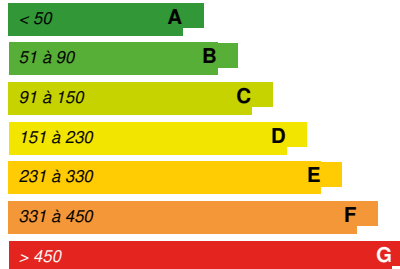


"Les Fuschias" Residence

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Building Type : Collective housing < 50m
Construction Year : 1957
Delivery year : 2018
Address 1 - street : 46-54 rue des Panoyaux et 95-97 rue des Amandiers 75020 PARIS, France
Climate zone : [Cfb] Marine Mild Winter, warm summer, no dry season.

Net Floor Area : 15 479 m²
Construction/refurbishment cost : 3 850 000 €
Number of Dwelling : 231 Dwelling
Cost/m2 : 248.72 €/m²

General information

Renovation of 231 homes // Reuse and Recycling of the deposited materials: 80% of the reused building waste, energy needs of the building divided by 3.

The siding of the residence, laid in the 90s, showed signs of aging that led Elogie-Siemp to anticipate its replacement. It was an opportunity to aim for enhanced performances and to achieve on this residence the objectives of the Climate Plan of the city of Paris. The replacement of the cladding and the installation of a reinforced insulation were thus supplemented by a repair of the watertightness, allowing to treat the 5th facade thermally, and by the replacement of the boiler room and the ventilation system to ensure, at the same time as reduced consumption, better thermal comfort to the inhabitants.

These interventions made it possible to divide by 3 the energy consumption of buildings.

To this energy ambition, was added an ambition on the reduction of the waste related to the building site, which allowed to reach the 80% of reuse or recycling of the deposited materials.

Sustainable development approach of the project owner

Élogie-Siemp, natural partner of the City of Paris and the local authorities of Ile de France where it is located, was very early engaged in a policy of sustainable development. As part of its activity, Élogie-Siemp is fully in line with the objectives of the New Climate Plan Air Energie of the City of Paris and participates in producing new high-performance buildings and improving its fleet. In 2018, the strong commitment of the company alongside the City of Paris for a future carbon neutral and 100% renewable energy by 2050 resulted in the signing of the "Gold" level of the Paris Climate Action Charter .

Architectural description

Replacement of the existing cladding (installed in the 90s), roof waterproofing, reinforced insulation of facades and roofs, replacement of the collective boiler and installation of a hygro ventilation system.

The rehabilitation of the residence will continue in a next phase with the rehabilitation of the common areas and a revision of the sanitary facilities.

If you had to do it again?

The approach can only be reproduced under certain conditions, with sufficient space to allow the packaging and storage of the materials to be re-used.

It should be possible to better involve the inhabitants of the residence concerned: the management of construction waste can be of exemplary value, with an analogy on the management of household waste; One could also imagine setting up a construction site resource, to show that rehabilitation can be a mine of materials and not just a producer of waste.

Reuse channels should also be identified further upstream to ensure coordination between the needs of potential re-users and the resources of the site to be re-employed; this would shorten the site preparation period during which Bouygues and Élogie-Siemp looked for ways to reuse and recycle materials.

The development of the circular economy and the re-use of materials is an important lever for reducing our environmental footprint and we continue to be ambitious about the waste management of our activities: other "exemplary" operations will bring this thematic in a form of routine of site management.

See more details about this project

<https://www.legestedor.com/annuaire-des-primers/rue-des-amandiers-rue-panoyaux-paris-paris-2018/>

<https://www.construction21.org/france/articles/fr/green-solutions-reemploi-et-recyclage-pour-la-renovation-de-la-residence-des-fuchias.html>

Photo credit

Élogie-Siemp and Bouygues Building Ile-de-France Habitat Rehabilitated, except "ephemeral grocery" (France 3 Ile de France)

Stakeholders

Contractor

Name : Élogie-Siemp

Contact : Lionel MURE, Politique Environnementale et Innovation Technique

<https://elogie-siemp.paris>

Construction Manager

Name : SECC

Contact : Nicolas COTRIC

<http://www.secc-france.com/>

Stakeholders

Function : Company

BOUYGUES BATIMENT ILE DE FRANCE HABITAT REHABILITE

Caroline CATELAIN, Chef de service commercial.

<http://www.bouygues-batiment-ile-de-france.com/rse>

The main company was the major player in the reuse process on this site, organizing facilities and operating procedures and prospecting partners to find ways to reuse the deposited materials.

Function : Company

ECOTEC

Tommy SEIDL, Chargé d'affaires travaux & Gaëlle VINCENT, Chargée d'affaires environnement

<http://ecotec-bet.com/>

MOE Chauffage & Ventilation, Ecotec emphasizes the good coordination of the co-contractors to adapt the heating schedule to the progress of the works, as well as the good management of the reuse of waste, which did not delay the overall time.

Function : Company

FGE

M. CHIBIKH - info[at]fge-idf.fr

Coating Sealing

Function : Company

MTO

Kamall FETTOUCHI & Julie BOULHAUT

<https://atalian.com/?lang=fr>

Co-contractor Heating-ventilation

Contracting method

General Contractor

Type of market

Energy

Energy consumption

Primary energy need : 79,00 kWh/m².an

Primary energy need for standard building : 130,00 kWh/m².an

Calculation method :

Breakdown for energy consumption : Communal heating Hot water

Initial consumption : 231,00 kWh/m².an

Real final energy consumption

Final Energy : 79,00 kWh/m².an

Envelope performance

Envelope U-Value : 1,20 W.m⁻².K⁻¹

More information :

Laying a new cladding on 22cm rockwool insulation (R = 6.95)

Renewables & systems

Systems

Heating system :

- Condensing gas boiler

Hot water system :

- Condensing gas boiler

Cooling system :

- No cooling system

Ventilation system :

- Humidity sensitive Air Handling Unit (Hygro B

Renewable systems :

- No renewable energy systems

Other information on HVAC :

Use of low pressure ventilation system which allowed to reuse the existing natural ventilation ducts.

Environment

Urban environment

Land plot area : 4 800,00 m²

Built-up area : 34,00 %

Green space : 456,00

The residence, located in the district of Ménilmontant (75020), is composed of 3 parallel buildings which, with the adjoining buildings, make up 3 closed interior courtyards. It is this disposition which made it possible, by using part of the courtyards, to organize the sorting and storage of deposited materials awaiting reuse on other sites.

Products

Product

Reusing materials for the manufacture of furniture

Initiatives solidaires

Marie Lucie SCIARLI, Directrice

<https://www.initiativesolidaires.com/>

Product category : Aménagement extérieurs / Déchets : collecte & valorisation

The Initiatives Solidaires association, based in Aubervilliers (93), aims to fight against precariousness and exclusions in Seine-Saint-Denis by offering a professional activity and social and professional support to people in situations of exclusion.

The various materials recovered on the site (wooden battens, aluminum plates and cladding boards) can be used to manufacture the various pieces made in the workshops of the association. Today, the association equipped with benches a Bio restaurant, Foodentropy, located in Nanterre (92), it also realized the development of upcycling shop and engaged design "Rangoli Street" in Paris (75) , but also stools, benches, custom furniture ...

The careful removal of the old facade materials allowed their reuse, in a circular economy approach and solidarity.

Adaptation of the site organization (removal, storage) to ensure the re-use of materials.

Initiatives Solidaires has storage facilities that allow it to accommodate reusable materials while waiting for a re-use opportunity, even if it does not coincide with the schedule of the removal site.

Recycling of glass wool

ISOVER recycling (groupe SAINT GOBAIN)

François PINCEMIN

<https://www.isover.fr/services-aux-pros/isover-recycling>

Product category : Second œuvre / Cloisons, isolation

Test and validation of a recycling process for glass wool.

Since this test site in 2017-18, Isover has continued this collection and recycling of used glass wool in Ile-de-France and the South East.

Adaptation of removal and packaging of deposited glass wool.

Instead of disposing of waste in a skip, they are sorted and compacted to allow transportation to the recycling site.

Product category : Aménagement extérieurs / Déchets : collecte & valorisation

Reuse of materials for the construction of a solidarity grocery store

YA+K

<http://www.yaplusk.fr/>

Product category : Aménagement extérieurs / Déchets : collecte & valorisation

YA + K, located in Bagnolet (93), brings together architects and urban planners who make available their know-how and skills to develop innovative urban and architectural projects paying particular attention to the circular economy and solidarity.

Our rehabilitation project was a mine of materials for their solidarity grocery project in Bagnolet: reuse of cleats, hardware and insulation boards.

The materials, carefully deposited by the workers of Bouygues Bâtiment Ile-de-France Habitat Rehabilitated, had a second life for the development of a grocery store "Epicerie Ephemeral", still in activity today.

Reuse of glass wool

Emmaüs Solidarité

<https://www.emmaus-solidarite.org/>

Product category : Aménagement extérieurs / Déchets : collecte & valorisation

Reuse in the state of the plates of wool of glass deposited with care, for the insulation of a center of lodging in Paris, 75018.

Costs

Construction and exploitation costs

Cost of studies : 146 485 €

Total cost of the building : 4 208 235 €

Subsidies : 1 493 064 €

Carbon

Life Cycle Analysis

Eco-design material :

Re-use of waste, 80% of which has become a raw material:

- 7000 m² of cladding boards,

- 7000 m² of glass wool
- 6000 linear meters of wooden battens,
- 6500 linear meters of aluminum profiles.

Reduction of the environmental footprint:

- 20 tons of preserved sand,
- 64 tonnes of carbon trapped in carbon sinks,
- 95 trees preserved,
- 80 tons of carbon emissions avoided.

Contest

Reasons for participating in the competition(s)

The group of companies presented by Bouygues Batiment Ile de France Habitat Rehabilitated has proposed, in its technical brief, to meet the environmental specifications of the operation with a reinforced action on the reuse and recycling of materials. The multi-criteria analysis of the applications that led to the selection of Bouygues Bâtiment Ile-de-France Rehabilitated Homes, Project Owners and Businesses focused during the preparation phase on identifying reusable materials and looking for partners for the reuse and recycling of these materials.

Results: 80% of the site waste reused. 65% reduction in the consumption of the residence.