Savonnerie Heymans, Brussels, Belgium

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Maître d’ouvrage | Client: CPAS de Bruxelles

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Savonnerie Heymans is an award-winning housing development in Brussels. It is situated in the west of city centre on the 6,500 m² site of a former soap factory and serving as an example of the “urban revitalization” policies practiced by the communities of Brussels since the 1990s. The focus of these public actions, in terms of sustainable development is recycling of the old industrial buildings into lofts and requalification of public spaces [1]. Three original buildings, a postal station, the old administrative building of the soap factory and a five-storey warehouse, were preserved and refurbished. The project has created a new neighborhood of 42 low-energy (48 kWh/m²a heating demand) social accommodations of various types.


Photographie du projet | Picture of the project
Plan de situation | Site plan

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Le nord et une échelle graphique seront indiqués sur les plans.

The north and a bar scale will be shown on the plans.
1. SIA 1.2.1 - PLACE IDENTITY (SOCIAL)

Place identity provides individual identity and encourages responsibility vis-à-vis the environment and other citizens. A new building can enhance or, conversely, threaten this atmosphere [2, p. 21]. The development of the Savonnerie Heymans in a dense area of central Brussels, is done with strong attention to the notion of place identity and historical context of the project. It recycles a former soap factory, retaining the industrial flavor of the place, which dates back to 18th century and turns it into a residential neighborhood with a careful juxtaposition of the old and the new. The newly built, renovated and restructured buildings interact harmoniously with one another [3]. Saving what they could, the architects renovated two existing structures; the former post office and the offices of the soap factory that house 10 dwellings of small studio flats, supplemented with four new buildings, adding 32 living spaces. To preserve the Savonnerie's sense of place, the architects incorporated various remnants of the factory's industrial heritage. The most prominent, a 131-foot-high brick chimney, rises amid the metal stairways and bridges linking the apartment buildings around it. More than a relic, it is now used to ventilate the underground garage. Similarly, a warehouse from the 1950s was largely demolished to create a playground with a viewing platform. Its surrounding walls were lowered from 33 to 10 feet high, and sections of the old steel beams were preserved as visual artifacts [4].

2. SIA 1.1.3 - SOCIAL CONTACTS (SOCIAL)

According to SIA recommendations maintaining social contacts and mutual accountability stimulates the formation of strong social networks. While it is impossible to force social contacts, certain forms of spatial organization can facilitate it (spatial quality, attractive landscaping with opportunities to sit down, … ). Semi-public spaces such as service areas, outdoor spaces and common areas particularly provide opportunities for these social contacts [2, p. 18]. This is very much the case of Savonnerie Heymans where different kinds of common areas are provided. Several functions have been integrated into the project to enhance social cohesion and interaction among the inhabitants of different blocks [5]. Upon entering, the visitor discovers immediately a mini-forest, a contemplative place that brings a natural atmosphere. Pursuing the way, the space opens up into a large rectangular courtyard designed as a sort of main plaza, lined with buildings, equipped with quality furniture inviting the passer-by to linger, sit down and socialize with others. Moreover a the common laundry space, a playground for the children and a belvédère on the roof reinforce this aspect.

3. SIA 1.2.2 - INDIVIDUAL DEVELOPMENT, PERSONALISATION (SOCIAL)

The focal point of the design was the variety of the apartment’s typologies and open spaces. This social housing complex is consisted of studios, apartments between one and six rooms, lofts, maisonettes, as well as – in the former postal station – triples storey row houses. The apartments can be accessed in different ways: directly from the outside, from the private stairways from the ground level, by the public stairways or the open walkways. This heterogeneity in the program resulted in significant presence of semi-private spaces that characterize the residential area. The variety of buildings and the variety of accessibility of the apartments allow the project to suit a range of people’s needs and help the residential area to accommodate changes in use over time [6]. A vide range of apartments with the occupants of diverse age created a neighborhood with a strong intergenerational diversity. “Intergenerational relations are a part of our social identity. They have material effects on the experiences and quality of life of older and young people in particular settings, and important implications for community cohesion”[7]. Three generous courtyards, each different in character allow for the open spaces to be occupied by different age groups. Also, proximity, openness and visibility of the semi-private spaces such as balconies and terraces which act as “soft edges” create conditions for the process of personalization to take place”[2, p.18]. The importance of these semi-private spaces is that they provide spaces for people to interact by keeping people out of doors for a longer duration than a purely public or purely private space”[8].
4. SIA 3.2.1 - HEATING/COOLING NECESSITIES (ENVIRONMENT)

The complex is in general low-energy rated except the lofts' building which is passive. Energy efficient measures of the building envelope are: renovation and insulation of all façades (14cm of hemp fiber or cellulose insulation), insulation and weather-proofing of the roof and the green roof, efficient windows and glass-enclosed bio climatic loggias. The loggias provide each housing unit a thermal and acoustical barrier which do not require any expensive or complicated service to run and lower considerably the energy consumption. A total number of four ventilation systems with double flow heat recovery provide the apartments with fresh air. The heat is supplied by a central gas condensation boiler (120 kW) and a small gas combined heat and power station (37 kW thermal and 17 kW electrical) [9]. Additionally 36 m2 of integrated solar collectors cover 30% of hot water demands. With all these construction and technical measures, the heating demands in the residential area is reduced to 49 kWh/m2a, which is significantly below the Brussels's average value of 150 kWh/m2a [5].
Aspects in contradiction with sustainable development principles

1. SIA 3.2.4 - MOBILITY (ENVIRONMENT)
According to Institute Bruxellois pour la Gestion de l’Environnement (IBGE) majority of the trips in Brussels are relatively short:
25.4% of all trips are less than 1 km.
50% are less than 3 km.
62.2% are less than 5 km.
These figures show that for most trips there is a real potential for public transport, cycling or even walking [10]. However, the Savonnrie Heymans project underestimates this potential and proposes a large underground parking area with 45 parking places for the total number of 42 households among which 10 are small studio apartments with one or maximum two residents. Eventhough the location of the project is quite central (10 minutes walk from the center of the city, Grand Place) and the city of Brussels in general is quite well served with public transport, the project pre-supposes and promotes a dominant use of car as an individual means of transport. Over-building of parking supply leads to increased automobile ownership, vehicle miles traveled (VMT), congestion and housing costs. In addition, it presents barriers to smart growth and efficient transit service [11].
Apart from the over-sized car parking, the bike parking provided for the complex is quite modest. The 60 m2 area is insufficient for the total number of inhabitants (less than a bike per household) and potential visitors, while the complex includes bigger apartments with up to even 6 rooms, housing families with children. Moreover, the project neglects the actual recommendations on making accommodation for future charging sites for electric or other alternatively fuelled vehicles [12].

2. SIA 1.1.1 – INTEGRATION, DIVERSITY (SOCIAL)
Neighborhoods characterized by a demographic mixity as well as a social and commercial infrastructure with a good balance of different functions (residential, commercial and offices) generally have a high stability and a high potential for flexibility [2, p.16]. Despite the very good intergenerational mix of the residents, thanks to the different housing typologies, the Savonnrie Heymans is not very well integrated within its district context. A physical barrier separates the common areas of the project, like the park and internal roads from the streets. Creating gated community effect, it reduces down the number of random visitors to those who dare to pass through the main entrance door. Gated communities are residential areas with restricted access where access is controlled by physical barriers, gated or guarded entrances and are retrofitted with barricades and fences [12]. On the other hand, the project remains 100% residential and does not integrate any additional functions, like small shops or cafeteria as meeting points which could have guaranteed a better balance and help the integration into the urban context [13].

SIA 112/1 - CRITERIA 3.2.4 – MAXIMUM USE OF RENEWABLE ENERGIES (ENVIRONMENT)
Although the project made a significant step ahead in the terms of energy conservation the whole residential area still depends strongly on a non-renewable energy sources. In January 2007 the European Union presented the document entitled “Renewable Energy Roadmap — Renewable energies in the 21st century: building a more sustainable future” [14]. The document showed that the intention of the EU to cover 20% of the fundamental energy need with renewable energies by 2020 was appropriate and achievable objective [15]. Another, more challenging study commissioned by the four Belgian ministers in charge of energy set a goal for Belgium to develop a 100% renewable based national energy system by 2050 [16]. Regarding these objectives the solar collectors of the Savonnerie Heymans housing of the total area of 36 m2 covering only 30% of the hot water demand is insufficient in the long terms. According to the APERe (Belgian Renewable Energy Association) the solar power installed in Belgium raised from 635 MW in 2009 to 2.567 MW in 2012 [17]. This showed the significant expansion of the solar energy use in Belgium in the past few years. It is clear that because of the changing meteorological conditions, systems operating only on solar energy cannot produce the whole energy output. Still, having in mind the fact that the efficiency of the PV panels is presuming to increase by 20% over the next 50 years and the growing interest for the PV panels we can conclude that of the main disadvantages of the Savonnerie Heymans project is the absence of bigger concern in the solar energy potentials trough the installation of photovoltaic systems for the electricity requirements.
4. SIA 3.4.2 – PROVIDE AN INFRASTRUCTURE FOR THE SORTING OF WASTE (ENVIRONMENT)
The European Union Waste Framework Directive 2008 [18]. According to the “Lansink scale”\(^2\) is giving a priority to sorting and recycling when prevention and reuse are not feasible. The Brussels waste policy [19] is in accordance with these objectives while the regional agency for waste “Bruxelles Propreté” has different branches for waste management (compost, recycling, paper, energy and soon biogas). Still, the Savonnerie Heymans project is lacking a concern for the sorting of household and green waste. Having in mind the big parking area in the basement the lack of space cannot be a reason for neglecting this aspect. There is no waste sorting room neither a separate space specially dedicated for discarding bulky and electronic waste [20]. On the other hand, although there was a significant reuse of the existing materials during the construction process, the absence of prefabrication process increased the construction waste. Architects, in the design process, could play a role of a middle man between the waste system and their tenants. This gives them the responsibility to facilitate and improve the way of sorting the waste making the project more sustainable.

2. Lansink’s Ladder is a waste management standard named after the Dutch politician Ad Lansink.
Located in the centre of Brussels, Savonnerie Heymans is a social housing development constructed in 2011. Numerous awards in the field of sustainability show its strong connection with contemporary environmental issues. The strongest points of the project lie within the social domain of sustainable development guidelines. As already mentioned in the first chapter, the architects have paid with strong attention to the notion of place identity and historical context of the project. By keeping the flavour of the place and focusing on the open spaces created by the demolition of the ancient soap factory, MDW Architecture studio created a positive ambiance for social interactions within the neighborhood. Diverse apartment typologies and the diversity of semi-public spaces are favorable in the terms of personalization of space and individual development of residents. On the other hand, intergenerational and demographical diversity is encouraged only within the boundaries of the Savonnerie Heymans residential area. The project is simulating an island in the city since a physical barrier separates it from the urban tissue. This hinders the integration of the residential area into its larger context and creates a “gated community” effect and reduces the number of random visitors. Regarding the environmental aspects there are several shortcomings; the infrastructure for the sorting of waste is highly neglected and the big parking area gives priority to the use of automobile. Although the project is low-energy rated, it lacks bigger concerns for the use of renewable energies and will face difficulties to adapt to new and highly challenging tendencies of the City of Brussels in the terms of sustainable development. This demonstrates the necessity to take into consideration the bigger context of the project and its specific demands and future perspectives. Every project being built in Belgium today should target towards the general ambition of Belgium to develop a 100% renewable based national energy system by 2050.

Références | References

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