



L'ESPOIR [060]:

A REFERENCE IN TERMS OF ECOLOGICAL COLLECTIVE HOUSING PROJECTS

COLLECTIVE HOUSING – A NEW BUILDING

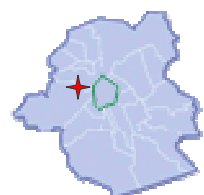
15

kWh/m²yearBrussels average
150U average:
0.262 W/m²K Efficiency
84 %, n50: 0.6/h Solar TH.
(40 m²) External sun shades,
Night cooling Bicycle parking,
Public transport nearby Climbing plants,
Outside green areas Extensive green roof
(440 m²) Rainwater tank
(10 m³),
Sound water use Cellulose, wood
PEFC
(Scandinavian),
Ecological finishing Selective sorting
during construction Use of healthy
materials for inside
finishing **Rue Fin 3-13, 1080 Molenbeek-Saint-Jean****Contracting authority:** Fonds du Logement RBC**Architect:** Damien Carnoy Architectes (Project manager: Dardenne David)**Design bureau:** Damien Carnoy, MK Engineering, Luc Delvaux

In 2004, the non-profit-making association "Maison de quartier Bonnevie" developed a cooperation project with another association of the same type "Coordination et Initiatives pour et avec les Réfugiés et Etrangers" (CIRE) and the Brussels-Capital Regional Housing Fund. Its purpose was to enable 14 low-income, poorly housed families from Molenbeek to acquire a home at an extremely moderate building cost. The selected families united together in an association called "l'Espoir" – or "Hope" – under the patronage of the CIRE. The families met at three workshops, after which a programme emerged for the future designers (an energy-efficient building using materials with low environmental impact). The building sale took place within the framework of part II of the contract for the "Fonderie-Pierron" neighbourhood. The fund acquired the land as the developer-contracting authority and the mortgagee. The future homes were to be sold at cost-price to the members of the de facto association "l'Espoir".

IN FIGURES

Gross area	1,833 m ²
Handover	End of 2009
Construction costs VAT/ grants excl.	1,150 €/m ²
Exemplary building grant	100 €/m ²



A SUSTAINABLE ARCHITECTURAL REPLY

SOCIAL – The project selected is a building with a wooden structure possessing seven lower-floor duplex apartments (Floors 0 & 1) and seven upper-floor duplex apartments (Floors 2&3). As a result, every home is on two floors and opens up on two sides (front and back), which gives them the spatial qualities of real maisonettes. This spirit can also be found in the way the facades are treated, by the use of distinctive colours and by the fact that the lower and upper floor duplexes are presented differently at the front and at the back; the lower floor duplexes have an individualised facade on the street side (composition & colour) and a neutral facade on the garden side, whereas the upper-floor duplexes have an individualized facade on the garden side (composition & colour) and a neutral facade on the street side.

ENVIRONMENTAL – A really unpleasant surprise awaited the stakeholders in the project as it soon as works began: the ground was polluted and all the land had to be treated... a stage which, of course, was completed successfully. The choice of materials was influenced by environmental aspects (renewable origins, grey energy, impacts on health, cost, installation, maintenance). With its PEFC labelled wooden frame and cellulose flake thermal insulation, the building makes very substantial use of ecological materials.

ECONOMIC – Given the project's very particular context, the challenge was to comply perfectly with the budgets initially announced. The architect's team together with all the other intervening parties permanent kept their hands on the wheel, despite the large number of unforeseen events and extra costs inherent to this type of project.

INHABITANTS COMFORT AS A PRIORITY

Using ecological materials (whose health attributes no longer need to be proven) was one of the primary concerns for users comfort. This has been materialized by staircases in solid wood from the Walloon region, blown-in cellulose, certified wood and linoleum. Special attention was paid to the building's acoustic aspects. Given its compactness, the confinement of spaces and the wooden structure, it was essential to design and build systems capable of limiting the transmission of noise between duplexes. As a result, the wood framework was doubled and separated over the whole width and height of the building. As well as this, facing walls were fitted between apartments that were fixed onto 'U' shaped metal plates fixed in turn to the OSB panels. This enabled the mass-air-mass system to be improved on party walls. The question of mobility has been perfectly integrated into the project. The project is located in a zone which is covered perfectly by public transport ("Comte de Flandres" Metro station (line1)). The ground-floor homes are accessible to handicapped persons.



ADDED EXTRA

Living in wood, why not live in trees? Nature is not only present in materials but in forms as well: the front facade will be covered by a tree hyper-structure intended to be overrun by deciduous plants (Virginia creeper and wisteria). This element plays a practical role in controlling exposure to the sun, but a symbolic role as well in reference to trees.... The layout for the entrances and the walls to the car park approach ramp also has links with nature via the dynamics formed by their shapes. All these elements form an organic context specific to the project.

