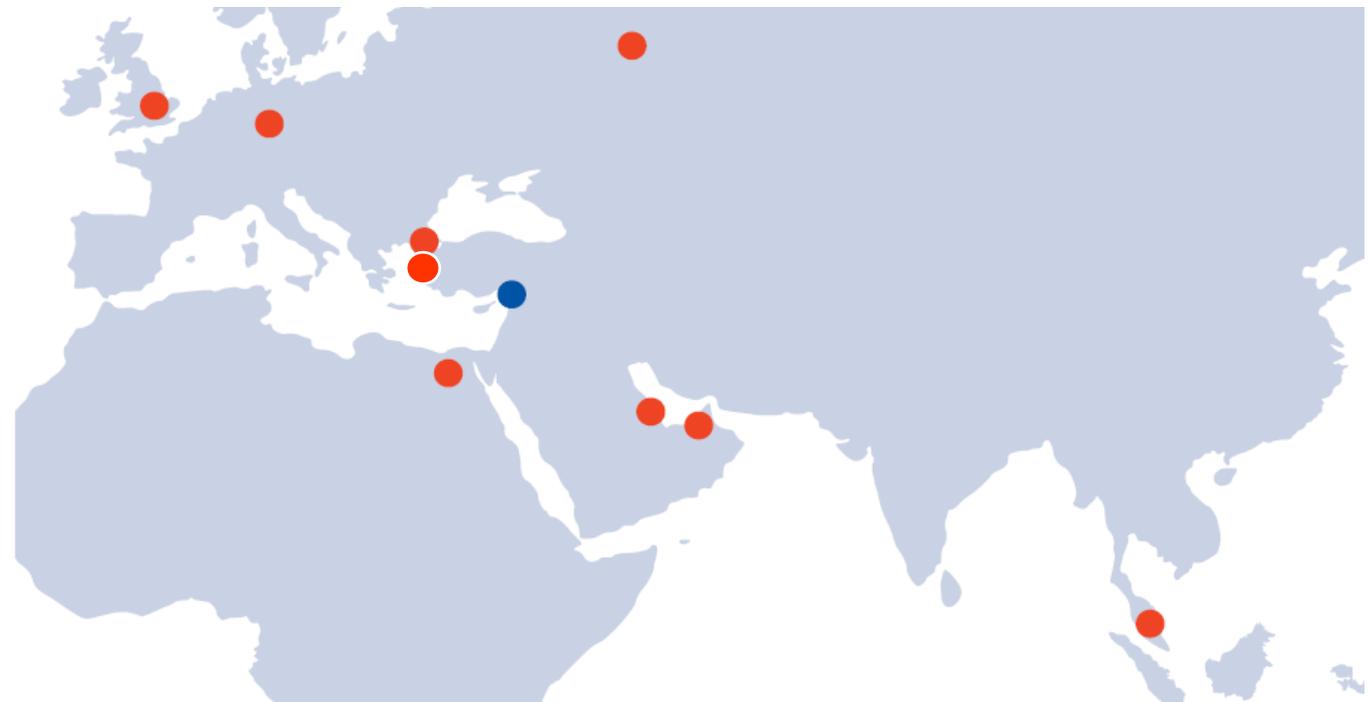
- Founded in 1978 in Jeddah, Saudi Arabia
- Vertically integrated organization in the stone industry
- Stone cladding job reference of more than 6 million
- Solutions provider for stone cladding works



## HAZ Group Global Network

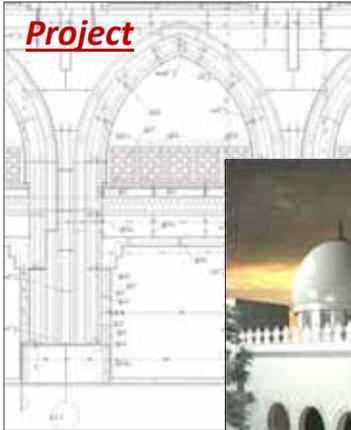


- Operating with 11 companies: 4 companies in based in Turkey and 7 based abroad
- 4 production facilities, and 9 subsidiaries for technical support, supply and contracting
- In total 550 permanent personnel and currently 400 site personnel employed



## HAZ Group Activities & Core Competencies

### Project



- Stone design, engineering, supply & installation
- Contracting & Project management
- Provide key services in house
- Offer turn key services for design, production, installation
- Solution provider for stone works
- High capacity to handle project constraints

### Installation



### Production

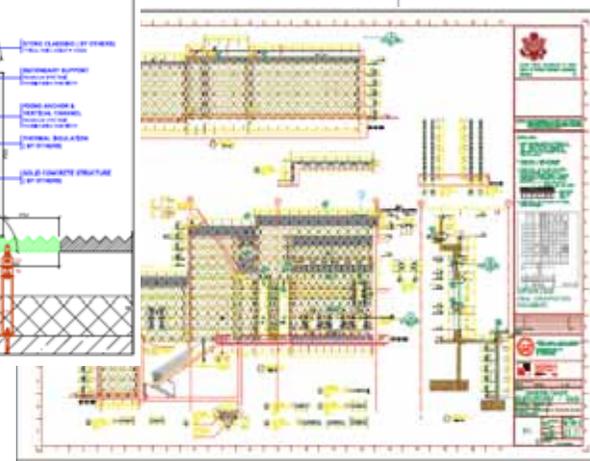
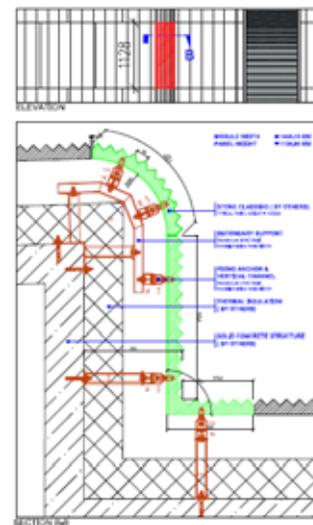
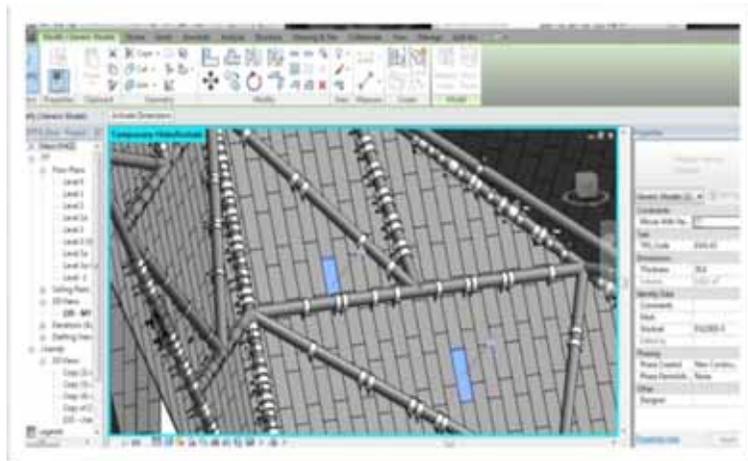
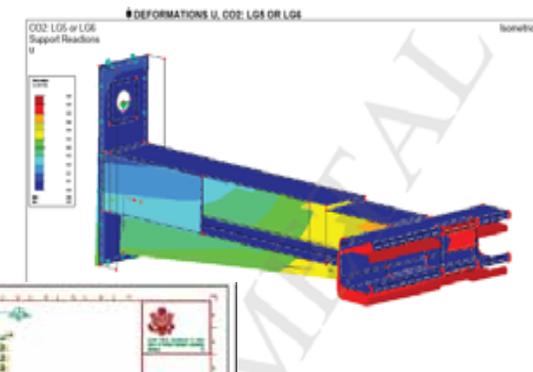
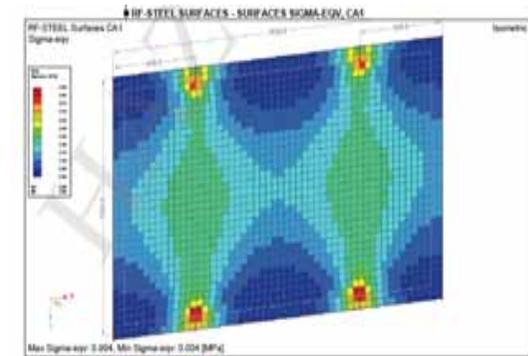


### Consultancy



## HAZ Group Design & Engineering

- Design & engineering using CAD software
- Shop drawings and cutting sheets
- FEM analysis for complex structures
- Parametric modelling for 3d design and analysis
- BIM – Building Information Modelling
- EN, DIN, BS , ASTM standards are implemented



## HAZ Group Design & Engineering Department

- HAZ Marble has designs offices in Turkey, United Arab Emirates and Egypt
- Fixing systems design, preparation of shop drawings and scheduling is prepared
- Total of 40 Design personnel in the group
- Managing personnel with experience of over 15 years

*Design Office: Iskenderun*



*Design office Ankara*

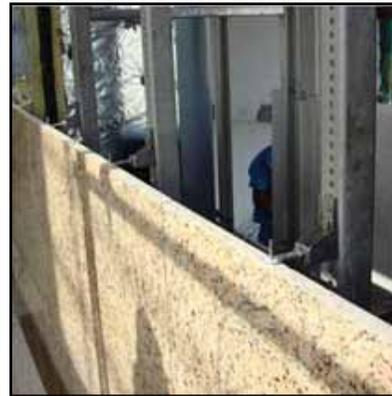


*Design Office :Cairo*



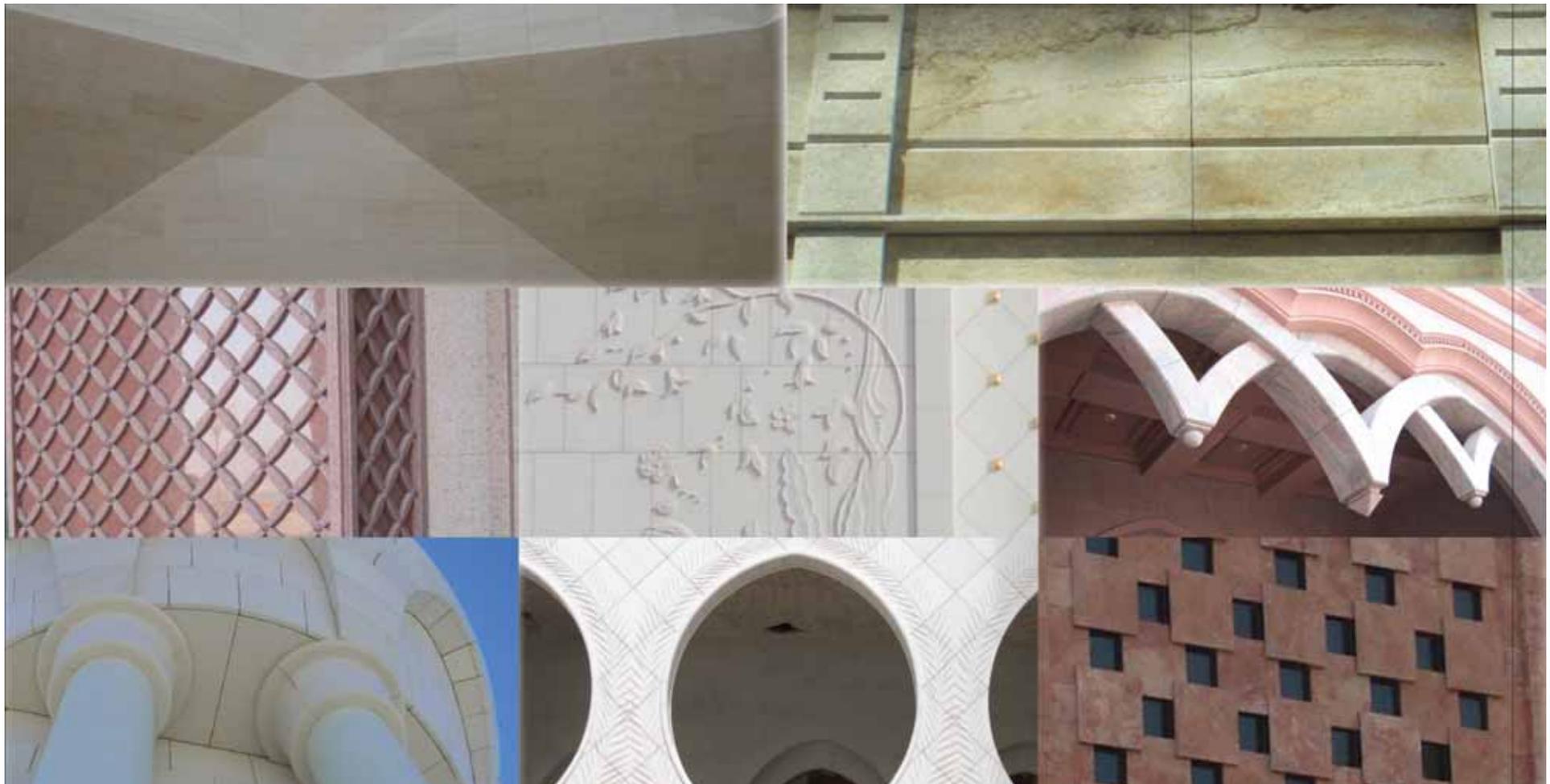
## HAZ Marble - Stone work contracting

- Know how and technical capacity through extensive experience
- Project management for design, supply & installation
- Installation group with capacity to install 200.000 square meters per year



## HAZ Marble - Stone Work Contracting

- Supply any kind of stone through its network of suppliers around the world
- Quality controlled supply and installation according to company principles



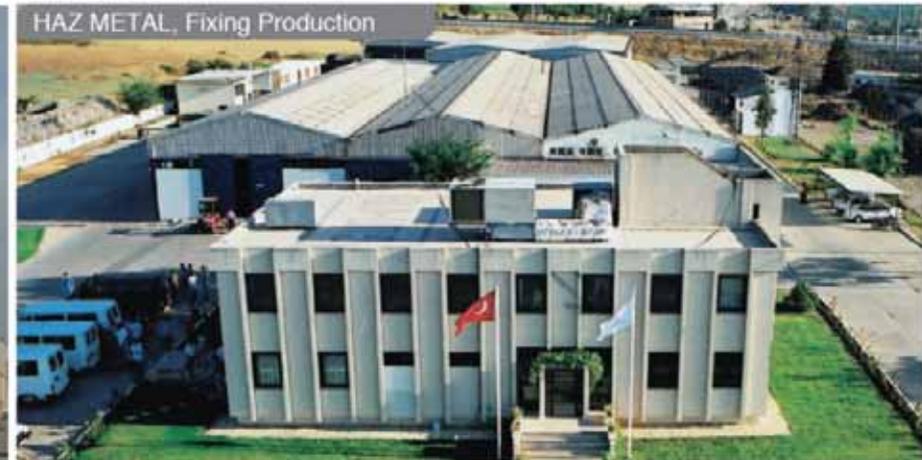
## HAZ Marble - Stone Work Contracting

- Each project is treated as unique with bespoke design features
- New systems development & innovative fixing techniques



## HAZ Group – Production

- Production of stone, fixing systems and bonding & abrasives products
- Production expansion and machinery upgrade
- New technologies with state-of-the-art techniques.





## HAZ Gramerit– Stone Quarry

- Beige Stone Quarry in Burdur, Turkey
- Based on 250 Hectare land
- 10.000 Tons of blocks extracted per month



## HAZ Gramerit– Stone Quarry

- Beige Stone product range as blocks and slabs
- Suitable for dimensional stone

Sweet cream stone products

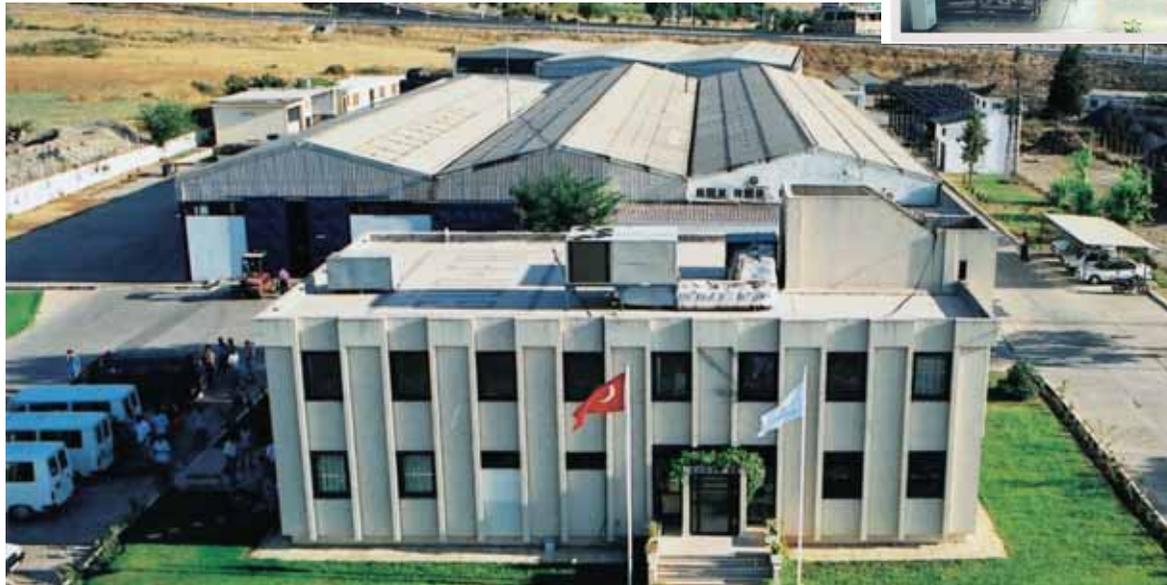


Sweet Cream Application Examples



## HAZ Metal– Fixing Systems Production

- Located in Iskenderun, Turkey
- Based on an area of 17.000 sqm
- 300 ton production capacity per month
- Design and manufacture of various fixing systems



## HAZ Pazarlama Istanbul

- Located in Istanbul, Turkey
- Warehouse and stock service
- Supply and logistic services for consumables



## HAZ Metal – Fixing Systems Production

- Located in Wertheim,, Germany
- Work shop and stock service
- Sales and Technical Support



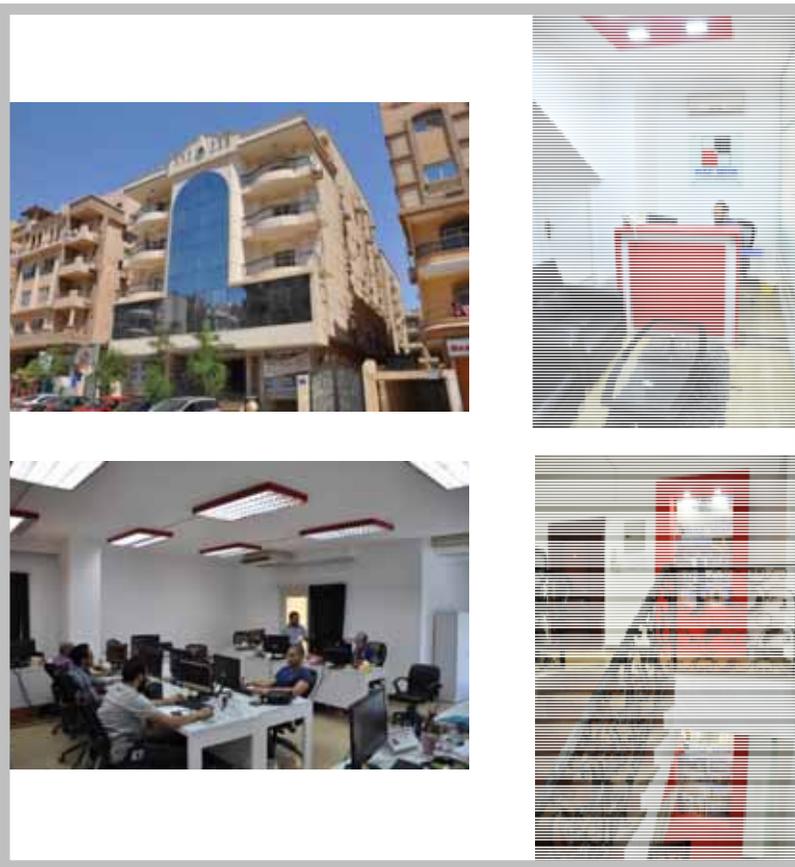
## HAZ Marble - UAE

- Located in Abu Dhabi UAE
- Stone, Fixings, Installation , Design & Consultancy



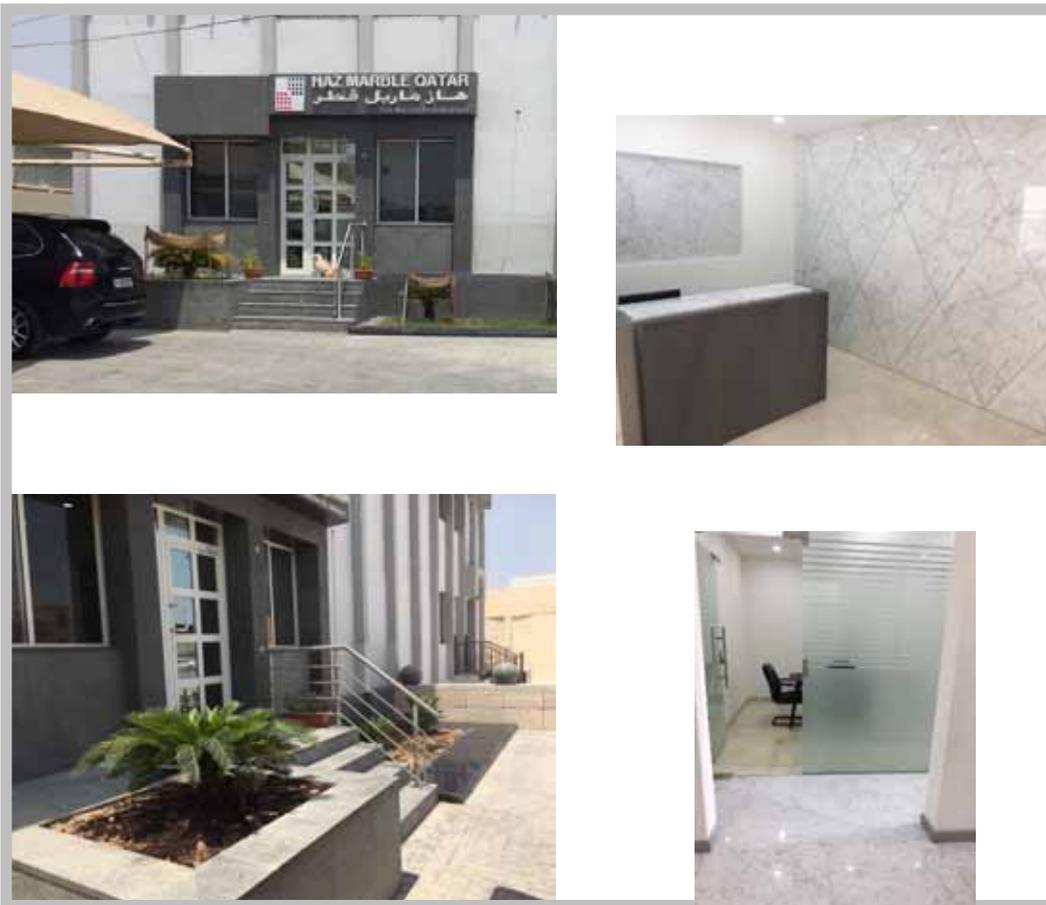
## HAZ Marble - Egypt

- Located in Cairo, Egypt
- Stone, Fixings, Installation , Design & Consultancy



## HAZ Marble - Qatar

- Located in HAZ Qatar
- Stone, Fixings, Installation , Design & Consultancy



## HAZ Marble - UK

- Located in Hatfield UK
- Stone & Fixings Supply, Installation, Design & Consultancy



## HAZ Asia Pacific

- Located in Singapore
- Supply of Fixing Systems



## HAZ Russia

- Located in Moscow Russia
- Stone & Fixings Supply



WSOC проект - Москва

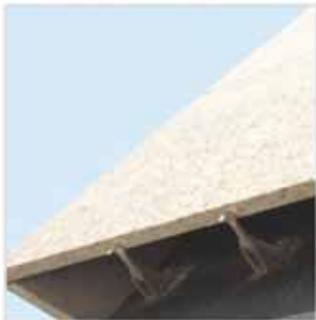
## HAZ – Fixing Systems for Façade Cladding

- Provider of full and comprehensive fixing solutions
- Product development and design for bespoke applications
- All elements designed and manufactured in house



# HAZ – Fixing Systems for Façade Cladding

• Stone fixing systems



• Sub channel systems



• Brickwork supports



• Panel support systems



• Anchor channels



## HAZ – Fixing Systems for Façade Cladding

- Product Development
- Wide range of products
- Targeting façade cladding

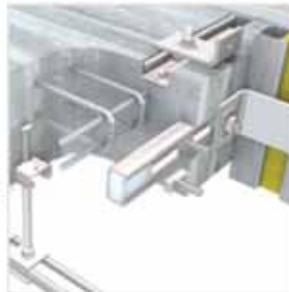
**Stone Fixings**



**Sub channel systems**



**Cast in channels**



**Brickwork support systems**



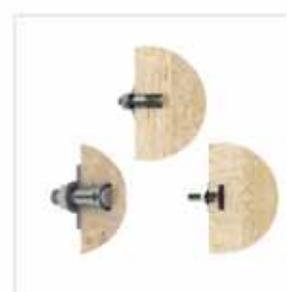
**Rainscreen systems**



**Anchor bolts**



**Undercut bolts**



**Framing channels**



# HAZ – QC & certification



- Production is strictly controlled according ISO 9001-2008 QC system
- Regular product performance tests made
- Product performances bot in tensile and embedded in to substrate are tested



• Testing laboratory

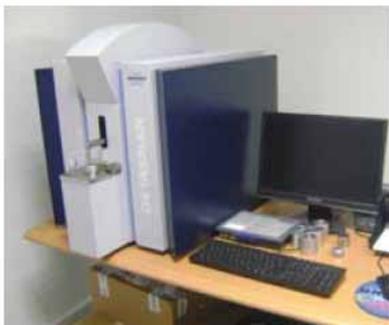


• Standing tensile rig



• Mobile tensile rig

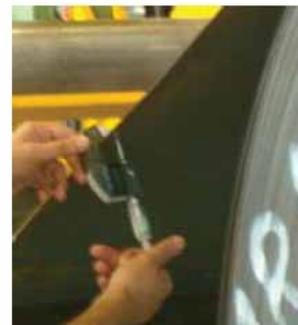
ETA - 13/0399



• Spektrometre for chemical analysis



• Electronic gauge for galvanize coating thickness check



• Digital micrometer for material thickness check

# HAZ – QC & certification



## ISO 9001 2008

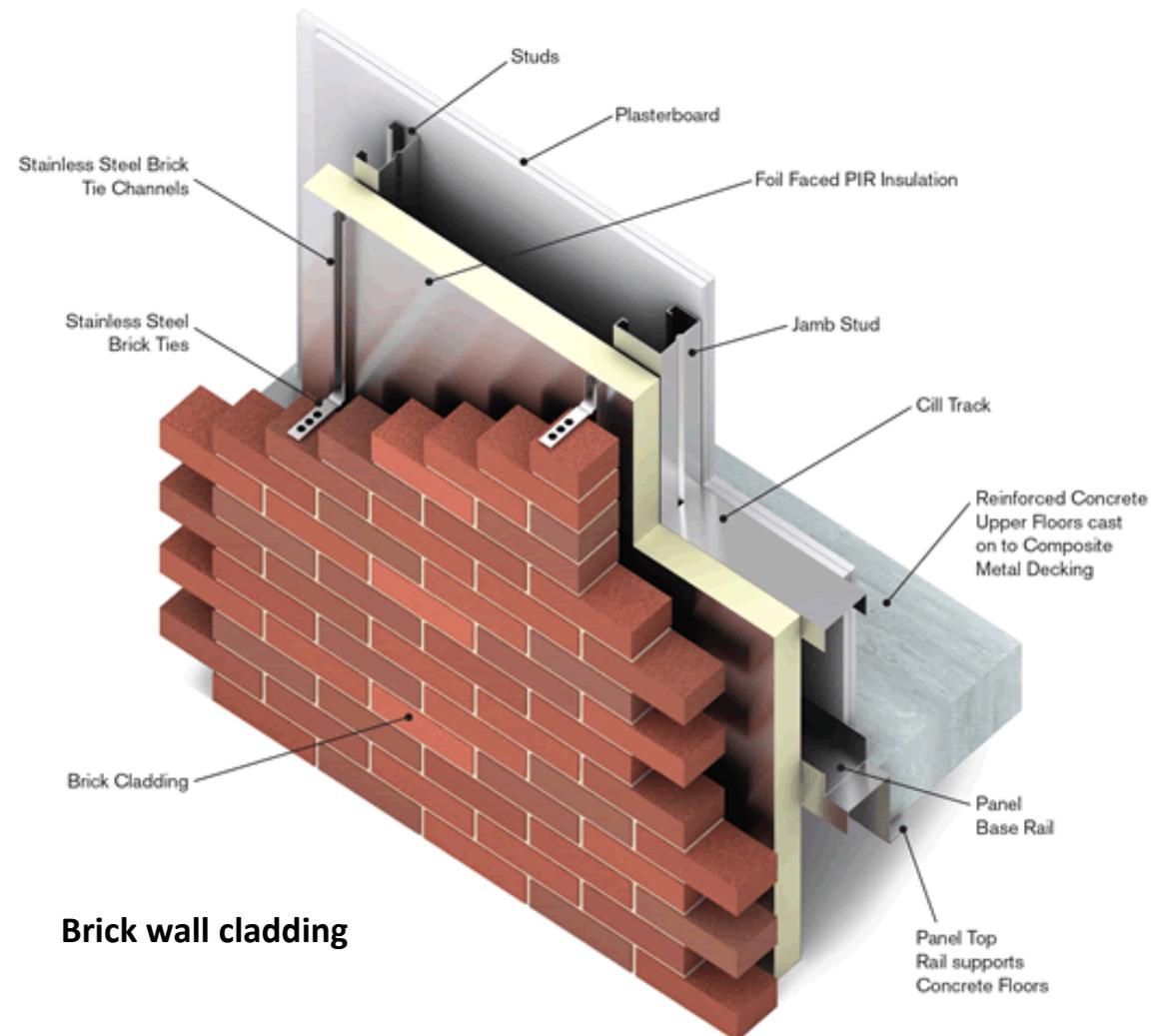
## ISO 14001 : 2004

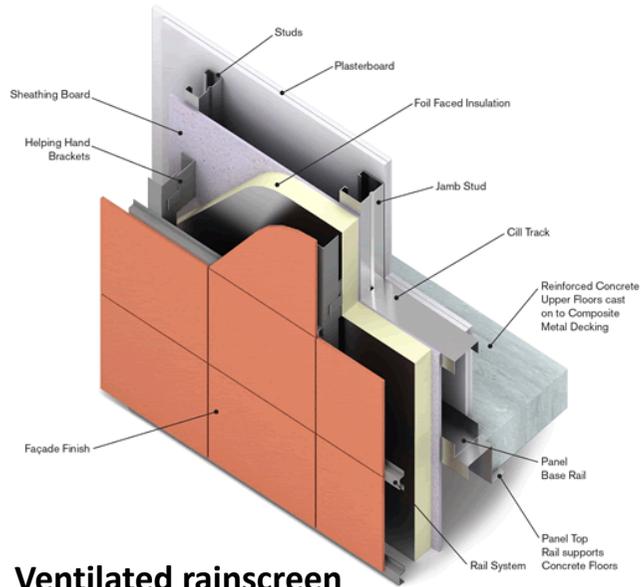
## OHSAS 18001 : 2007



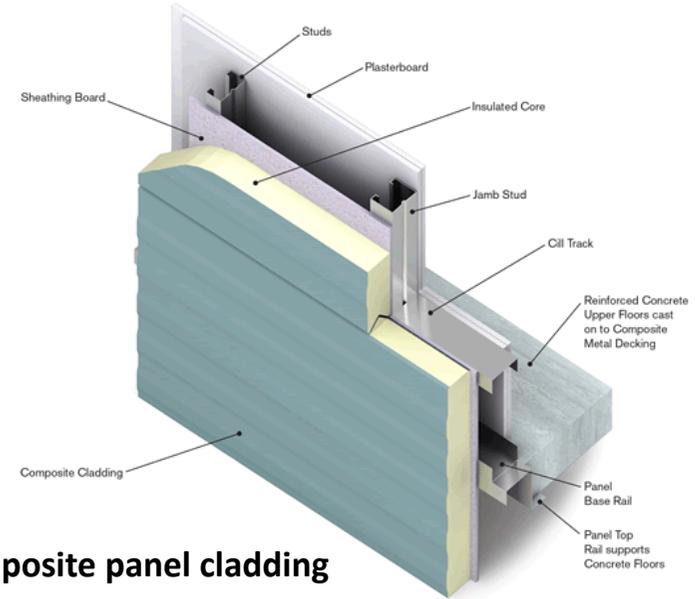
## HAZ Group – Research and Development

- HAZ group plans for the future to create an offering for envelope enclosures
- Research and development practices are in place to offer solutions for all façade cladding types
- Façade Engineering development to offer Design and Engineering of Envelope enclosures
- Advancement in specification and material supply for insulation and weather tight enclosures – dry wall
- Manufacturing capacity expansion for framing systems
- Supply of sheeting and insulation materials
- Developing turnkey services for installation contracting

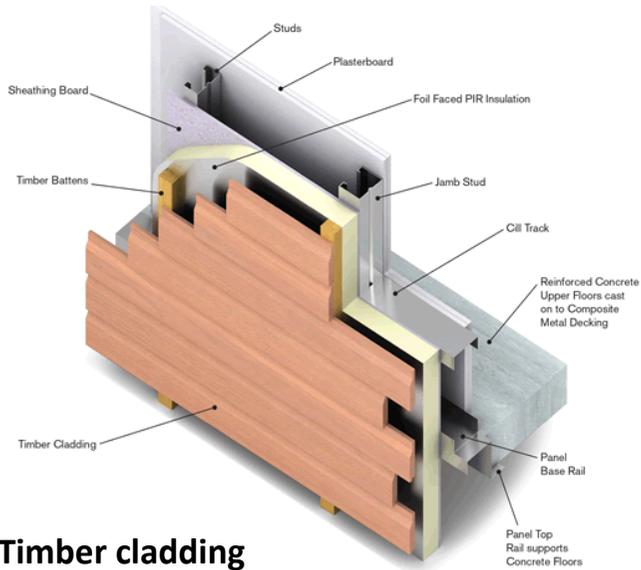




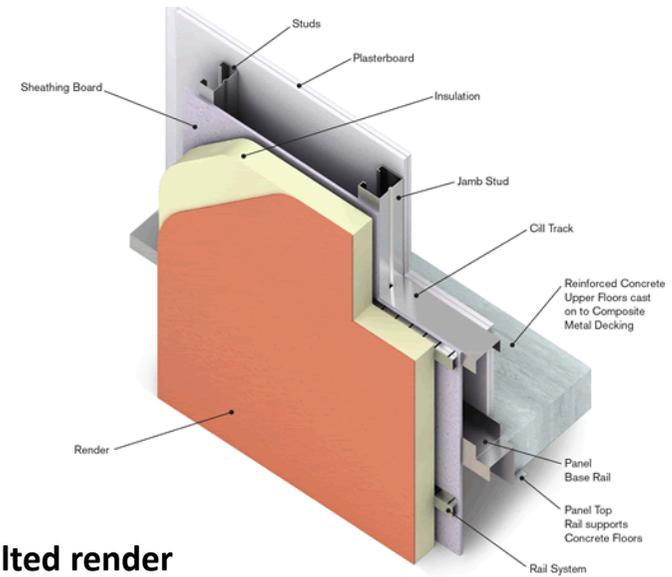
**Ventilated rainscreen**



**Composite panel cladding**



**Timber cladding**

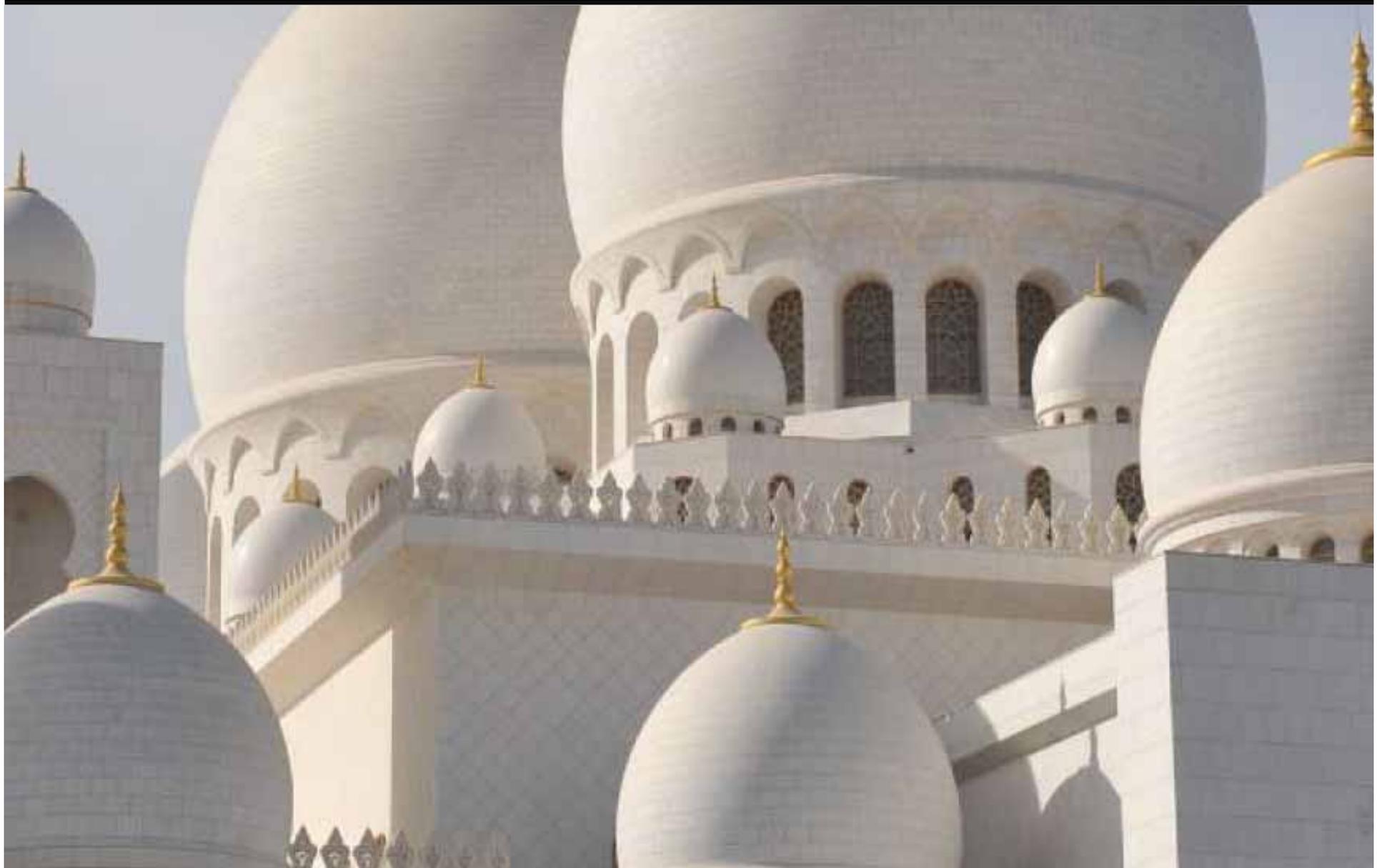


**Insulated render**



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## Case Study – Sheikh Zayed Grand Mosque



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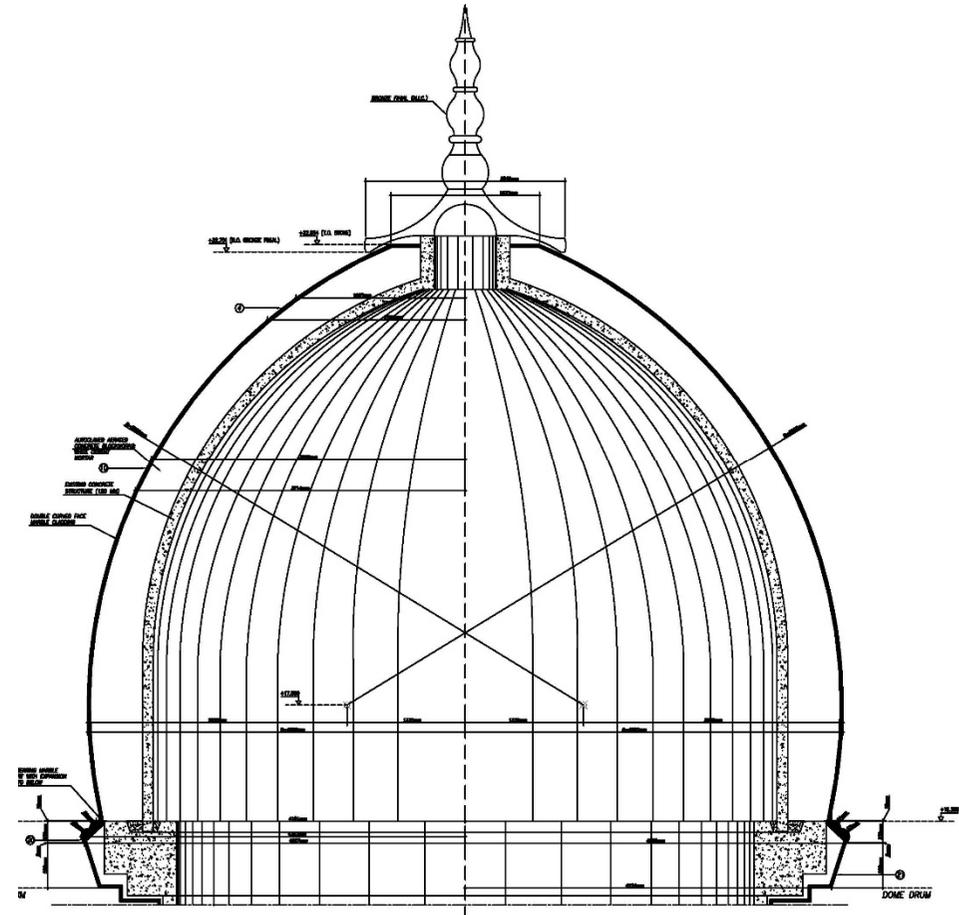
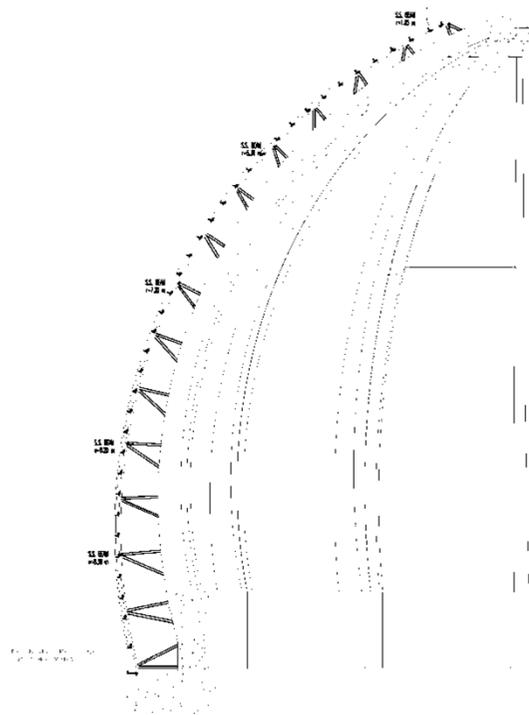
**Project:** Sheikh Zayed Grand Mosque  
**Location:** Abu Dhabi, UAE  
**Contacto:** SIX Co.  
**Consultant:** Halcrow International  
**Installation:** 145.000 sqm marble



## Case Study – Sheikh Zayed Grand Mosque

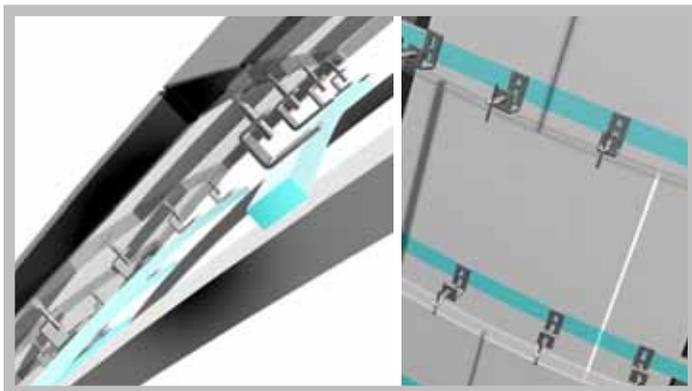
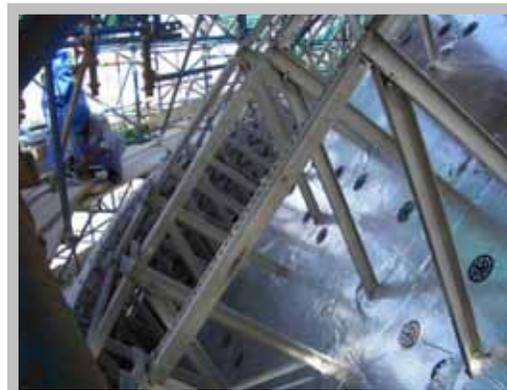
### Project Unique Constraints

- 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

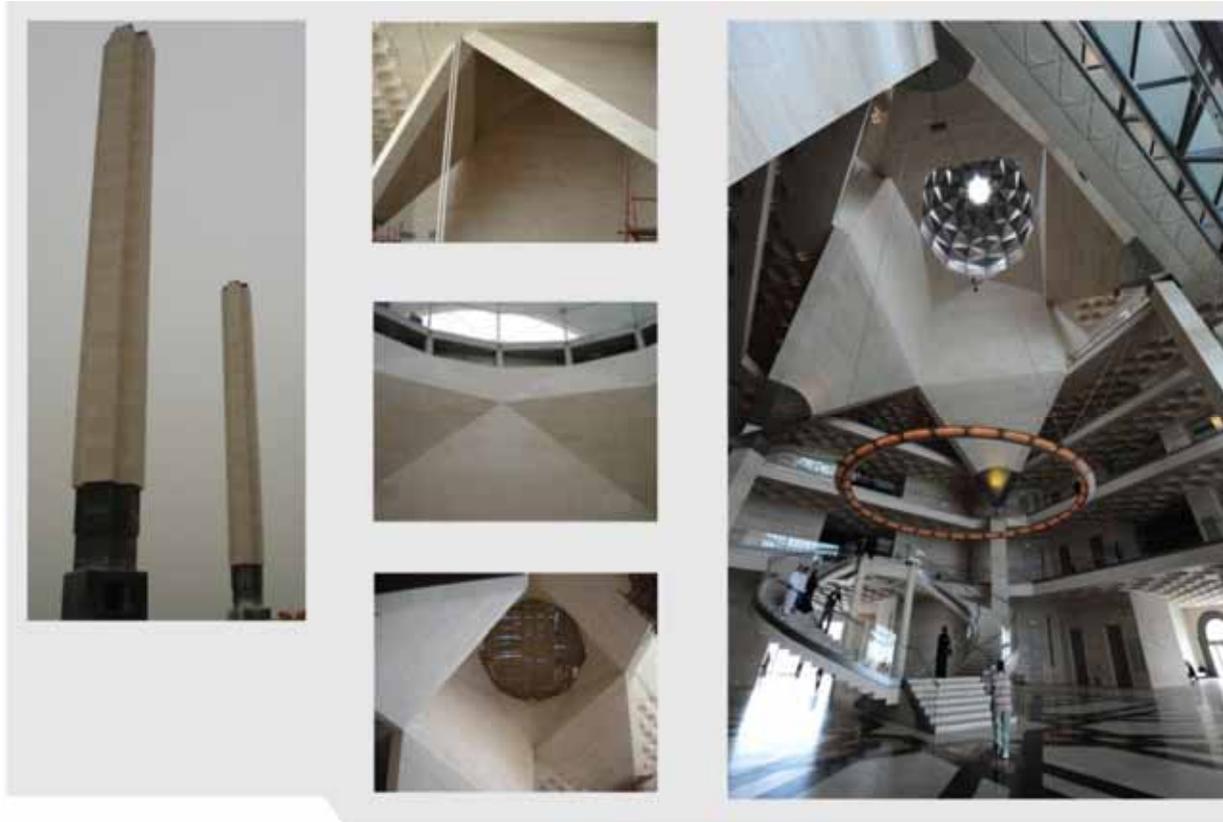


## Case Study – Museum of Islamic Arts



## Case Study – Museum of Islamic Arts

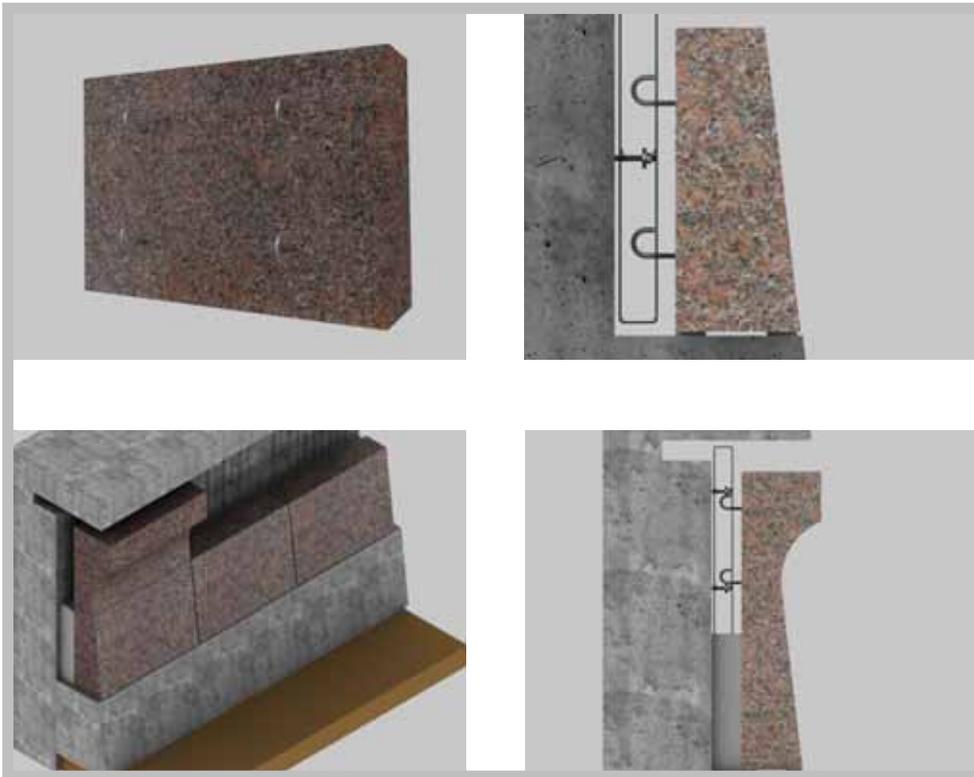
**Project:** Museum of Islamic Arts  
**Location:** Doha, Qatar  
**Client:** Kingdom of Qatar  
**Contactor:** Baytur Construction  
**Architect:** I.M. Pei  
**Area of Installation:** 60.000 sqm limestone



## 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**

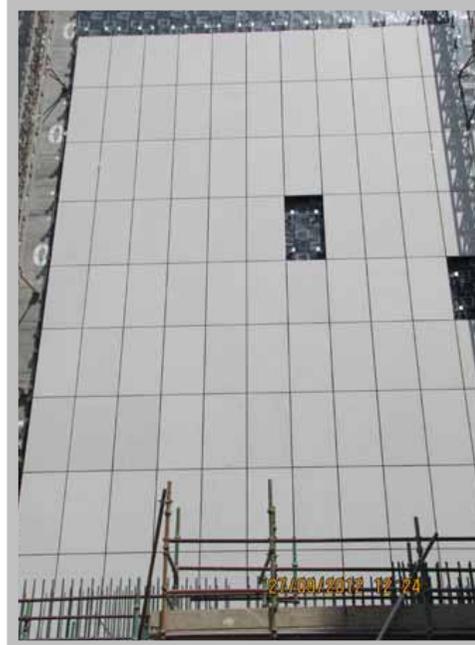


## Case Study – Adnoc New Headquarters



## Case Study – Adnoc New Headquarters

**Project:** ADNOC Headquarters  
**Location:** Abu Dhabi, UAE  
**Contact:** 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/m<sup>2</sup> for pressure and 3500 N/m<sup>2</sup> for suction
- Special considerations were taken 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

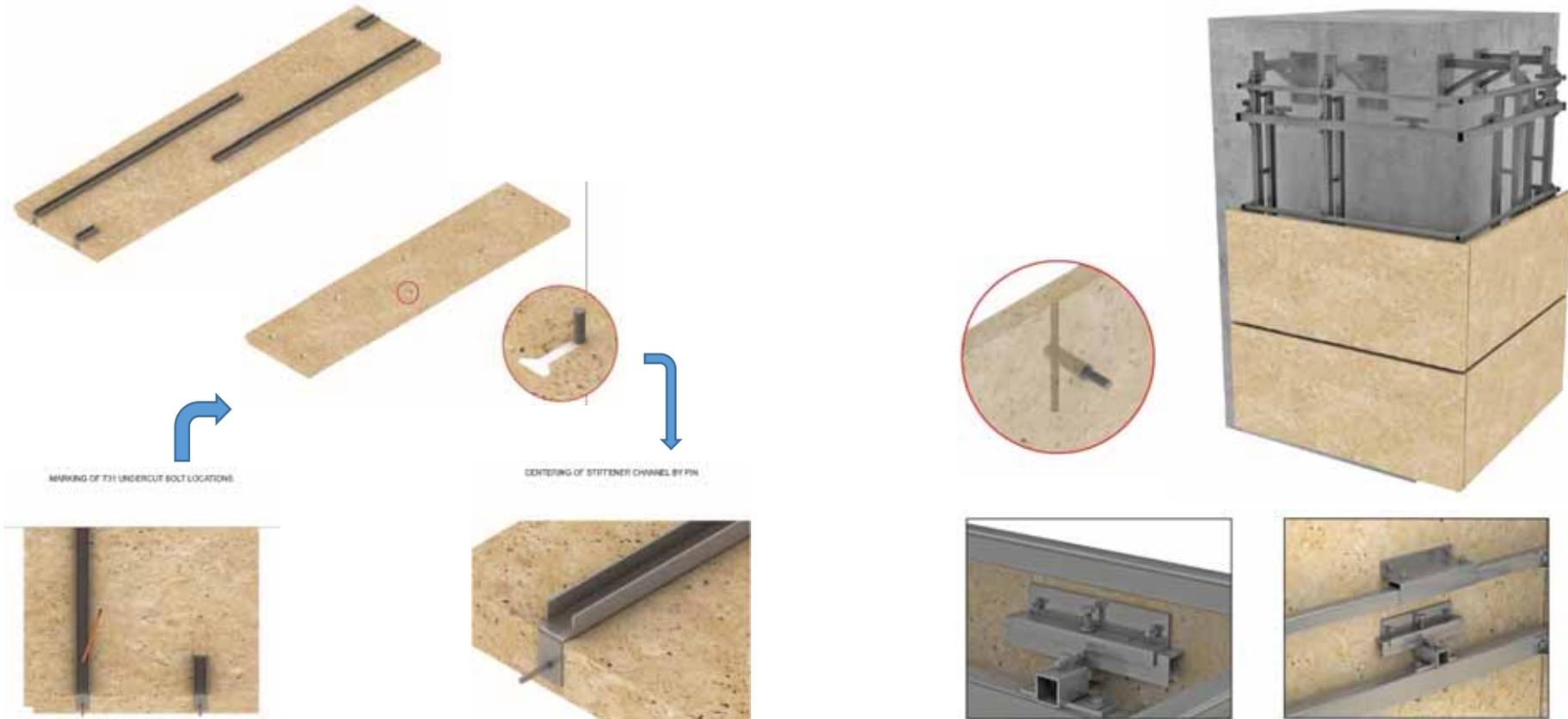


## Case Study – Grand Algiers Mosque

### Project Unique Constraints

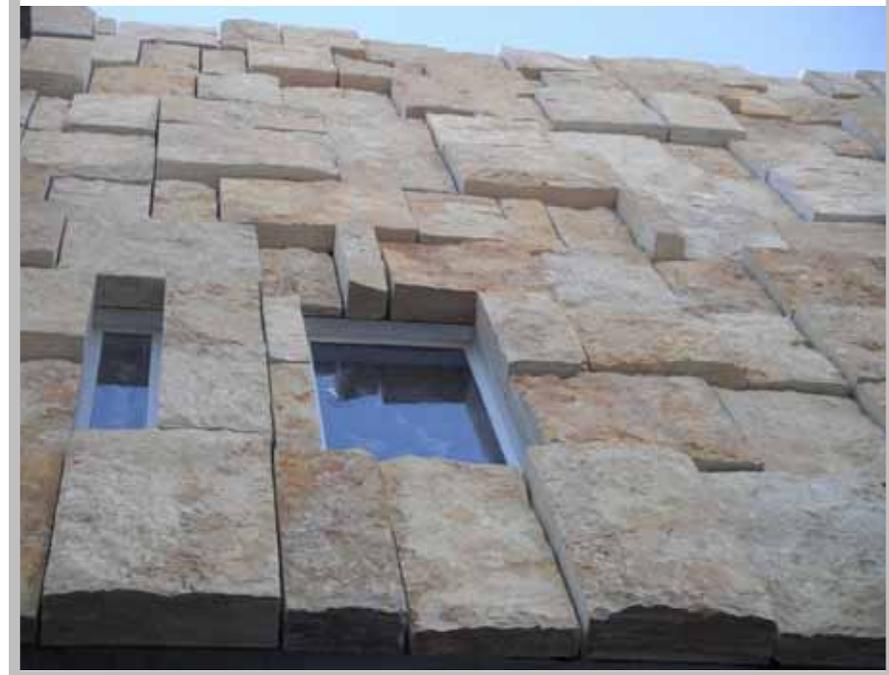
The specified material is Travertine – relatively brittle and cannot withstand bending stresses. Panel size 50 x 190 cm

- Under the load (wind load suction reaching 2541 N/m<sup>2</sup>) 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 – 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



## 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



## HAZ Group Worldwide Locations

