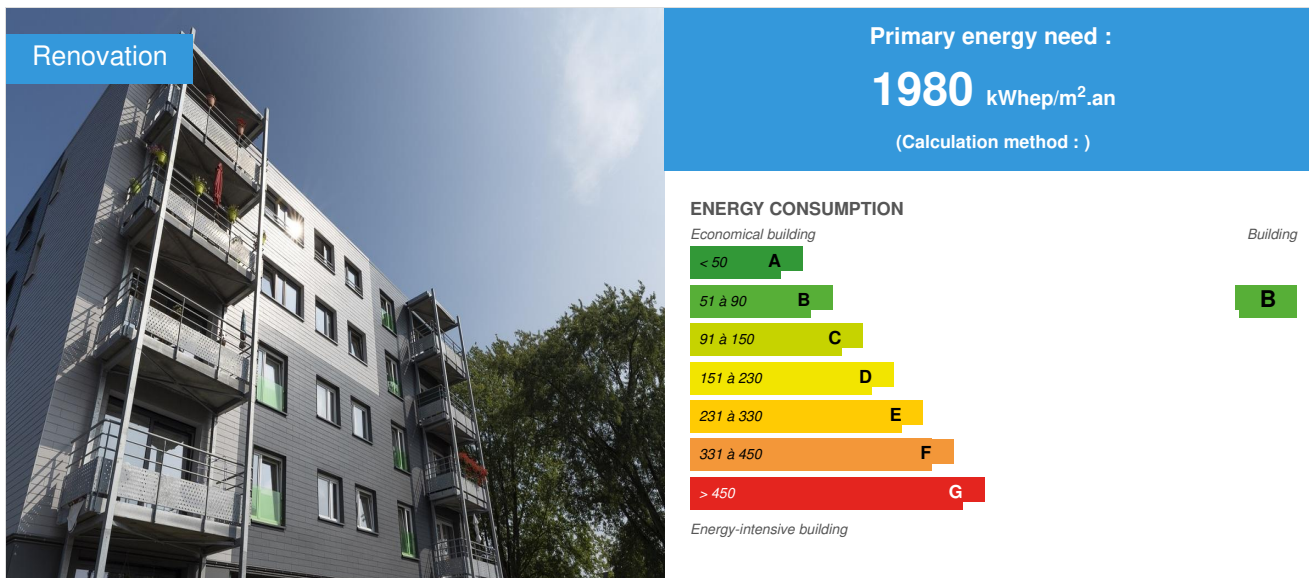


## RESIDENCES "4x20 "

by Eric TIMMERMANS / 2019-06-03 12:15:11 / Belgique / 5439 / FR



**Building Type** : Collective housing < 50m

**Construction Year** : 1980

**Delivery year** : 2018

**Address 1 - street** : Rue en BOIS, Rue PARADIS et Avenue de l'EUROPE 4040 HERSTAL, Belgique

**Climate zone** : [Cbc] Mild, dry winter, warm and wet summer.

**Net Floor Area** : 7 510 m<sup>2</sup> Other

**Construction/refurbishment cost** : 4 370 000 €

**Number of Dwelling** : 80 Dwelling

**Cost/m2** : 581.89 €/m<sup>2</sup>

### General information

Complete energy renovation of 4 x 20 PUBLIC HOUSING.

In addition to the installation of a new high performance envelope (WALLS, ROOFS, FRAMES) and the complete replacement of the systems (HEATING, SANITARY, VENTILATION and COMPLIANCE "PEOPLE WITH REDUCED MOBILITY" and ELECTRIC), each of the 4 buildings has registered in a search for a revaluation of the SOCIAL IDENTITY associated with PUBLIC HOUSING.

### Building users opinion

The MASTER OF WORK carried out a satisfaction survey, which resulted in a globally high satisfaction rate.

### Data reliability

Self-declared

### Photo credit

## Stakeholders

### Contractor

Name : Société Régionale du LOGEMENT de HERSTAL

Contact : M. Vincent LEJEUNE

<http://www.srlherstal.be>

### Construction Manager

Name : B.A.U.C. JOSSE et TIMMERMANS sc sprl

Contact : Melle JOSSE Stéphanie & M. TIMMERMANS Eric

<http://www.arsymbiose.be>

### Stakeholders

Function : Company

Assoc. Momentanée DUCHENE - HULLBRIDGE Associated

M. Julien HOURLAY

PROJECT MANAGER

### Contracting method

General Contractor

### Owner approach of sustainability

**COMPLETE and PERENNIAL RENOVATION of 4 PUBLIC HOUSING BUILDINGS (4 x 20):** - INSULATION OF EXTERIOR WALLS, with installation of a CLADDING that does not require any particular maintenance - INSULATION OF "CELLARS" FLOORS - ROOF INSULATION - FRAMES REPLACEMENT , DV - REMOVAL OF THERMAL BRIDGES induced by the REMOVAL of "CONCRETE" BALCONIES and their REPLACEMENT by new METALLIC ELEMENTS disassociated from the STRUCTURE- INSTALLATION OF NEW INDIVIDUAL BOILERS "CONDENSING GAS" - IMPLEMENTATION OF MECHANICAL VENTILATIONS, type C (mechanical extraction) - ELECTRICAL COMPLIANCE and FIRE, with installation of LOW CONSUMPTION devices in common areas - COMPLIANCE "PEOPLE WITH REDUCED MOBILITY"

### Architectural description

In addition to the desire to meet a significantly improved energy performance, the project wanted to give these public housing projects a new architectural identity. It is reflected in particular by an architecture symbolically inspired by the industrial past of the CITY of HERSTAL, presenting "structured" panels and balconies. The tones are intentionally sober but varied, each building being aesthetically differentiated (shade of cladding, colors of some glazed elements).

## Energy

### Energy consumption

Primary energy need : 1 980,00 kWhep/m<sup>2</sup>.an

Primary energy need for standard building : 2 600,00 kWhep/m<sup>2</sup>.an

Calculation method :

CEEB : 0.0001

Initial consumption : 6 000,00 kWhep/m<sup>2</sup>.an

### Envelope performance

Envelope U-Value : 0,50 W.m<sup>-2</sup>.K<sup>-1</sup>

Building Compactness Coefficient : 1,40

## Renewables & systems

## Systems

### Heating system :

- Condensing gas boiler
- Water radiator

### Hot water system :

- Condensing gas boiler

### Cooling system :

- No cooling system

### Ventilation system :

- Single flow

### Renewable systems :

- No renewable energy systems

Possibility of PHOTOVOLTAICS for common.

### Solutions enhancing nature free gains :

No Modification of the Envelope

## Smart Building

### Users' opinion on the Smart Building functions :

Access management connected with PROJECT OWNER (Access by Badges)

## Environment

### Urban environment

Set of PUBLIC HOUSING in a PERI-URBAN ENVIRONMENT DENSE

Built-up area : 375,00 %

## Products

### Product

INSULATION - WALL

IKO INSULATIONS bv

IKO nv d'Herbouvillekaai 80 B – 2020 Anvers Tel.: +32 (0)3 248 30 00 Fax: +32 (0)3 248 37 77

<https://be.iko.com/fr/>

**Product category :** Table 'c21\_italy.innov\_category' doesn't exist SELECT one.innov\_category AS current,two.innov\_category AS parentFROM innov\_category AS oneINNER JOIN innov\_category AS two ON one.parent\_id = two.idWHERE one.state=1AND one.id = '6'

PIR / ENERTHERM Alu - 10cm

lambda: 0.022

ACCEPTED by project owner



INSULATION - ROOF

UNILIN

Unilin, Ooigemstraat 3 8710 Wielsbeke Belgium T 32 56 67 52 11 BE 0405.414.072 info@unilin.com

<http://www.unilin.com/fr>

**Product category :** Table 'c21\_italy.innov\_category' doesn't exist SELECT one.innov\_category AS current,two.innov\_category AS parentFROM innov\_category AS oneINNER JOIN innov\_category AS two ON one.parent\_id = two.idWHERE one.state=1AND one.id = '7'

PIR / UNILIN UThERM FLAT ROOF - 14cm

lambda : 0.022

ACCEPTED by project owner



ISOLATION on CAVE

KNAUF

Rue de Maestricht 95 4600 Visé Belgium

<https://www.knaufinsulation.be/fr>

Product category : Table 'c21\_italy.innov\_category' doesn't exist SELECT one.innov\_category AS current,two.innov\_category AS parentFROM innov\_category AS oneINNER JOIN innov\_category AS two ON one.parent\_id = two.idWHERE one.state=1AND one.id = '6'

LM / FIBRAROCK A2 35 Clarity - 13.5cm  
lambda: 0.035

ACCEPTED by project owner



## Costs

### Construction and exploitation costs

Reference global cost : 4 200 000,00 €

Reference global cost/Dwelling : 4200000

Cost of studies : 150 000 €

Total cost of the building : 4 370 000 €

## Health and comfort

### Indoor Air quality

HOUSING INSTALLATION of a COMPLIANT MECHANICAL VENTILATION SYSTEM

## Carbon

### GHG emissions

GHG in use : 450,00 KgCO<sub>2</sub>/m<sup>2</sup>/an

Methodology used :

PEB - Walloon Region

GHG before use : 1 630,00 KgCO<sub>2</sub> /m<sup>2</sup>

Building lifetime : 80,00 an(s)

, ie xx in use years : 3.62

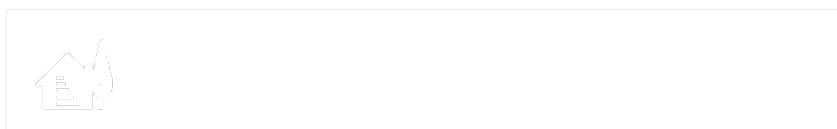
## Contest

### Reasons for participating in the competition(s)

BUILDINGS WITH LOW HEATING REQUIREMENTS thanks to the installation of a new insulating envelope (reduced by more than 50%), which are individually insured by means of HEATING PRODUCTION TECHNIQUES with high efficiency (NATURAL GAS, CONDENSATION system). An individualized MECHANICAL VENTILATION ensures in each dwelling the EXTRACTION of STALE AIR, ensuring de facto an optimal comfort for the residents.

This heavy energy renovation optimally combines high level of thermal performance with real ease of management and use by the occupants.

### Building candidate in the category





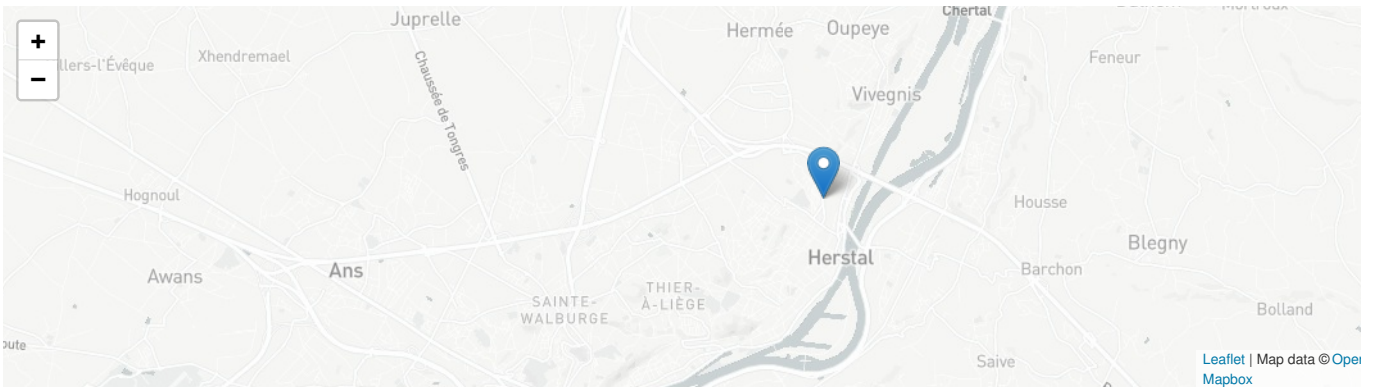
Energie & Climats Tempérés



Santé & Confort



Prix du public



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