



# ميركادو هاوس ميدل ايست لتجارة مواد البناء

**MERCADO** *House*

MIDDLE EAST BUILDING MATERIALS TRADING

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## MERCADO-House Middle East

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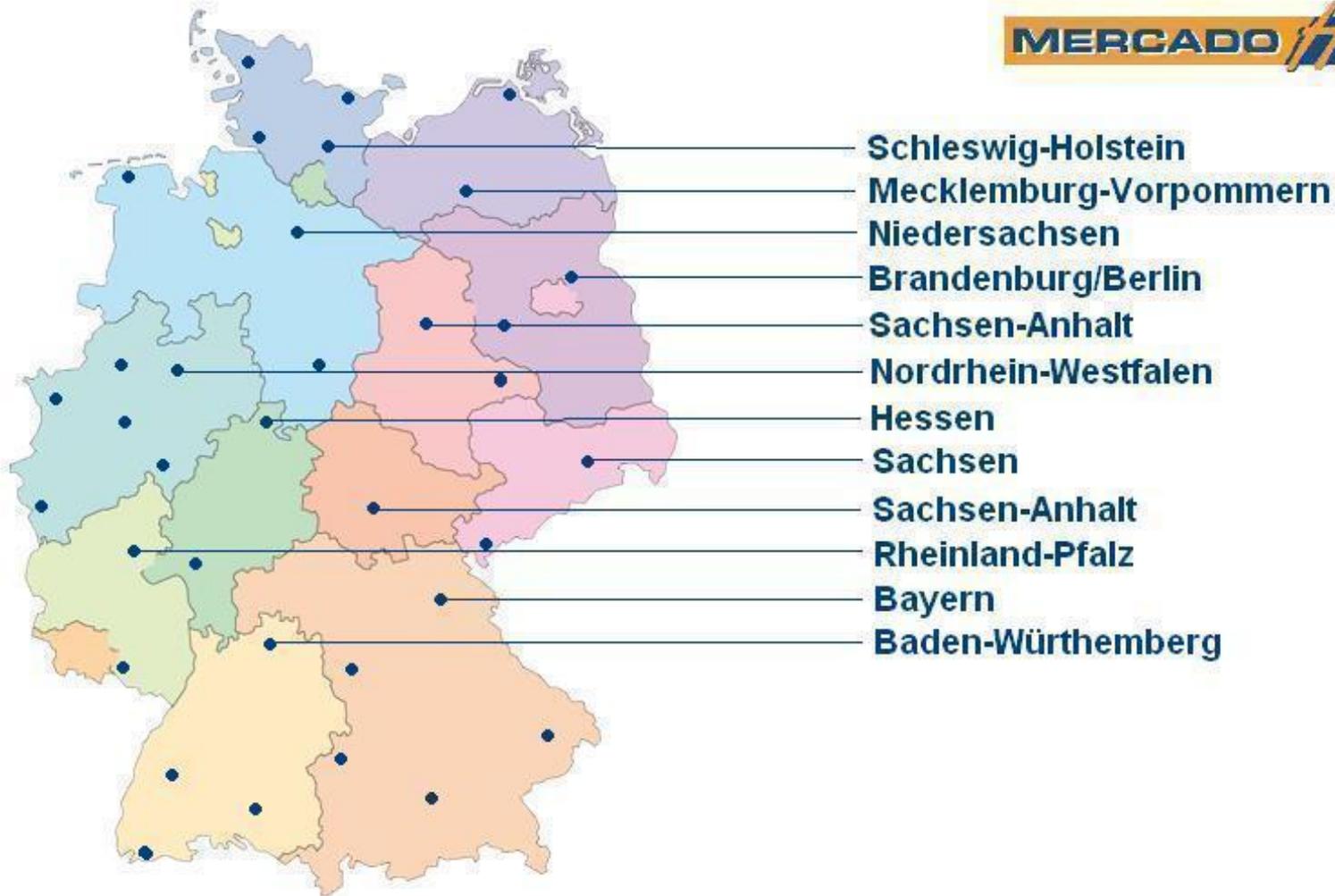
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Welcome to the presentation of MERCADO-House Middle East.

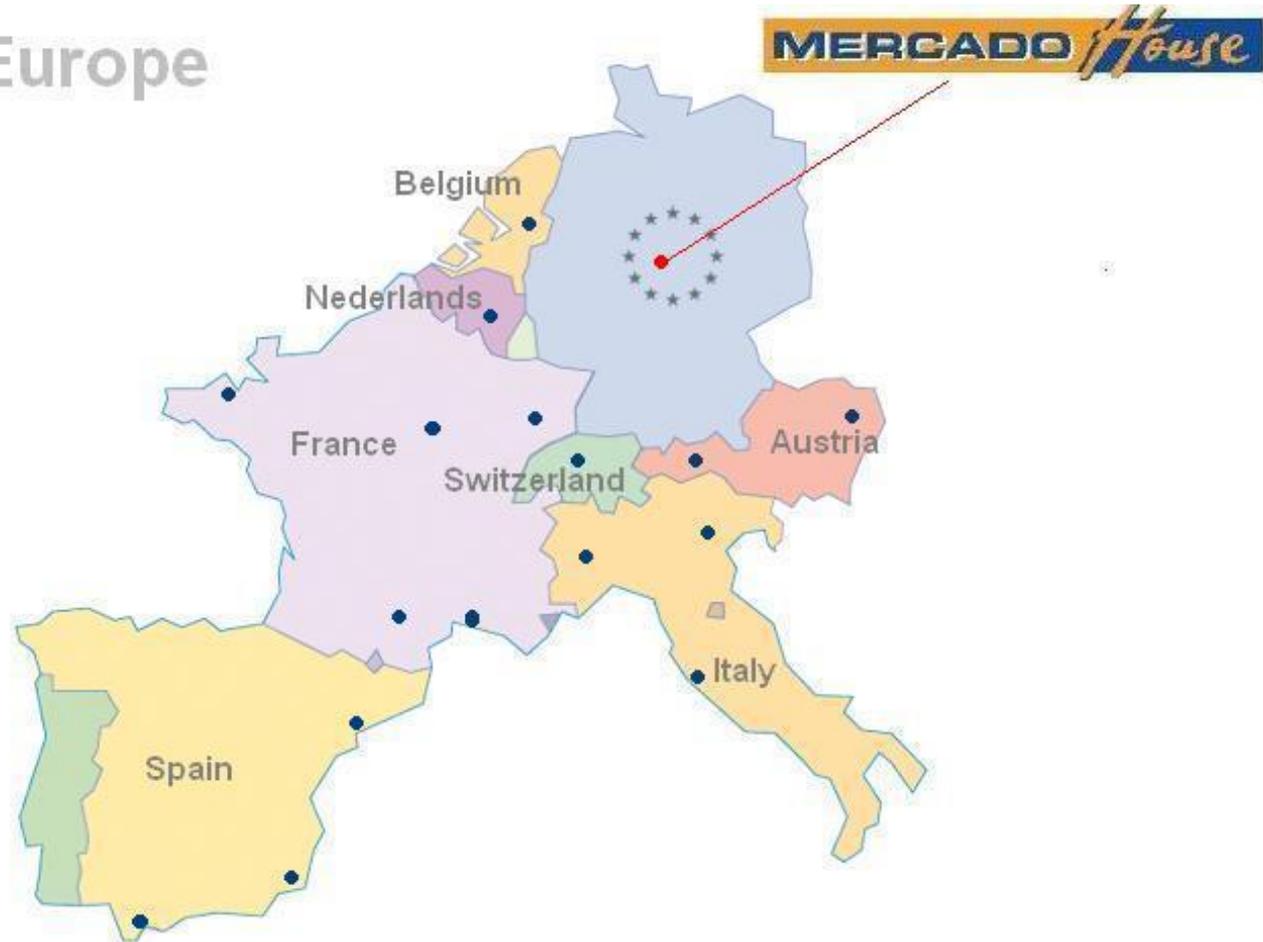




'MERCADO-House' is an international protected trademark of a German company under that we are working very successfully since many years in Germany and Europe.

MERCADO-House Europe has its headquarter in the heart of Germany, close to Frankfurt.

# Western Europe



Of course MERCADO-House maintains all over Europe own branches, partnerships and co-operations with architects, constructing and contracting companies.



We have all the rights for:

- fabrication
- trading
- advising
- construction

In 2006 MERCADO-House Middle East was established as an independent certified company in Dubai. This company has all the exclusive rights for licensing, trading, construction and also production of the MERCADO-House construction system in the Middle East, Northern Africa and other countries.



Successfully experiences for more than 25 years

1955 EPS material developed from BASF Germany

1960 EPS first using of EPS in civil engineering in Germany

1965 Styrofoam is now wellproven in construction sector

1973 The first formwork block are made by styrofoam

1979 First House construction with EPS Formwork system

2006 market share of ICF constructions in north america  
**more than 8%**

## This page will give you some information about the History of EPS

The basic material had been developed 1955 by a German company, the BASF AG in Munich/Germany.

Because of its best attributes this material started its success way in the construction business since 1960.

Already after 5 years Styropor (German Name) or Expanded Polystyrene (EPS) became worldwide a very important component in the construction business especially for thermal and sound insulation.

Based on German patents in 1973 it started the worldwide manufacturing of EPS shutter-elements and the name ICF (Insulated Concrete Forms) was born.

MERCADO-House built in 1979 his first house in Germany with ICF.

For example the today's market share of ICF in North America is close to 10%.

According international market analysis and regarding the increase energy costs the market share worldwide will increase up to **50% within the next 15 years.**

# Summary of Advantages



- It's most easy and fast construction method worldwide, training of site worker is problem free (a very important point in the Middle East, because most site workers are unskilled)
- In combination of formwork and EPS no more insulation work is necessary (it saves construction time and costs, no wooden formwork is needed -this save environment world wide)
- The durability of buildings is extremely long with stable dimensions and weather and ageing resistance (the concrete is saved against climate weather and salty air especially in the climate zones of the Middle East)
- The structure is much powerful against hurricanes and earthquakes (because we have a one material building)
- up to 80% savings of energy (especially for AC systems)
- no insect or termite infestations
- no toxic and not self flammable (please remember, this material is 98% air)
- no absorbing of any moisture
- non CFC-containing - environment-friendly production without using of CFC

# Types of ICF Structures

## Residential



Our system is **not a pre-fabricated system** we are **unlimited for using in any designs.**

Here you can see some references from different sections and different climate zones all over the world.



# Types of ICF Structures

## Residential



For example residential buildings like villas

# Types of ICF Structures

## Residential



# Types of ICF Structures



## Multi Residential

The construction of multi residential buildings is also problem free with all the advantages of our construction system.

With our standard blocks (15 cm Concrete core) we are approved in Europe up to 8 storeys.



# Types of ICF Structures

## Multi Residential



In difference to similar systems we have different plastic ties for the connection of inside and outside panels. So we can change our distance from 10 to 24 cm. (standard is 15 cm)

Using of 24 cm space we can built **up to 15 floors**.



# Types of ICF Structures



Commercial

# Types of ICF Structures

## Commercial



Also commercial and industrial buildings we can construct in fastest time with highest quality, stability and durability.

# Types of ICF Structures



**Institutional**



**Agricultural**



**Industrial**

# Types of ICF Structures

## Other Applications



Roof  
Decks

## Radius

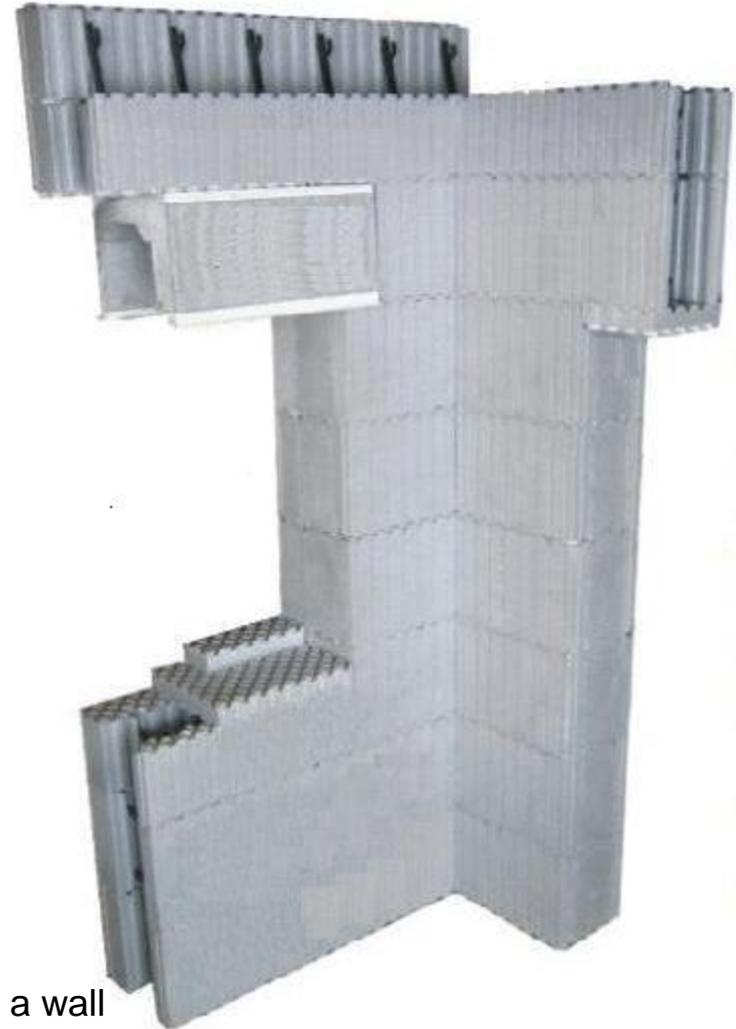


Pools

Here you can see other applications of using our construction system. Especially in Europe and Northern America ICF is used for example for the construction of swimming pools in fastest time with no limits of design. Curved Walls and high thermal insulated roof decks are also applications with all the advantages of our system.

# What is ICF ?

- ICFs (Insulated or Insulating Concrete Forms) consist of two panels of foam
- Both layers of insulation are held together with cross ties with recycled plastic (HDPP) to create a block or “form unit”.
- The used material for Insulation panels is named by expanded polystyrene (EPS)

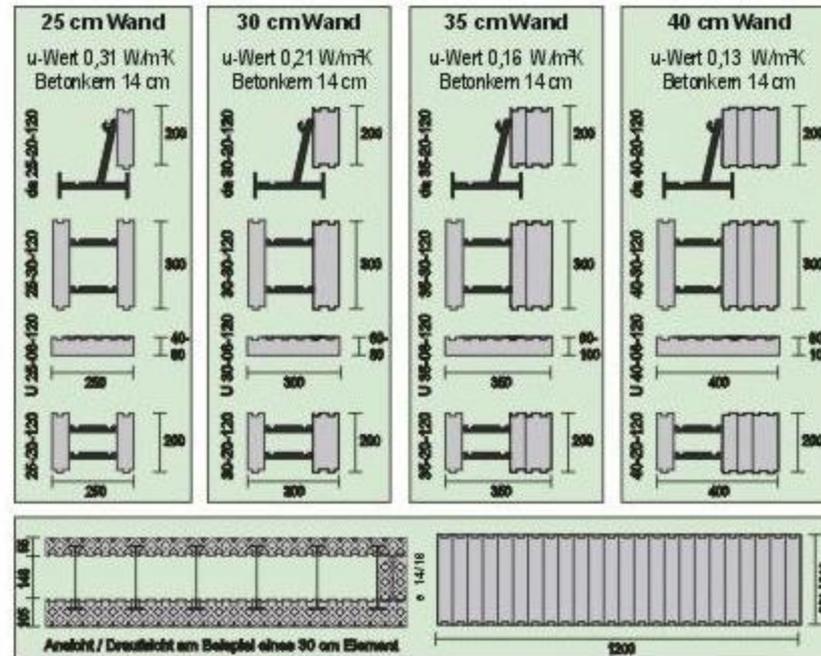


typical application of a wall

# MERCADO-House COMPONENTS

## Straight wall blocks

### The Main Component

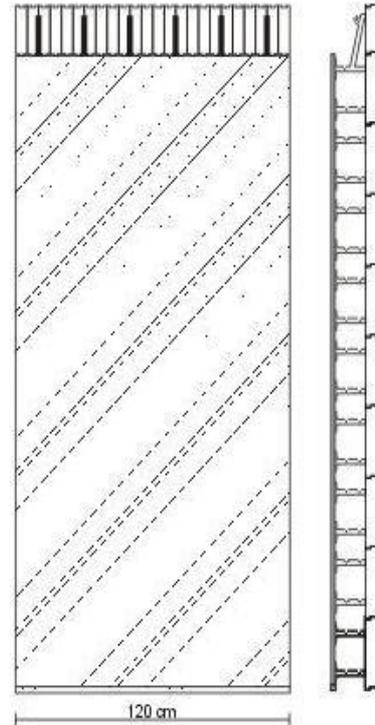


The blocks are available in different thicknesses and lengths. Standard thickness is 25 cm with space for concrete core of 15 cm. Standard length is 1.20 cm and can cut very easy in steps of 5 cm.

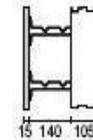
The heat insulation coefficient or R-Value is available **from 18.3 up to 63.1**.

# SYSTEM COMPONENTS

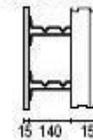
wall panels



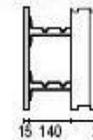
Wandstärke 26 cm



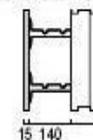
Wandstärke 31 cm



Wandstärke 36 cm



Wandstärke 41 cm

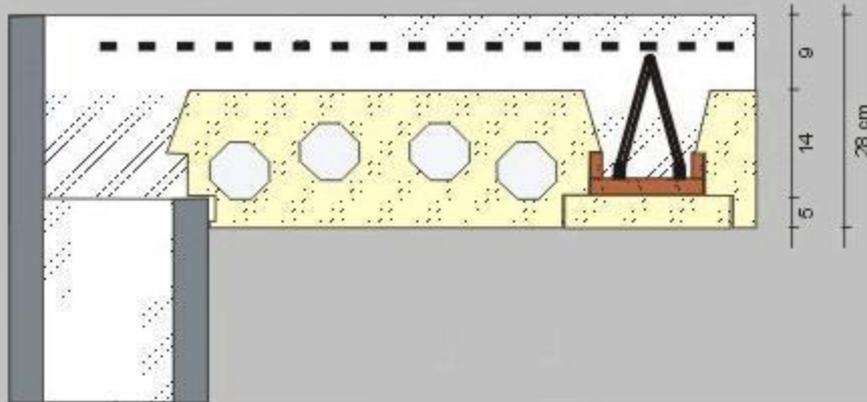
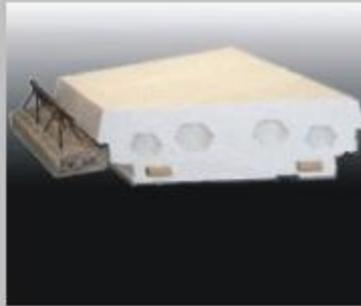


The second components are the storey height wall panels that allow an extremely fast and high quality construction method in public buildings like schools and hospitals, warehouses or labor accommodations.

# SYSTEM COMPONENTS

low energy  
ceiling system

3rd System Component



- With span up to 6,50 mtr (350 kp/mtr<sup>2</sup>)
- No heavy equipment required
- setting 250 m<sup>2</sup> in 4 hours (2 labours)



# ICF Construction Process Overview



Next pages will show you an overview about the way of construction with our MERCADO-House construction system.

# 1) The Foundation

**Best way of construct a foundation is a strip or raft foundation.**

Our system is a load-bearing structure, that means that the wall himself supports the loads and the foundation don't need point footings with columns and beams.



## 2) Setting of the Walls



1. the platform



2. first layer in place



3. second layer in place



**enormous saving of construction time**



4. Trestles in place



5. vertical alignment with trestles



6. fourth layer

**after only 1 hour**



7. fifth layer, lintels in place



8. first floor is complete



9. Back gables are placed

**all walls set complete in 2 hours**

Here you can see the steps for produce the Walls with our MERCADO-House system.

It's very easy like LEGO toys for the children and the result are very plane and exactly wall constructions.

No mortar or glue is needed.

You can see on the Photos that trained worker can finished the fitting of story height walls in only 2 hours.

# 3) Alignment & Pouring

Wall alignment with braces



Important is the exactly alignment of the walls before pouring the concrete.

After setting of the 3<sup>rd</sup> row the braces will be fixed on the floor slab with a spacing of approximately 2 meter.

Pouring with Ready Mix concrete



With normal concrete pumps the concrete has to be poured. In difference to the normal way we have to reduce the nozzle down to 65 mm, the maximum aggregate size should be 10 mm and the pump pressure has to be reduce for 50%. No mechanical vibration machine is required.

# 4) Walls completed

And the result are solid insulated reinforced concrete wall assemblies with **excellent thermal and sound insulation** and **highest stability**



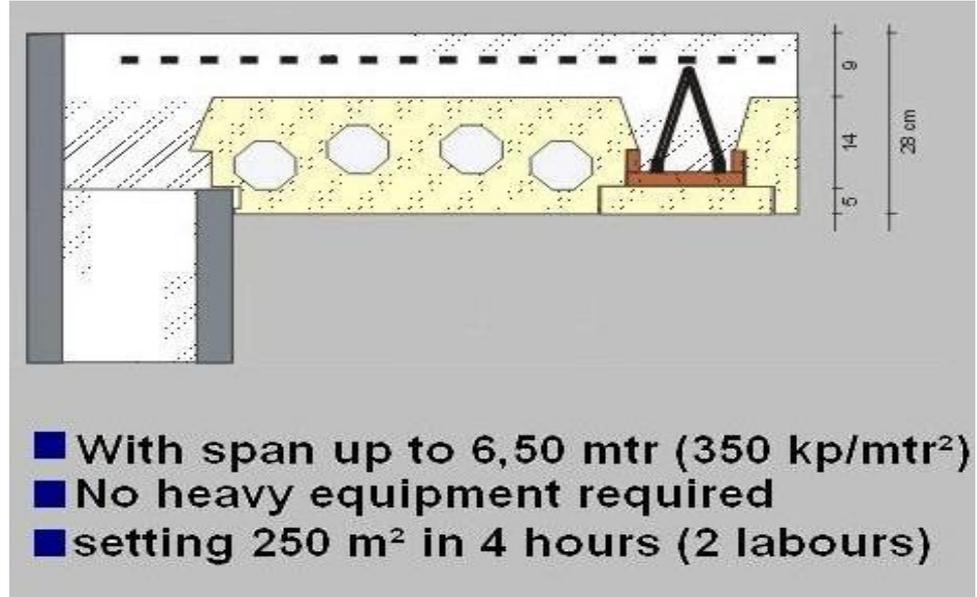
Here you can see some samples for all the finished wall for a warehouse and for villas. Please notice the very clean sites and the extremely plane level of surface from the walls.

# 5) Setting of Ceiling and Roof Slabs

Prefabricated Hollow core slabs



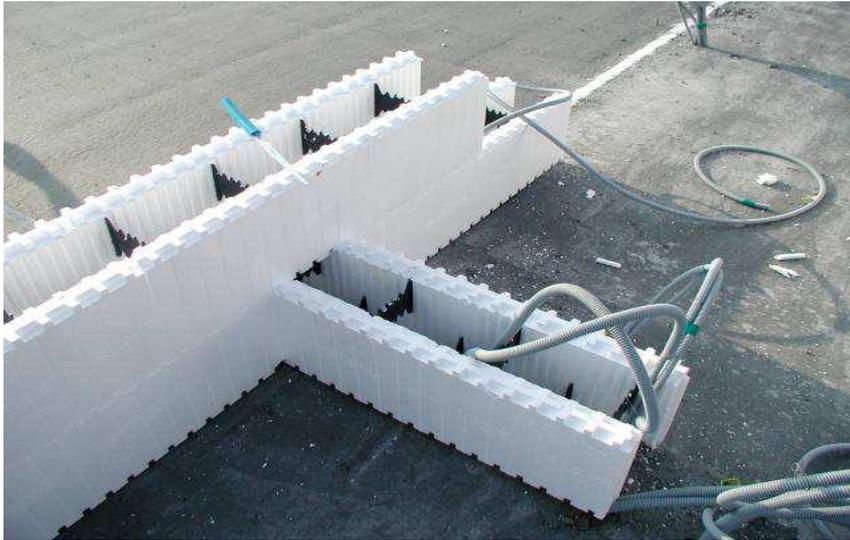
High insulated MERCADO-House system



The installation of ceiling slabs is very easy and fast. Best way is to use pre-fabricated slabs (HCS) or our high insulated ceilings system.

For setting we **don't need** any heavy equipment. Only two employees can finish the structure of a complete slab construction in only two day. In series production in one day.

## 6) Installations are fast & easy



Drain pipes and power lines can be fixed inside the formwork before pouring the concrete. This saves many time and living space of the rooms.

MEP works like power and sanitary installations is very simple, clean and fast. It is not anymore necessary that slots have to be stemmed in walls and the structure and stability of the buildings will not be affected.

Installations in the 5cm inside layer of our blocks are also easy and very fast without cracking walls.

# 7) Interiors & Partitions

Gypsum Blocks



Light-weight metal framing  
for gypsum boards



Gypsum or  
Cement Boards



Our fully concrete poured concrete walls should be used only for the outside walls and needed minimum of one inside walls because of the required loading of the slabs.

The Non-loading internal partitions can be implemented by the same way like conventional constructions. The customers don't lose the possibility for later changing of rooms and partition walls.

## 8) Finishes



**Stone or Brick Cladding**



Interior finishing does be fixed in same way like conventional constructions. Normal one layer plaster can be used. The big advantage is plane level of all walls. This save costs of material and workmanship.

The very strong surface of the EPS layer can be load up to 40 kg per M2. Ceramic tiles can be glued directly.

Outside plaster consist two layers with inserted fiber mesh. This avoid later cracks .

Actually a local company >National Paints< offers a very Economical and high quality plastering system for EPS surfaces. This plaster can be paint or spray directly and can be fixed in a easy and fast way.



**Polymer-modified Plaster**

# MILESTONE

Enormous savings in construction time

Conventional construction



Construction site after 6 weeks (foundation ready)

ICF Construction



Construction after 4 weeks (foundation ready)

Left side show the stage of a conventional construction 6 weeks later after finalizing the foundation.

On the right picture it shows the stage after only 4 weeks under same conditions. The shell of house is finished, windows are fixed and interior installations are running.

# MILESTONE

Clean and excellent organized construction sites

Conventional construction



ICF Construction



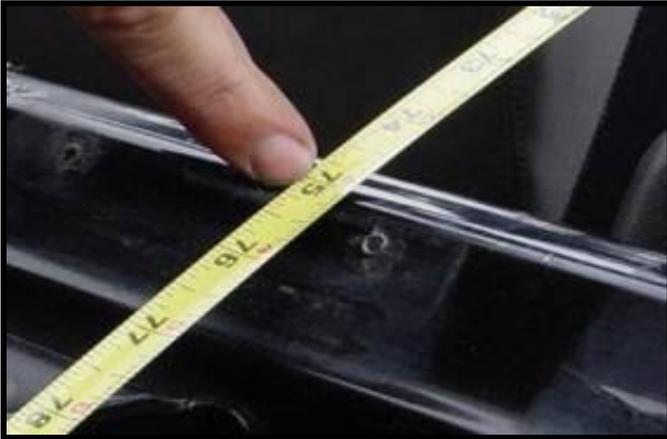
Our sites are clean in comparison to the conventional constructions, because of we have:

- no framework and different types of bricks, wooden formwork is no needed
- our building material is extremely light weight and can be stored on central place of site easily

# MILESTONE

Exactly openings for doors & windows

## Conventional construction



## ICF Construction



All the openings have exactly dimensions according the architect drawings. Windows and doors can be ordered before the raw construction is finished. No special measurements are required. This saves time And costs. A mass production can be organized for big projects.

# MILESTONE

## Lower Sound Transmission

(STC = Sound Transmission Class)

Conventional  
Brick walls STC = 42

ICF  
STC = 51

STC=30 Loud speech can be understood fairly well  
STC=42 Loud speech audible as a murmur  
STC= 50 Very loud sounds such as musical instruments or a stereo can be faintly heard; 99% of population not annoyed.

This Milestone is a big and new advantage for the Owner or Tenant of the building. A very high sound insulation rise up life quality especially in areas in the near of Sites, Airports or Roads with high traffic.

The STC is the American standard of measurements of sound insulation.

# MILESTONE

Lower electrical Infrastructure



conventional  
construction



X 100

MERCADO-House  
system



X 200

➔ Save up to **80%** of energy for AC cooling

➔ Need only **50%** of AC equipment

Important for projects are the savings of energy, because of the infrastructure is not ready to deliver required power for the projects.

Because of the savings of energy now the infrastructure can deliver the power for a double quantity of buildings. This saves money and time for the government and safe the world wide environment.

Running costs for social buildings like schools, hospitals and other can be extremely reduced.

# Benefits for the involved parties

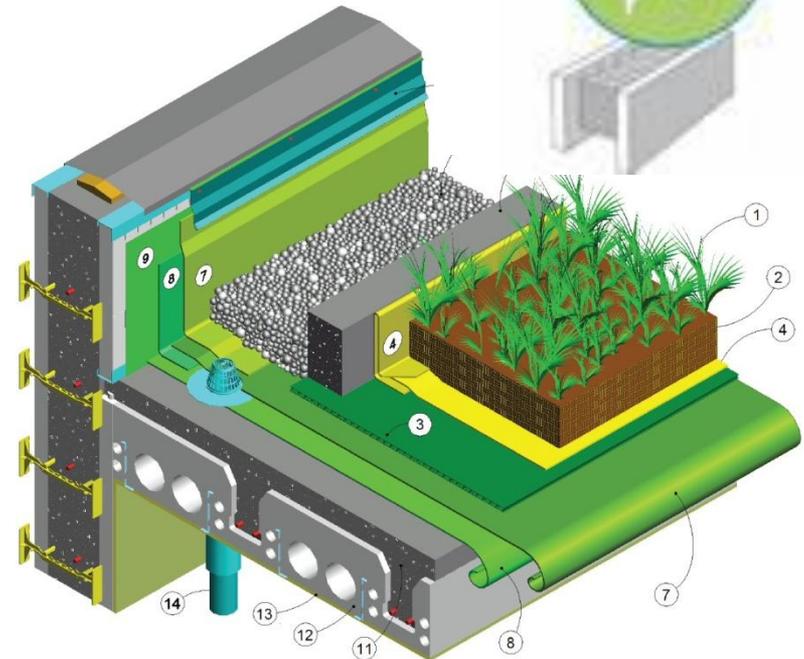
1. **For the Owners**
  - a) more willing to buy
  
2. **For the Contractors**
  - a) Reduction in overhead
  - b) Minimum double production and the profit
  
3. **Developers**
  - a) Lower operating capital
  - b) Return of capital much sooner
  - c) Can offer to buyers more and better build options
  
4. **Financiers**
  - a) Rent/sell objects much sooner
  - b) Right respond to market demand vice speculating



# Summary of benefits



1. **Minimum half the time to construct the buildings**
2. **6 times stronger than normal block work**
3. **Half the electrical infrastructure, AC tonnage, and energy bills**
4. **20 times more energy efficient**
5. **Reduction in sound transmission**
6. **Flexibility in architecture**
7. **More comfortable homes**
8. **..... and much more**
9. **100% LEED conformity**



# Thank you.



**Sample villa in Muscat/Oman**



**Sample villa in Dubai/U.A.E.**