



# Social housing neighbourhood renovation

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## Introduction

Zonnige Kempen is a social housing company in the province of Antwerp that improves the living conditions of people in need of housing by providing a sufficient supply of social housing plots and high-quality housing in its area of operation. The company builds and renovates social and modest rental and owner-occupied homes. It acquires land and buildings for this purpose and also helps to upgrade the housing stock. To this end, this company works closely with all the authorities involved, in particular local ones, as well as tenants and buyers and the other social housing companies.

Zonnige Kempen pays particular attention to the impact of social housing on both the community and the environment. This is why it strives to create a liveable and vibrant living environment.

For example, it takes account of the social mix and spatial quality. The communal indoor and outdoor spaces encourage involvement and offer opportunities for community initiatives. Zonnige Kempen also aims to stand out for its ecologically responsible, economical and efficient policies. It pays special attention to the building environment, uses sustainable technologies and also sensitises its residents and staff to sustainable working and living.

Zonnige Kempen targets socially vulnerable tenants and buyers, and tenants with limited resources. That is why it wants to stand out with a social and fair policy tailored to the needs of the different users.

One of Zonnige Kempen's innovative projects is the renovation of the Vinkenhof neighbourhood.



The Vinkenhof project involves a neighbourhood with social housing in need of renovation, similar to what is still found in many neighbourhoods in Flanders. Zonnige Kempen wants to pass on the lessons learned from this neighbourhood renovation to other social housing companies.

The project involves the dynamic renovation of 52 single-family homes in the social residential area Vinkenhof in Berlaar. Two houses in this neighbourhood have already been renovated as a test case. The houses to be renovated are part of a larger residential area with social housing, some of which are now privately owned. These privately owned homes are not part of the renovation project.

The existing building envelope of the houses will be insulated and refinished. The façades will be finished with circular cladding (disassembled and reused). This external insulation and new cladding will not exceed the building line by more than 23 cm.

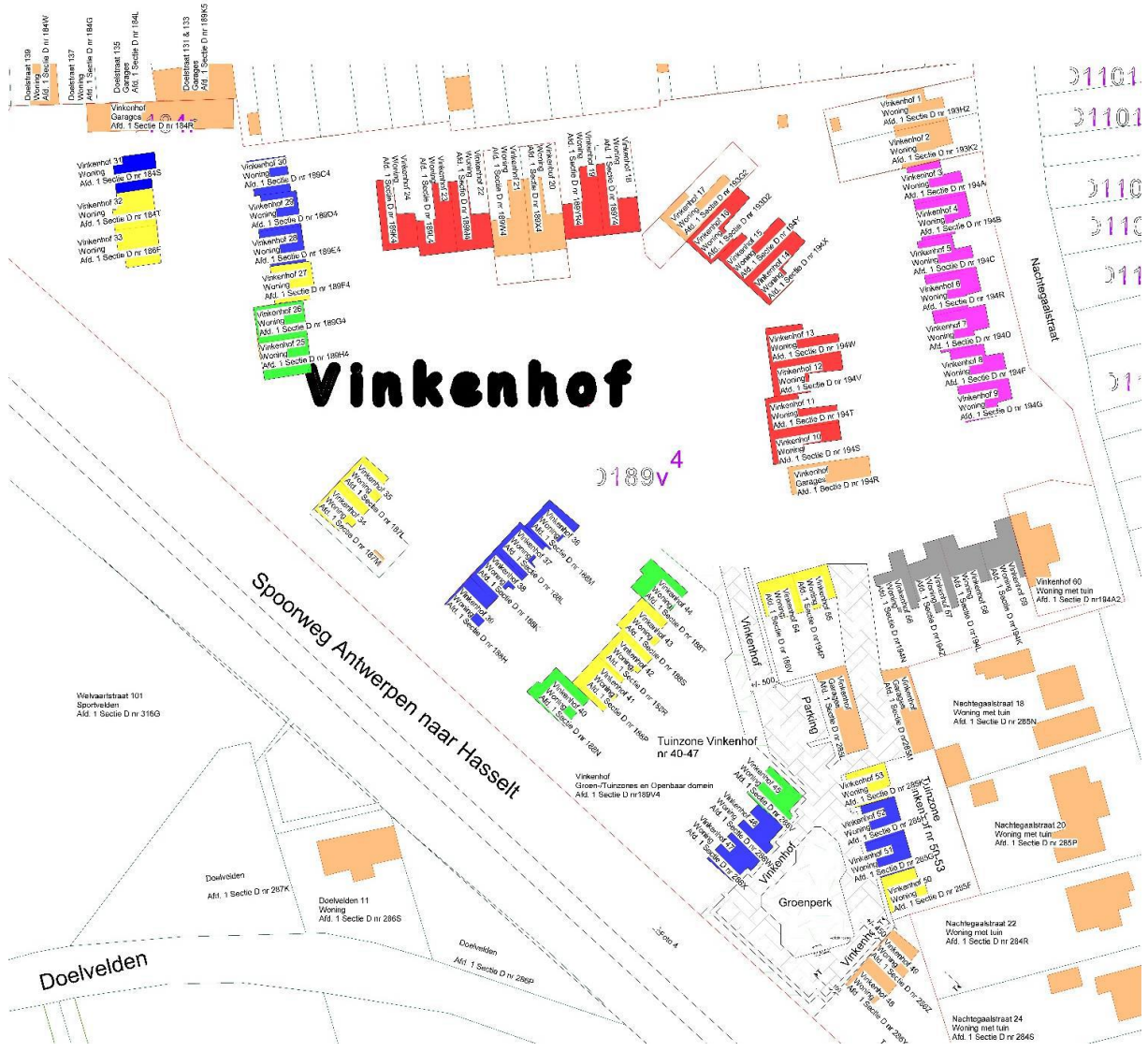
The finish is done with panels that are fastened with screws (not glued). To give this an orderly appearance, it is important that the screws can be placed at regular intervals, both horizontally and vertically. The panels are easy to replace and/or reuse. For these two demo homes, the panels were sawn on site, which produced a lot of sawdust residue. The next 50 homes will be digitally measured to prepare a sawing plan so there is no (or at least much less) sawing waste. The sawing will also be done by a CNC machine in the factory, so there will be much less waste on-site. This requires a little more logistical capacity (reading, stocking, numbering).

The roofs are raised: after insulation using the sarking principle, they are covered with partly recycled and partly new ceramic roof tiles because of their maintenance-free and durable character. Sarking insulation is usually made of rigid insulation boards that are applied to the rafters or trusses and is often used in renovations. The insulation is applied on the outside. The major advantage of this is that the roof can be renovated without having to remove the interior finish. If desired, the trusses can also remain nicely visible, with the interior finish applied between the trusses. As a result, no space is lost under the roof, as is the case with internal insulation.

The external joinery will be replaced and made of enamelled aluminium with double glazing and ventilation grilles where necessary (RTO: system C).

The reconstruction of the surfacing (around the houses due to perimeter insulation) will be carried out with the existing (reused) materials and will remain limited in area, and the existing terrain passes will be retained. The vowels all around will be broken out and re-rounded so that there is no visible difference in colour or wear.

A number of the exterior doors will be replaced by windows as the additional insulation would leave an insufficient door width/opening. The garage and storage room will only be used for storage as most users no longer park their cars in it, and this will also improve the comfort and airtightness of the home. The garage door assembly is therefore also given a different interpretation.



### Procurement process

The traditional tender for the Vinkenhof district renovation was awarded on the basis of price, but also on the basis of the circular design.

The circular approach (both in Vinkenhof and in the office) is actually always agreed in mutual consultation. To date, we have not yet scored a circular approach in a procurement procedure because we have not yet found a good grading system. This approach (of mutual consultation and communication) works very well, but unfortunately it is not sustainable if we want to scale up.

For example, in the circular design that won the tender, skirting boards were used all the way around for the engineering, and the floor was only broken out and replaced locally. The joinery is carried out in collaboration with a technical

school: conservatories are made from old joinery. The original roof tiles are reused.

### Results

There is no real calculation for the Vinkenhof project.

The major gain is in the fact that the buildings are being reused. The CO<sub>2</sub> savings will be measured in terms of the mass of a building that is not demolished.

The impact has yet to be calculated. The biggest saving is in leaving the hull in place and retaining as much material as possible (walls, tiles, roof wood, floor tiles, techniques,...). The comparison should be made between:

- Option 1: demolition and new construction, which means a lot of waste and loss of embedded energy on the one



hand, and a lot of energy for making new materials on the other.

- Option 2: preserve as much as possible and only use energy to produce the added materials

'The journey of the brick is more important than the material itself' (Joris Van Der Flaas).

The calculation will be finished around April 2023.

## Lessons learned

- First tackle two (vacant) homes as a demo/trial before scaling up to the entire neighbourhood.
- Try to destroy as little as possible.
- Make sure your architect is part of your story. Adapt the design to accentuate new materials where asbestos has been removed, for example, or adapt for joinery.
- Mutual consultation: As we do not work with a circular checklist, mutual consultation (as mentioned above) is very important. The construction team must be convinced of the added value. The architect plays a decisive role in this construction team, which is why we first focused on a way to ensure that in all construction teams in the coming years, the client (us) and the architect are convinced of circular construction and try to use this way of thinking as much as possible in innovative ways and have it trickle down into a business-as-usual approach. Ideally, we would not draw up specifications but a list of requirements. However, this is very difficult to assess objectively.
- Point of attention: Guarantee that materials will be reused (e.g. roof tiles) and contractor responsibility. This is now taken care of by the developer of Zonnige Kempen, so the contractor does not take any responsibility, while he can estimate the quality of the recycled material.