

A Westland office Böhtlingk

The very first phase, the design process, was the best time for exploring the opportunities for developing a sustainable and well considered concept for the new head office of Rabobank Westland. The architect, construction and installation adviser and the contractor entered into discussions to that end at an early stage. After the basic shape had been designed, all

the parties worked together on one integrated design. They decided on a building with a 'calm' natural climate, without any obtrusive machinery. At the same time, the architect brought some variation to the 'skin' of the office building by looking specifically at its position in relation to the sun, view, and noise.



The basic shape of the office building is oval. This, believes the architect, serves to emphasize the cooperative ideal. Because of its glass exterior, the building has an open character, yet it is also inward looking – the atrium at the heart of the building provides an overall view of the whole structure. This creates a feeling among the users that they are part of a larger entity.

Situated on a landscaped base, the ground floor is half a storey above ground level, creating attractive views of the surroundings. All the offices and other functional rooms are grouped over three floors around the oval atrium. The design of the stairs allows views of the plants in the atrium from all sides. There is room on the ground floor for public and social functions, including an auditorium that derives its shape from the end section of the oval. On the top floor is a balcony on the inside that affords views in every direction.

Through the deployment of modern technologies like a heat exchanger, heat pumps, solar collectors and triple-layered insulation glass, the building consumes no fossil fuels – that is, when it uses green electricity. It has an EPC of 1.0, making it 35% lower than the limit stated in the current Building Decree. Two aspects stand out in

particular: the amount of light that comes in, and the floor concept. The lighting of standard modern office complexes accounts for around 40% of their total energy consumption, but the Westland office limits this as much as possible by using daylight. On every floor, there is a sun canopy on the outer wall that extends inside as a floating ceiling. The canopies have layered glass on the inside with matt foil. An extra hung ceiling, coloured white, is attached to a milky-white row of windows, directly underneath the 3.30 metre-high ceiling. Panels reflect the filtered daylight deep into the building. Because the atrium is climate controlled, the roof mostly remains closed for energy reasons. An oval skylight at the centre and a tilted roof surface with a band of glass allow daylight to flood into the atrium. Solar cells on the flat roof help reduce the amount of electricity that is consumed.

The floor concept makes for efficient use of energy, thanks to the system of storing heat and cold in the ground. Heat and cold are divided with the help of pipes in the concrete floor – the pipes distribute cold from underneath the floor and heat above it. Fresh air is pumped in through grills on the floor. A heat exchanger in the atrium reclaims some of the heat from the air as it rises through

the building. The basement section partly sticks out above ground level so is ventilated naturally.

With its triple layers, the large area of glass provides a good level of insulation, while the working atmosphere is enhanced through the presence of a big tree and two large plant beds (measuring around 3 x 5 metres) in the atrium.

Buildings with a lot of glass are sometimes affected by too much heat from outside. Outer walls should allow in large amounts of daylight and be transparent, but not cause any major heat problems. It is the shape of the outside of buildings that determines how the sun and daylight enter. This building is situated in a north-south direction, along the length of the overall oval shape. On the south side, a large horizontal sun canopy protects the building from overheating and sunlight that is too bright. The canopy extends out to the western and eastern sides, where vertical strips in the window frames keep out any excess heat and sunlight. Acting as a kind of sun visor, the canopy ensures that light at face height is at a comfortable level.