KYRIOM GROUP

Facilities Service



www.kyriomgroup.com

PREFABRICATED HOUSES

WITH

COMPOSITE MATERIAL



PHILOSOPHY OF CONSTRUCTION

Prefabrication offer in the 70s and 80s of the last century was characterized by poor quality of materials, rapid aging of the property, poor thermo acoustic performance, finishes and very rough architectural imprint.

Fortunately, those times and that way of working are over.

Today we have the ambition to propose prefabricated houses of high quality, even with several floors, characterized by the use of high quality materials, of the latest generation and technologically advanced, maximum acoustic and thermal performance, finish, durability of materials with almost non-existent maintenance, and competitive costs.

All this is made even more appealing by the image that offers a refined and modern design which combines style, elegance and functionality.



Our building systems are designed for modular solutions and building types and are adapted to the specific needs of the customer and to the culture and tradition of the place.

OUR PREFABRICATED COMPOSITE HOUSE

Today the prefabricated house offers many advantages over the traditional house and the use of composite materials provides additional advantages over the commonly used traditional systems.

The composites are now used in various fields, construction, aerospace, shipbuilding, railway, automotive, chemical, agriculture etc.

The composites are increasingly replacing steel, stainless steel and aluminum, wood, concrete, plastics in various uses, improving the inherent quality of the final product, the durability and performance in general.

The house that we will build according to the projects, the use of composite profiles with a special shape of our own design to create the structures, perimeter curtain walls, roof, and floors.

Our homes provide ventilation systems for walls and roof insulation achieved with insulation of different nature and density to get the best thermo acoustic result, systems made with the best available products on the market and especially innovative systems that allow quick and easy maintenance but also the possibility of "change the look", of the flat from the bathroom to the kitchen, floors and exterior cladding in a simple and inexpensive way, so as not to require the intervention of a professional expert.

The houses can be finished externally with a large variety of materials chosen by the customer but always selected to create the wall ventilation.

In particular, they are used fiber cement panels that may be colored, or composite slats (Canadian), or stone panels or rebuilt brick made in view in the same way, but also staves in composite with wood fibers incorporated in the outer absolutely guaranteed, however, all materials are maintenance.

The coverage of the pitched roof is always ventilated, can be realized, with proper preparation, with composite slabs, sheet metal pre-painted aluminum, shingles or tiles, and with almost every material on the market chosen by the customer and can be prepared to accommodate photovoltaic panels.

The flat roof covering is designed only with adequate insulation and tarred sheaths or, to get the best energy and acoustic performance, anti-root sheaths specially designed and built following the shape of the house with lightened of soil fill inseminated plant suitable for the climate zone in which it is installed and eventual irrigation system.

The house can be placed on concrete base, with or without local underground, on footings or pilings, raised from the ground with the creation of the crawl space with prefabricated slab in composite material which eliminates any deterioration and maintenance also in the more humid environments and attackable by molds and parasites.

Our system, to optimize times and costs at the construction site, involves the use of lightweight composite profiles but very resistant, completely disassembled and processed and tested in the factory, may be assembled by hand, contain the predispositions for the installations and the internal structures and reinforcement for the assembly which can also be partly made of galvanized steel, stainless steel or aluminum.

This allows to contain the costs of transport and assembly because thanks to completely disassembled structures in small elements and to the low weight of the individual parts, you can reassemble hand and do not need cranes except in small part and in each case of dimensions very small.

The composite does not absorb moisture, are resistant against most chemicals and weathering, vermin, rodents and insects, are not subject to aging and do not create a favorable environment for mold or fungus, even if installed in unhealthy places or muddy, helping to create a healthy and hygienically comfortable environment.

Composites are widely used materials for their strength and lightness, the safety of the buildings damaged by earthquakes.

They are excellent for the construction of roofs for their low weight, excellent mechanical performance and good elasticity, characteristics that mean that they can also withstand earthquakes of high intensity.

The composition which is mainly used is a high-density glass fiber, yarn and woven fabrics of various meshes and thicknesses, in an amount such that according to the products and their use can even reach 75%. Remaining materials are resins, kaolin, additives etc.

We can make composites with each type of material: carbon, kevlar, vegetable fibers, etc. but the glass, in addition to being an inert material, is not of electrical current conductor and allows to obtain the best results with the best quality – price

We are able to achieve economic houses but functional and comfortable up to the houses of excellence for architectural quality, finishes, materials used such as marble, sanitary ware, doors, ceramics, accessories.

We always try to adapt the projects of our achievements respecting the architectural style, culture and tradition of the country in which we find ourselves.

MARKET

Today the market of prefabricated houses is covered mostly by villas with ground floor and a maximum of an upper floor, with this solution the composite material covers every structural necessity and infill.

However, it is possible to develop buildings of many floors recourse to mixed solutions of steel and composite or using traditional systems for primary structures and composite materials for the completion of the building, such as the outer casing tamponade, ceilings, roofs.

Our ultimate goal is to construct buildings of all heights, technologically advanced, in less time and with an attractive cost.

The degree of finishing the interior is also compatible with any type of traditional construction currently on the market, and in any combination possible.

ADVANTAGES

- ***Light constructions** : The properties of the composite material used is optimal to obtain high mechanical strength with very light profiles.*
  The houses are up to 5 times lighter than traditional masonry.
  The houses fulfilling best the seismic requirements.
- ***Construction in moist soil :** the material is particularly suitable for the construction in flood zones. The corrosion are virtually nil*
- ***Portability :** the building system can be designed to be easily disassembled and reassembled. The buildings can be dismantled or moved according to need.*
- ***High energy classification :** the buildings have a high degree of isolation and enable energy savings higher than average. Thanks to the characteristics of materials is also possible to reduce thermal bridges while also reducing the phenomena connected to the vapor barrier.*
- ***Intelligent Design :***
- *The technologies developed by our company offer a new dimension to the use of the facades of our buildings.*

WORK IN PROGRESS

We have started negotiations with a Verona company that since years has its headquarters in Miami (Florida), for the construction of prestigious houses near the sea but also near the marshlands of the Everglades.

Our system was chosen and presented to the Miami Authority, for its inertia characteristics and unassailable by typical external agents in the area, brackish moisture, vermin, insects, animals, molds, fungi, causing discomfort, trigger allergic phenomena to the residents and that require frequently disinfestations, which are activities that today become one of the first local industries.

We are concluding important agreements for high- and medium-quality homes in Florida, Canada, Mexico and Colombia.



Example of house in modern style with a flat roof, but you can achieve with a pitched roof with or without attic

For Kazakhstan and Uzbekistan are planning buildings of five floors with thermal insulation performance of a high standard.

Recently we have developed a low-cost social house to answer some requests received by some countries in sub-Saharan Africa and Panama City.

We stated negotiations for the construction of a tourist village in El Menea, an oasis in the middle of the Algerian Sahara where we designed the houses using some local materials such as stone cladding and following the architectural design and the local traditions.

Example Saharan house with roof with soil and plant, designed for a resort of El Meneà.
Local materials were used for the exterior cladding stone.



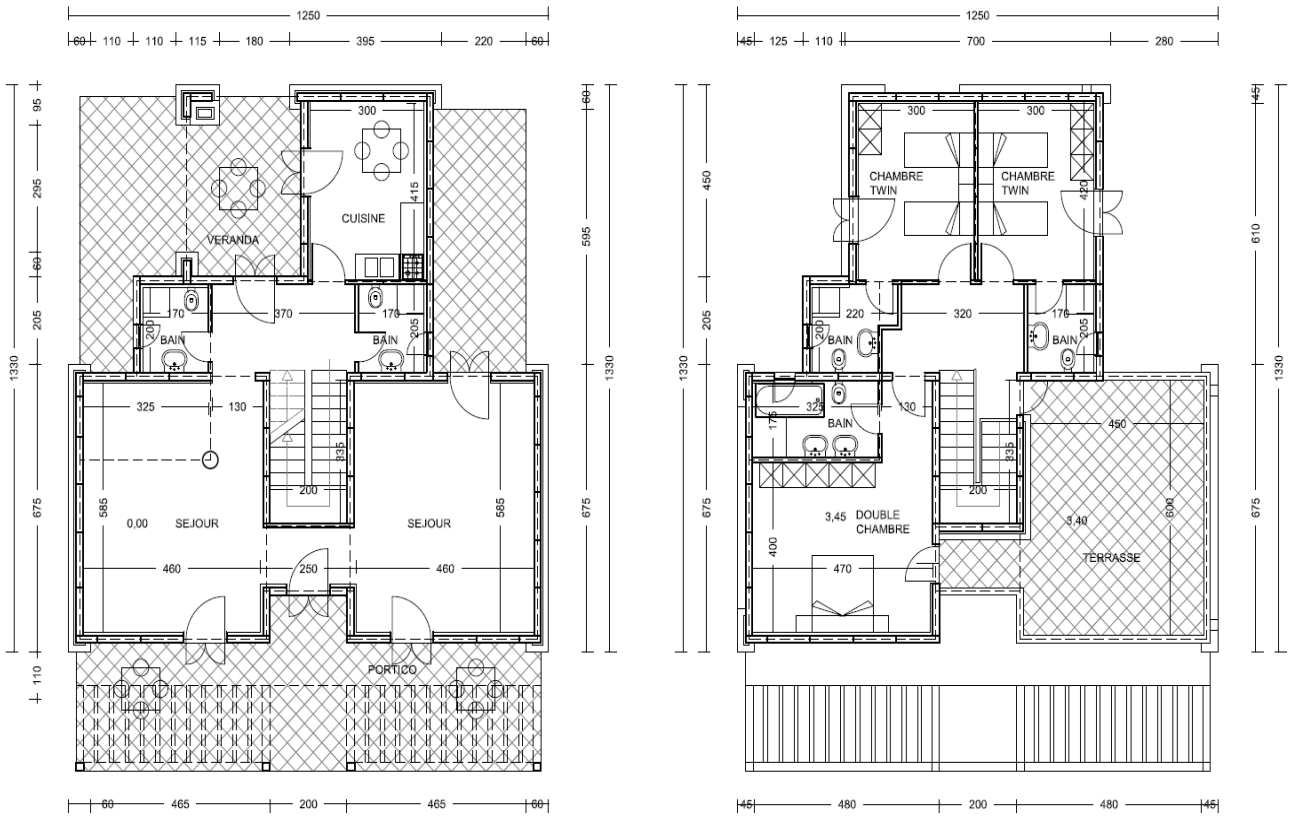
Our system was chosen for the excellent performance that offers mainly in difficult places, with temperature changes which may also go from + 60 ° down to touch - 5 °, with strong winds and abrasion by sand, and the architectural style that, in accordance with the traditions of the place, it provides for the flat roof, but with technical features such as the roof to the ground to ensure maximum indoor comfort.

*This tourist village with an adjoining 5 * hotel with a hundred rooms, includes the construction of 170 villas of various sizes with high isolation level, ventilated walls, roof with earth and vegetation of the place.*

In this way the use of the air conditioning is very limited, with great benefit to the health of people.



Even the study and the subdivision of the Interior has followed local traditions





The green roof plan is therefore accessible and exploitable

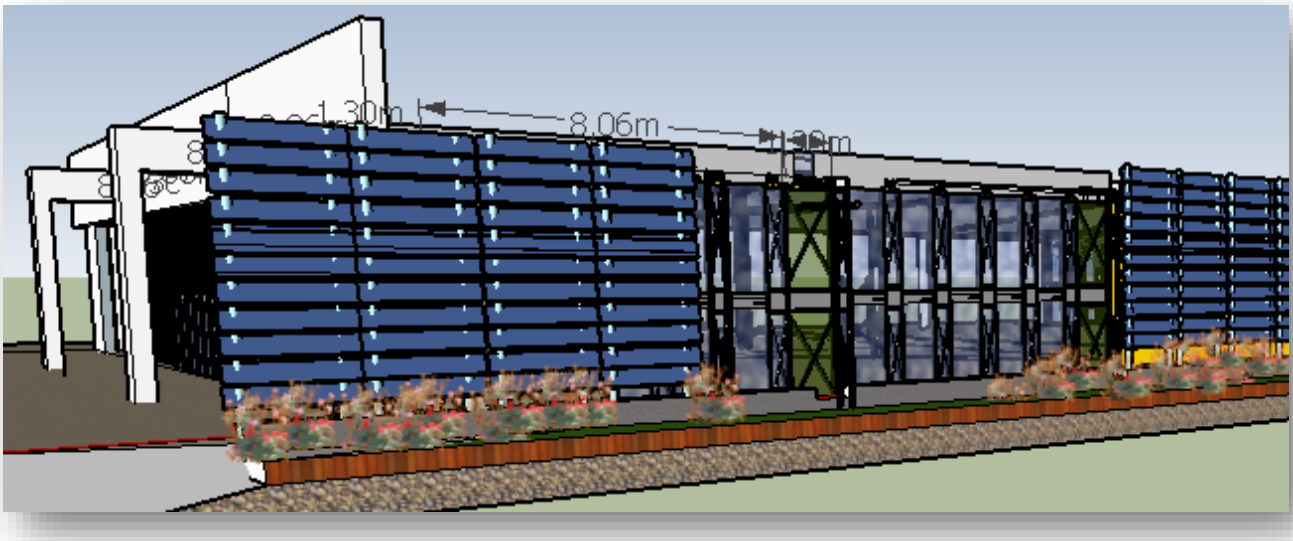
CONSTRUCTION SECTOR

The high mechanical properties, low weight and excellent chemical resistance make the application of pultruded profiles of great interest, especially in areas where the weather is very critical (for example: scorching heat, dust storms, extreme cold).

Today the Italian plant produces generic profiles already partly useful for panel houses but it is expected that the whole system, especially the special profiles and their processing takes place in a new plant in the Republic of Malta.

In addition to the prefabricated houses, our project also involves the construction of a system for the construction of industrial buildings, business centers, hospitals, schools.

Our factory will be the first built in the world in composite material.
Also in the Republic of Malta it has planned to build a second plant for a major company, a leader in the pharmaceutical industry.



First rendering of the factory in Malta project

OTHER PRODUCTS FOR THE CONSTRUCTION SECTOR

In addition to homes, we can also offer finishing products such as curtain walls and ventilated, shutters, partition walls for clean rooms, insulated walls for the external cladding of buildings.

ECOLOGY AND SAFETY OF YARDS

- *The products are absolutely non-toxic*
- *The waste and even the scraps, although produced in the shipyard, are classified according to the European legislation, such as municipal waste but can also be recycled as a by-product in various applications.*

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