THE MASTERWORKS OF STRUCTURAL ENGINEERING



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THE MASTERWORKS OF STRUCTURAL ENGINEERING

MIDAS IT always strives for constant growth and progress with midas users who have made us a trusted leader in technology.

This project application book was published by MIDAS IT, but what MIDAS IT did was just collecting the masterworks of midas users. This book is dedicated to the midas users without whom it would not exist.

MIDAS IT will keep providing the world with utilitarian values that support human pursuit of happiness with our creative technology.

MIDAS Power Users

A ≡ COM	AFCONS	ARCADIS Constitutes that results	ARUP	BIAD
BUROHAPPOLD ENGINEERING	CCCC Highway Consultants Co.Ltd.	(C)	ch2m:	DAELIM
E.CONSTRUCT MT. COST & SCIENCE M	GARVER	POSENNASEP CROSSAMI CHARMAS FRANCE PS	FDS	HNTB
	CONSULTING	JACOBS	Knippers Helbig Advanced Engineering	LANGAN
LKS	L Lombardi	Louis Berger	Michael Baker	MORGAN SINDALL
M MOTT M MACDONALD	NCC	<u> </u>	posco E&C	RAMBÖLL
FAGINEFEING PYT. 170	SAMSUNG SAMSUNG ENGINEERING	Structural Design Group	SKANSKA	SHP
SNC·LAVALIN	Thornton Tomasetti	TRACTEBEL	T UDelft	T-Y-LIN INTERNATIONAL
ACHIES CORUNG	WWW. FORM	wsp	GOOSHIN BIGHERING CORPORATION	

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70	Noyori Conference Hall	104	Foshan Lingnan Pearl Gymnasium
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76	St. Peter's Square	110	Sunshine Vale of the Axis (Expo Axis)
78	Process to Knowledge base Modeling FEM	111	Israel Pavilion in Shanghai Expo
80	San Lorenzo	112	Maeshiba School Gymnasium
82	Villa Reale	113	Kusanagi Gymnasium / Konohana Arena
84	Saint Irene Basilica	114	Daejeon World Cup Stadium
86	Wachirathammawart Temple	115	Jeonju World Cup Stadium
88	Phathum Mahajaede	116	Seoul World Cup Stadium
90	Oita Prefectural Art Museum	117	Tank with Sloshing
91	Liyang Museum	118	Precast Concrete Hybrid Tower
92	Beijing Olympic Stadium	120	Gas Pipeline with Venturi Support Tower
94	Mari time Museum	121	Raw Meal
96	West International Expo Center	122	Clinker Storage
98	Ordos Museum	123	CF Silo

Burj khalifa

Dubai, UAE

Owner Emaar Properties **General Contractor** Samsung C&T

Architect Skidmore, Owings & Merrill

MIDAS IT / Skidmore, Owings & Merrill / Arcadis **Engineering Consultant**

Construction Period 2004 - 2010 Type of Project Mixed-use Building Size of Structure 829m Height (164-story)



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Main features used in this application

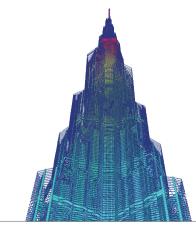


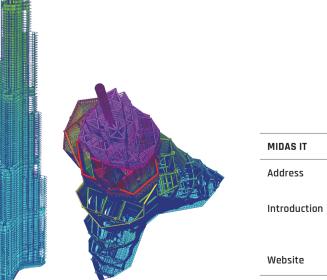


• Linear static analysis with plate and wall elements

Description on this project

The Burj Khalifa is a mega-tall skyscraper in Dubai, United Arab Emirates. With a total height of 829.8m, the primary structure is reinforced concrete. It is designed to be the centerpiece of largescale, mixed-use development. The design is derived from the Islamic architecture of the region, such as in the Great Mosque of Samarra. The Y-shaped tripartite floor geometry is designed to optimize residential and hotel space. A buttressed central core and wings are used to support the height of the building. Although this design was derived from Tower Palace III, the Burj Khalifa's central core houses all vertical transportation with the exception of egress stairs within each of the wings. The structure also features a cladding system which is designed to withstand Dubai's hot summer temperatures.





MIDAS IT

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MIDAS IT specializes in engineering consultancy, web business and CAE software development. MIDAS IT provides world class consultancy services in the fields of

civil, structural, geotechnical and mechanical engineering.

Website www.midasuser.com Email info@midasit.com

Libeskind and Hadid Tower

Milan, Italy

General Contractor

Architect

Engineering Consultant Construction Period Type of Project Size of Structure CityLife CMB

Zaha Hadid and Daniel Libeskind

Redesco Progetti 2014 - 2017

Mixed-use Building

• Hadid Tower 170m Height (44-story)

• Libeskind Tower 175m Height (28-story)



Main features used in this application



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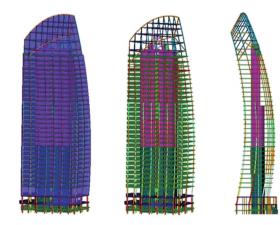
• Finite element model for slabs and walls

Description on this project

Hadid Tower The project is located at the intersection of several important urban axes. The sinuous profile of the rooflines repeats over the entire complex. The tower is conceived as a stack of equivalent, economically efficient floors slabs that incrementally twist about a vertical axis.

Libeskind Tower The curved tower's facade is made of sustainable, state of the art glass, that will reflect the public space below and vistas around. Libeskind tower is personally crafted and conceived to provide a sculpted and highly visible skyline on the site.





edesco F	rogetti
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Address via Gioberti 5, 20123 Milan, Italy

Introduction Redesco is a specialized structural engineering consultancy, whose first core

was established in 1975. Merging broad vision with focused specialization, they simply design and enable outstanding structures. Also, they focus on structures, from conceptual design to site supervision.

Website www.redesco.it Email redesco@redesco.it

Gate to the East

Suzhou, China

OwnerSuzhou Chinaing Real EstateGeneral ContractorShanghai Construction Group

Architect RMJM

Engineering Consultant East China Architectural Design &

Research Institute

Construction Period2004 - 2016Type of ProjectMixed-use BuildingSize of Structure302m Height (71-story)



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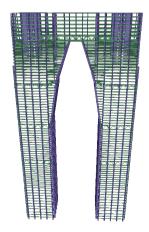
Main features used in this application



- Linear static analysis with P-delta effects
- Construction stage analysis with creep and shrinkage
- RC building design

Description on this project

The design for the Gate of the Orient is inspired by the combined Chinese traditions and western influences of the projects two lead designers. The result is a mix of westernized pure form and Chinese subtlety. The Gate of the Orient has drawn inspiration from the historic and cultural references of the traditional famous gardens of Suzhou and stands almost 300m high and sits directly above a major underground rail interchange, which is fully integrated into the building.







East China Architectural Design & Research Institute

Address Block B 14/F, Huafu Building, 76 Shishan Road, Suzhou New Area 215011, China

Introduction

ECADI is one of China's most influential architectural design institutions. Over the years, ECADI has designed projects for provinces and cities nationwide, and dozens of countries and regions as well. They have completed over 10,000 design and consulting projects, and cultivated many outstanding experts and talents including academicians and national design masters.

Website www.ecadi.com Email suzhou@ecadi.com

City Center and Hard Rock Hotel

Saint Juliens, Malta



Architect **Engineering Consultant Construction Period** Type of Project

Size of Structure

Seabank Group MYGG Architecture F&M Ingegneria / Arup Under Construction Mixed-use Building 68,400m²





Main features used in this application



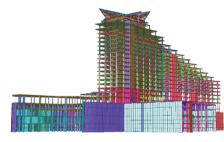
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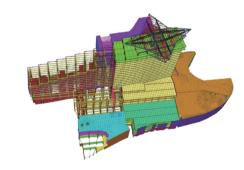


- DFX import for irregular model generation
- Construction stage analysis
- Linear time history analysis for walk vibration

Description on this project

The City Centre complex includes 3 main facilities: two residential towers, one of where located in the east side (Tower A), and the other in the north (Tower B), and an hotel (Hard Rock Hotel) that are connected together by a podium with a shopping mall and a multi-level parking. The building consists of 4 main facilities with foundation at 0.5m, the podium consists of 6 floors and reaches 22.25m. At this level, the two towers and the hotel erect separately. Both towers have a circular footprint of 1,200m² and reach 162.85m height (35 floors), while the hotel building has a rectangular plan 24 x 150m and it reaches 94.40m height (19 floors).







F&M Ingegneria

Address	Via Belvedere 8/10 30035 Mirano, Italy			
ntroduction	&M Ingegneria is a leading Italian multidisciplinary practice of designers, ngineers and specialist consultant with over 35 years of experience. The rm provides a wide range of design services in infrastructural, building, nvironment and project management. They work across all sectors from ducation and residential to transport, from arts to health and sports facilities.			
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