



90-91 DE

190

ISSN 1674-0248

064

清华大学出版社

aui

百家争鸣
Architects in China

清华大学出版社

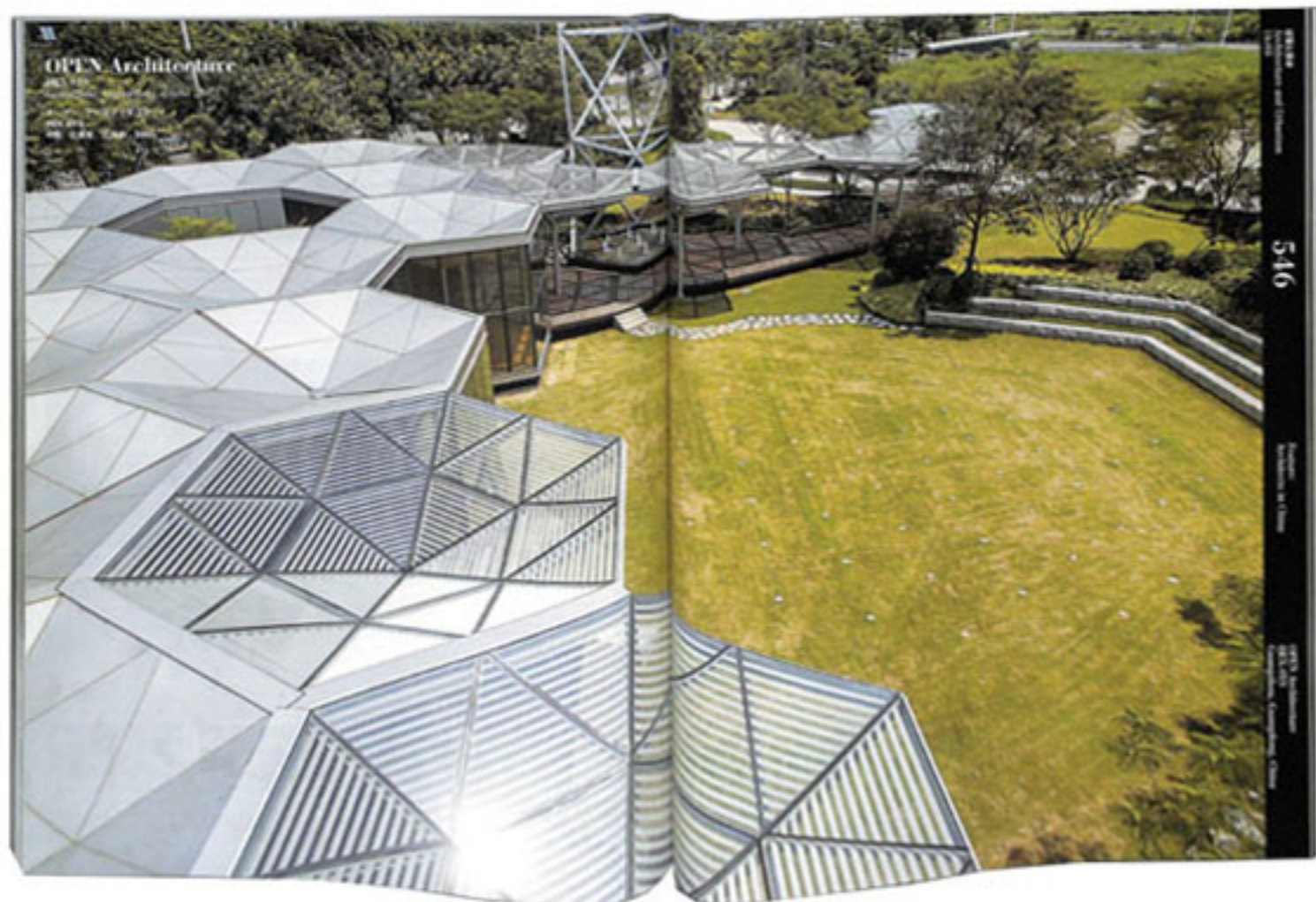
ISSN 1674-0248

064

ISSN 1674-0248

064

清华大学出版社

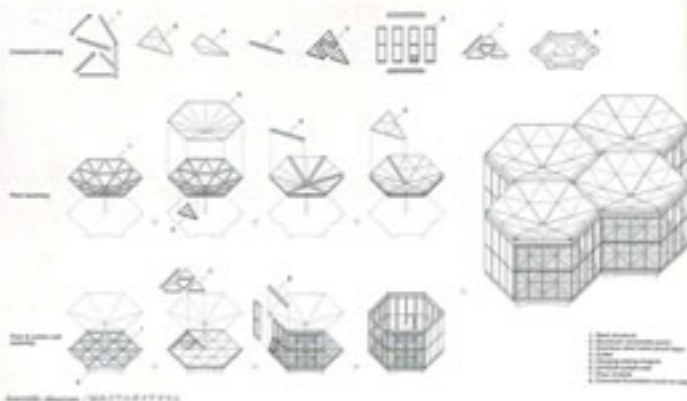


OPEN Architecture

516

Architecture
Interiors & Design

OPEN Architecture
1001 10th St.
San Francisco, CA 94103



The idea for this flexible and reusable building prototype came about as our reaction to the unique Chinese phenomenon in the recent decades' building frenzy – the production of a vast amount of far-reaching but short-lived temporary buildings, especially those built primarily for real estate development. It is a building system that can be easily adapted to many different functions, and most importantly, can be dismantled after each use and reassembled in another location, thus preventing a huge waste of our resources. It is part of our continued efforts to exploring the ultimate potential of building sustainability, not only to evaluate physical forms, but also in a building's life cycle. Building speedy construction, it is a building system that is light, industrialized, flexible, sustainable and reusable. The first realized prototype of IRON-CELL is in Guangzhou China, for the real estate giant Vanke.

Inspired by both the ancient Chinese wooden building system, which can be taken apart and rebuilt elsewhere with almost no damage, and Le Corbusier's 'boite à chaussures' which pioneered his lifetime of research on the modular building system, we designed this prototype composed of hexagonal cells with an integral approach to an historical, structural and mechanical systems, all synthesized within the hexagonal geometrical rules. By being unified, the composition of cells can be rearranged according to different site and program needs when being moved to the future. The basic building cell is a 6000' hexagonal module, with an inverted umbrella structure standing on a single pipe column that double functions as the rain flow. Rainwater is collected and used for landscape irrigation. These types of cells are created for landscape, indoor-outdoor and outdoor space, to accommodate different functional needs. The exterior facade is made of a unified curtain wall system. In order to maximize the recyclability and reusability

of the building components, all connection details are designed to be reusable, no welding or glue allowed. The junction attaches site on top of independent piles, floating above the existing landscape, while the central excavated void is used to house the landscape forest, which frames an open space for public events. Sanitized and anodized aluminum panels are used for exterior cladding because of durability and low maintenance. Besides, the easily reusable material is used throughout the interior space whenever used is needed.

Project: IRON-CELL (Iron from the word 'Resistor' is reflected in each unit as a structural and/or aesthetic element of the roof or facade, affecting natural ventilation. All photos are copyright © 2013 by Sheng Chen, courtesy of the architect.

Credits and Date
Project site: IRON-CELL
Client: Vanke Guangzhou
Program: Reception, exhibition, lounge, multi-media studio, call-office
Location: Guangzhou, Guangdong China
Design year: 2013-2015
Status: Completed
Project team: OPEN Architecture
Project owner: Sheng Chen, Leica Institute, Eastman Chinese City Map
Chinese Research Agency (Sheng) Cheng
Lead design architect: Y. SHENG Architecture Co., Ltd
Landscape design: Guangzhou Nanping Landscape Group Co., Ltd
Structural consultant: Zhongyuan Tech Structure Co., Ltd
Landscape contractor: Shenzhen Wanda Landscape Co., Ltd
Building area: 2000 m²
Site area: 1200 m²



The building is composed of hexagonal cells with an integral approach to an historical, structural and mechanical systems, all synthesized within the hexagonal geometrical rules. By being unified, the composition of cells can be rearranged according to different site and program needs when being moved to the future. The basic building cell is a 6000' hexagonal module, with an inverted umbrella structure standing on a single pipe column that double functions as the rain flow. Rainwater is collected and used for landscape irrigation. These types of cells are created for landscape, indoor-outdoor and outdoor space, to accommodate different functional needs. The exterior facade is made of a unified curtain wall system. In order to maximize the recyclability and reusability



This paper, first of its kind, is a guide for the design of a building system that is light, industrialized, flexible, sustainable and reusable. The first realized prototype of IRON-CELL is in Guangzhou China, for the real estate giant Vanke.

Project: IRON-CELL (Iron from the word 'Resistor' is reflected in each unit as a structural and/or aesthetic element of the roof or facade, affecting natural ventilation. All photos are copyright © 2013 by Sheng Chen, courtesy of the architect.)

Site area: 1200 m² Building area: 2000 m²