



Art Nouveau meets passive house

Brussels is regarded as the home of art nouveau, and it is now also home to what is probably the first art nouveau house with passive certification. The building was constructed by R2D2 Architectes in the suburb of Ixelles. It is the first social housing building to meet these energy criteria.



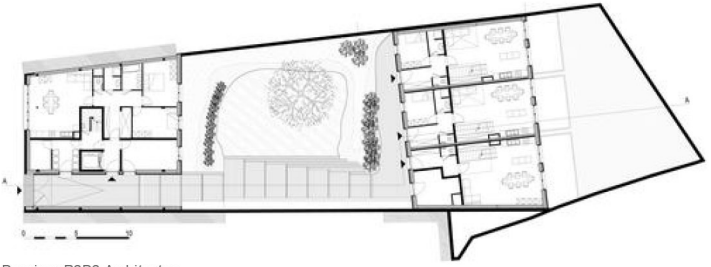
Ixelles lies south-east of the centre of Brussels and is known for its well maintained art nouveau-style housing. Among these streets is the Rue de la Brasserie, which forms an unusual block of streets with Rue Gray and the Avenue de la Couronne.

Where the new building now sits there was once an empty space, which served as an entrance to the block with its rear buildings and small shops and ateliers. R2D2 adopted the style of the surrounding streets, dividing the space between a five-storey main building and a two-storey rear building with a shed roof. The ground floor of the main building still has an entrance free that leads to the inner courtyard and the rear building.



Together, both buildings contain 12 apartments with 30 rooms. The three maisonette flats in the rear building, with four apartments each are the largest. The main challenge for the architects was to integrate the new building as seamlessly as possible into the art nouveau street frontage. They did this with a multi-level facade: the wood/brick facade is set back a metre from the streetscape, leaving room for narrow balconies. These are then enclosed by metal bars at the front, in keeping with the art nouveau style of the surrounding buildings.

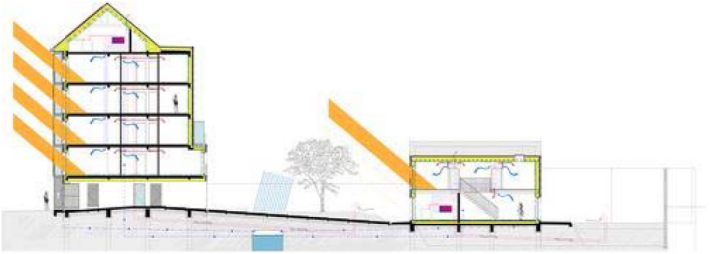
Art Nouveau meets passive house -



Drawing: R2D2 Architectes

As the street facade is south-facing, this is where most of the living rooms are situated; the bedrooms are on the quiet, shady courtyard side. This makes sense from both the noise protection and the interior climate perspective.

With insulation reaching 30cm for the facade, 20cm for the floor and 40cm for the roof, the building has achieved the passive house certification. In order to maximise the thermal storage, as well as keep the 'grey energy' levels low, the architects opted for an unusual material combination: the main support is made of concrete, while the non-supporting wall and facade elements are made of wood. On top of this, the facades also received a brick layer to protect from the weather.



Drawing: R2D2 Architectes

The building is heated solely via supply air. A central air conditioning unit with heat recovery is hooked up to a heating supply that heats the supply air in the winter and cools it in the winter.

