

A21 Studio house

Vietnam / Hochiminh city

10°48'21"N, 105°41'11"E

Client Name: Nguyen Hoa Hiep - A21 studio

Project website: <http://www.a21studio.com.vn/>

30,100,200,0.6

Project Description

Project: A21 house Building investor: A21 studio Location: No 2/10 Nguyen Huy Luong, Ward 14, Binh Thanh district, HCMC, Vietnam Architecture designer:A21 studio Total land area: 40m2 Material: Brick, wood, concrete, steel, green

Building Details

Type of Building

Private house+office

Type of project

New building project

Site Area

40 m²

Number of Floors

2,5

Type of unit

1

Number of units

1

Area of unit

40 m²

Gross floor area

100 m²

Net floor area

100 m²

Non Air-conditioned area

100 m²

Performance Standards

There is not any design tool which is used. The designer draws by hands. The building complies with national building code for semi-detached house.

Cost per m²

USD 230

Year of completion

2012

Year of occupancy

2012

Project Team

Organisation

A21 studio

Website

<http://www.a21studio.com.vn/>

General contractor

A21 studio

Structural Engineer

A21 studio

Architech

A21 studio

Architect's profile

<http://www.a21studio.com.vn/>

MEP consultants

A21 studio

Project manager

A21 studio

Lighting design

A21 studio

Climate Analysis

Describe the local climate

Ho Chi Minh is considered as tropical monsoon climate featuring wet and dry seasons. The wet season is between May-November while dry season is between December to April. Average annual solar radiation is about 140 Kcal/cm²/yr Sun hour is about 160-270hour/month Average temperature is 27°C Min temperature is about 25.7°C (Dec-Jan) Max temperature is about 28.8°C (April) Annual reprecipitation is 1,949mm Avearge number of rainy days is about 159 days/year Average RH is 79.5% Prevailing winds include seasonal SWS winds from the Indian Ocean and seasonal NNE winds from the East Sea. SSE trade winds occurs between March-May.

Design Approach

Concept

The building is located in a high density area, the architect utilizes the neighbor buildings' wall, recycled wood and tiles to build the house for saving investment budget with several passive strategies as follows: 1 - Technical roof and insulated roof 2- Use the neighbor house's exterior wall as internal wall 3 - Recycled material for floor/wall cover 4 - Recycled wood/Steel 5 - Natural ventilation (Stack ventilation) 6- Daylighting (through void and non-closed floor structure), reduce direct sunlight but use the indirected sunlight

Site integration

The house locates in a high density area. Surrounding buildings play as shading system of the buildings. The main entrance faced to the south and small vallery, which could get prevailing wind during rainy season

Building design

Project: A21 house Building investor: A21 studio Location: No 2/10 Nguyen Huy Luong, Ward 14, Binh Thanh district, HCMC, Vietnam Architecture designer:A21 studio Total land area: 40m² Material: Brick, wood, concrete, steel, green The building was applied with several passive strategies to save energy as well as save investment budget

Special Feature

Natural Lighting

Daylighting (through void and non-closed floor structure), reduce direct sunlight but use the indirected sunlight

Water efficiency

Installed by tenants as usual

Passive heating/cooling

Non-closed floor is not only a floor area but also create stack ventilation and natural lighting

Cost effective features

Recycled tiles are used on walls, floors in the bathrooms Recycled wood, steel was used for some interior stuffs such as table, desk, cabinet Exterior wall was used as interior wall of the house Generally, Material and recycled material were applied flexibility in this house. Kitchet chimney is not installed. Stack ventilation is used for exhausted heat in kitchen

Eco-friendly features

Recycled tiles are used on walls, floors in the bathrooms Recycled wood, steel was used for some interior stuffs such as table, desk, cabinet Exterior wall was used as interior wall of the house Generally, Material and recycled material were applied flexibility in this house. Kitchet chimney is not installed. Stack ventilation is used for exhausted heat in kitchen

Other features

The façade design make the house similar to the other neighbor buildings, but the interior design is unique. The neighbor exterior walls are utilized as interior wall The tree is planted inside to create shades from the inside void but also create friendly environmental view

Energy systems

Interior Lighting

LEDs and CFLs. However, very few lights are found in the house

Exterior Lighting

No exterior lighting

Ceiling Fans

No ceiling fans

Air-conditioning

No air-conditioning

Lift

No lift

Energy efficient systems

Energy efficiency appliances are used including fridges, washing machines (inverter system), televisions, LEDs and CFLs. However, very few lights are found in the house There is not any air conditiong found in the building

Energy efficient systems

None
