

**ENVIRONMENTAL ADVANTAGES AND SUSTAINABLE BUILDING**

**ENERGY SAVINGS**



**WATER SAVINGS**



**MATERIALS AND CONSTRUCTION SYSTEMS**



**WASTE**



Compact Habit substantially improves the levels of technical, functional and environmental quality of buildings. With this system the ecological footprint (energy consumption and CO2 emissions) of a building is reduced by 35% compared with the same building constructed using traditional systems. The installation of photovoltaic panels means Compact Habit only consumes 35% of the energy it generates.

The thermal and acoustic insulation of each module maximises its users comfort, and the energy efficiency achieved, in addition to significant savings in consumption, has led it to obtain the maximum building energy certification.

The Compact Habit factory has its own solar plant producing electrical energy with the capacity to generate 468,465 KWh of net energy per year with CO2 savings equivalent to 219,073.44 kg (Spanish mix). We are conscious of the environmental problems of the earth. Compact Habit joins to companies that provide specific solutions to the environmental problems of the present and the future.

The very nature of industrial production favours the ongoing optimisation of processes and is without doubt an essential factor for savings in energy and resources.

The optimisation of resources inherent to an industrial production system also affects water. The water savings achieved in the industrial construction process of Compact Habit compared to conventional systems is approximately 20%.

Using the automotive sector as a reference, the process for the production of CH modules consists, firstly, of the manufacture of a structural chassis of reinforced concrete, which is placed on a production line and equipped with all its components (coverings, building services, joinery, façades, etc.), resulting in a completely finished building module.

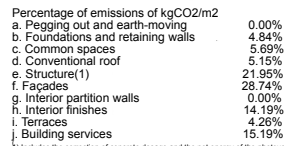
In an industrial process like that of Compact Habit, waste management is fundamental and it is much easier to establish a system for it than in regular construction processes. In our case the construction of homes is linked to strict requirements in the industrial world regarding waste. The separation, classification and possible reuse of waste is perfectly studied at the facilities of Compact Habit where all these processes are studied from the point of view of the complete process and where one of the most important objectives is to close the life cycle of the majority of the materials involved in the construction.

This process allows rigorous management and coordination of all tradespersons involved in the process, optimising processes, minimising unforeseen circumstances and providing value to the construction sector with the concept of "ongoing improvement".

Similarly, due to the speed of the construction system and the fact it is an industrialised process, the construction materials used must be placed using dry construction (quick and easy placement, no drying time, easy maintenance, good waste management, etc.).

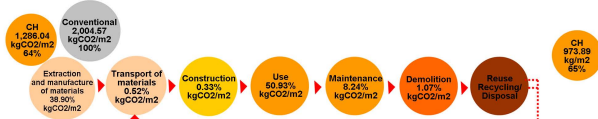
Extraction and manufacture of materials

Materials\*



\*) Includes the correction of concrete dosage and the net energy of the photovoltaic panels at the CH factory.

\*Data based in Manresa Building.



**Location . . . Energy . . . Passive systems . . . Water consumption . . . Waste . . .**

**Location . . .** The ground floor of the north building is 3 metres higher than the south building (common spaces for services). This lets more light into the north building.

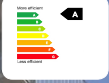
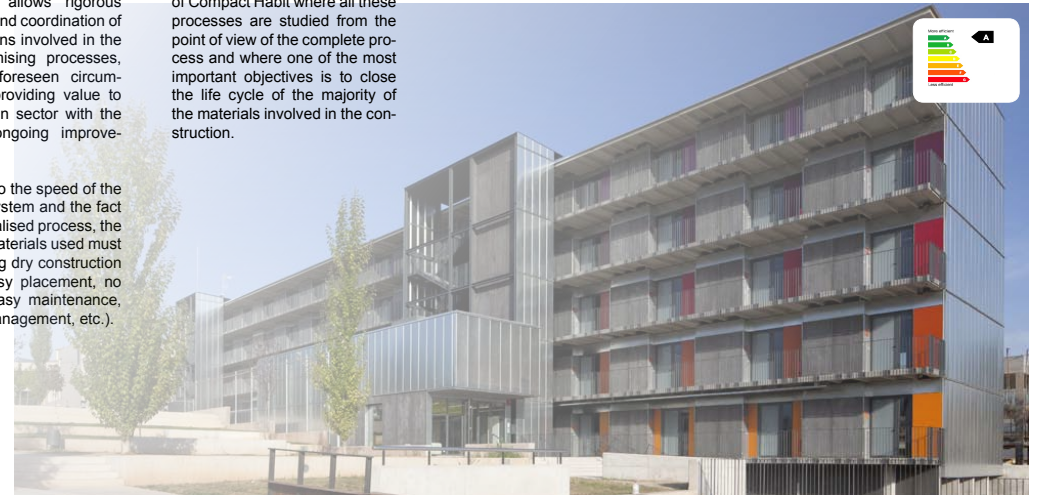
**Energy . . .** Winter: gain of solar radiation and reinforcement of thermal insulation. Through the south glass facade, solar radiation is gained. The other facades are especially insulated to avoid energy losses (façades with 80 mm of mineral wool and roof with triple layer of insulation).

**Passive systems . . .** Summer: solar protection. The solar protection on the south facade is a fixed cantilever and with adjustable slats. The rest of facades are ventilated, as is the roof (to dissipate the solar radiation). The homes face both north and south, so they have cross ventilation.

**Water consumption . . .** Reduction of consumption by means of a flow reduction system (taps, dual flush toilets) and reuse (both grey water from sinks for toilets, and rainwater for irrigation).

**Waste . . .** The CH system has different advantages that reduce the production of waste in the demolition of the building: the home itself has less kg/m2 of material than the same building built using a conventional system; the structure is calculated to last 100 years, double of the average life of a building; and the use of dry materials facilitates their separation in a controlled environment such as a factory, for reuse and recycling.

Data from the study "Life Cycle Assessment, comparing Compact Habit and conventional buildings" by the company "Societat Orgànica". Final report: 25 September 2008.



**COMPACT HABIT S.L.**  
Sustainable Mass Modular Building Construction



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