



RUE DE LA BRASSERIE [063] :

2 UNITS WITH SEMI-PUBLIC SPACE AND 12 PASSIVE HOMES

COLLECTIVE HOUSING - NEW ESTATE

14

kWh/m²year

Brussels average
150

Rue de la Brasserie 21 - 23, 1050 Ixelles

Client : Municipality of Ixelles

Architect : R²D² Architecture

Consulting firms: Matriche sprl, Detang sa

Triple glass



Output 92 %, n50=0.6/h



Thermal solar energy (42 m²)



Canadian well



Bicycle sheds (easy access)



Semi-private indoor garden



RW tank



Certified timber, cellulose, sand-lime brick, linoleum, oils and natural finishings



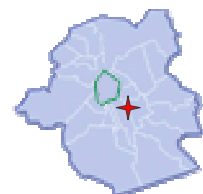
Maximum prefabrication



The project consists of the construction of a block of 12 social housing units in rue de la Brasserie in Ixelles under the Malibran contract. From the start, the project has been based on the concept of passive construction. To achieve this, an advanced technical focus has been a constant feature in the development of the project in order to highlight each detail and guarantee energy efficiency and eco-construction. In addition to this point, the parameters for urban integration, which are closely linked to eco-construction, have been largely developed as part of the global concept of sustainable development. The energy performance rating for each product that will be implemented has been analysed and the appropriateness of the product for the project has been studied in great detail in accordance, firstly, with the building parameter and, secondly, with the architectural, usage and operating parameters.

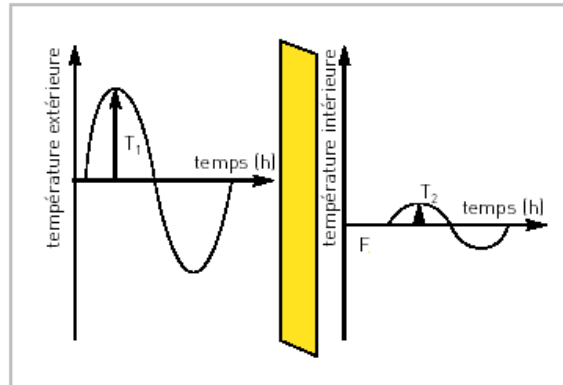
IN FIGURES

Gross area	1,306.9 m ²
Handover	Early 2010
Construction costs VAT / grants excl.	1,547 €/m ²
Exemplary building grant	100 €/m ²



MIXED STRUCTURES

The two buildings were designed according to the same basic principle: a building shell in a timber-frame structure for efficient insulation of the homes (cellulose over the full thickness of the outer wall) and solid walls for the thermal mass of the building. This mixed system thus makes it possible to accumulate the heat surpluses during warmer periods and to redistribute them when the ambient temperature decreases (as shown in the charts below). In the building on the street side, the mass is delivered by an inner skeleton made entirely of concrete (phase shift $F = 6$ hours), while the rear building consists of inner walls made of sand-lime blocks, which are less visible, but allow a larger phase shift ($F = 11.4$ hours).



PREFAB IN ORDER TO LIMIT WASTE

By using prefabricated elements, less waste is produced, progress can be faster and there is greater continuity in the work. It is, of course, the client's decision to use such elements. In the medium term, prefabricated materials cater for repetitive applications that benefit efficiency and safety. This method does, however, require more focused coordination and scrupulous adherence to the dimensions. This aspect has been perfectly integrated here, especially in the building on the street side. Here, the prefab principle related mainly to the completely prefabricated floor parts for each storey. The parts for securing the frame of the rear building are metal support structures which allow each component to use the same part, regardless of the slope. Other prefabricated elements have been integrated into this project too, such as the trusses of the rear building and the building shell in a timber-frame structure which simply needs to be moved on the building site.



ADDED EXTRA

The project is situated in a street with tram traffic. Since a crane was necessary on the building site, an agreement was made with the MIVB/STIB (Brussels public transport authority) for the traffic on line 81 to be halted at night in order to set up the crane and take it away afterwards, because the power in the overhead lines had to be switched off.

