



Object description

Context:

This building is part of a retrofit and extension project of the offices of building company CIT Blaton. The old offices spaces, built in 1950 and extended a first time in the eighties, became too small before the start of the new millennium.

Program:

The old buildings were renovated to low energy standard, the parking lot behind the building was rearranged, and a new office building was constructed in passive standard.

Green building approach:

The total consumption of the building is very low. The new passive part only consumes 10 kWh/m².y, what corresponds to a reduction of 85%, compared to a conventional office building. Because of the advanced reduction in transmission losses because of an excellent insulation and air tight construction, a conventional heating system is no longer necessary. A small heating element in the ventilation air is enough, and the ventilation creates an exceptionally good air quality in the offices, independent of the number of employees working there.

During the summer, the office is cooled by night cooling. For that reason, the ceilings of the offices are unclad concrete, with the lighting elements hanging below the ceiling. The staircase is used as a chimney during the night, and can be opened at the top. An adiabatic cooling group completes the summer strategy, providing extra cooling during daytime.

Fact sheet

Office building in Schaarbeek, Brussels	
Treated Floor Area	825 m ²
Number of apartments	-
Completion date	2008

Energy standard [PHPP]

Heat requirement / year	10 kWh/m ² a
Heat load	10 W/m ²
Primary energy requ.	75 kWh/m ² a
Air-tightness (n ₅₀ -value)	0,44 1/h
Building type	Timber frame walls

U-value

Exterior wall	0,13 W/m ² K
Roof	0,12 W/m ² K
Basement floor / Floor slab	0,15 W/m ² K
Windows / average	0,63 W/m ² K

Specification ventilation system

Central ventilation and adiabatic cooling group

Heating installation

Domestic heating boiler (32 kW)

Construction costs	1000 Euro/m ²
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Building owner

CIT Blaton

Architect/Planner

A2M

Photo credits

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