It makes sense to be green

How can Takamul Green Construction Technologies help me?

We are flexible in the way we operate, depending on the needs of our clients and construction partners. For small projects we can offer a full design and build service, handing over a fully completed building to our clients.

For large projects, we can work alongside existing consultants and act as a subcontractor for the structure of the buildings or form a joint venture with the general contractors. Our ICF panels and blocks are currently manufactured in the UAE but we are able to establish permanent or mobile expanded polystyrene factories close to construction sites if required for large scale projects in the region.

Warehouse Project completed in Dubai 2010
Takamul Green Construction Technologies LLC is a joint venture between Takamul Building Materials and Construction Company LLC (Takamul) and Royal City Contracting Company LLC. Takamul is a subsidiary of Bin Salem Holding, a well-established and privately held company based in Abu Dhabi with operations in real estate, construction, insurance, defense, manufacturing, agriculture, education, security, medical systems and information technology. Royal City Contracting is a Dubai-based construction company which specializes in building using green and sustainable technologies.

Takamul Green Construction Technologies was established to bring new construction technologies to the UAE and the Gulf Region. We specialize in technologies that facilitate fast track construction and lead to sustainable, low energy-requiring buildings.

Introduction to Takamul Green Construction Technologies

What is Insulated Concrete Formwork (ICF)?

Takamul Green Construction Technologies uses a construction technique called Insulated Concrete Formwork (ICF).

The Insulated Concrete Formwork is made from expanded polystyrene panels or blocks and these give enhanced insulation to the building which results in lower air conditioning capital costs and lower energy usage during the lifetime of the building.

The main advantages of using this technique are:

- **Fast construction** – the core and shell of the building can be completed in 50% less time than using conventional building methods.
- **Lower construction costs** – savings arising from reduced material costs and labour can account for 5-10% savings on the total construction cost.
- **Lower operating costs** – on-going savings in energy costs resulting from the high insulation can result in annual energy savings of over 50%.

Q: Is this a proven technique? Is a building made from polystyrene strong enough?

A: ICF systems have been used in Europe and North America for over 30 years. The load-bearing strength of the buildings comes from the reinforced concrete walls. The polystyrene is there to provide insulation only.

Q: Has the ICF system been used before in the UAE and is it approved?

A: Takamul Green Construction Technologies and its partners have successfully used ICF in Dubai and other companies have used a similar technique for Abu Dhabi. The system is fully approved by Dubai and Abu Dhabi Municipalities.

Q: What kinds of buildings are suitable for ICF?

A: ICF can be used for villas, schools, hospitals, clinics, factories, labour camps, warehouses, offices and other commercial buildings. Generally, it is used for ground floor plus 4 additional floors (G+4) but it has been used for North America for G+12 buildings.

Q: How flexible is the system with regard to building design?

A: The ICF system is completely flexible and can be used for curves, radius wall and arches in addition, longer span ceilings can be achieved because of the strength of the load-bearing walls.

Q: How can the walls be finished?

A: External walls can be finished with stucco or cladding like a conventional building. Internal walls can be finished with cement or gypsum panels.

Q: How are ceilings and roofs constructed?

A: Ceiling and roof decks can be completed using ICF formwork, hollow core sections or steel girders, just like any other building.

Q: What are the main benefits of ICF systems?

A: ICF buildings cost less because of the savings on the material and labour costs. Also because of the high insulation, smaller air conditioner units can be fitted. Total savings can amount to 30% of total building costs. Also the high insulation means that on-going energy savings can result in final electricity costs being 50% lower.