

Management

Information about the building design, construction and environment -saving measures. How we dealt with the site construction and the environmental impact during the performance.

BREEAM rating and score

Design certificate	=	★★★★★
Completion certificate	=	★★★★★
Guideline applied	=	BRL 2011 v. 1.0
Score	=	91.22 %

This percentage is subject to the innovation credit award.

The award is currently being evaluated by the DGBC.

Start of design phase	=	November 2013
Start of the building preparation	=	January 2014
Start of construction	=	1 March 2014
Commissioning date	=	Phased commissioning from October 2014

Key figures

Floor area warehouses	=	GFA 49,027 m ²	VVO 48,095 m ²
Floor area offices	=	GFA 717 m ²	VVO 659 m ²
Site area	=	72,560 m ²	

The approach to make the distribution centre as sustainable as possible.

The entire approach towards making the NewLogic II Distribution Centre as sustainable as possible was viewed from an absolute Trias Energetica perspective. On the basis of this philosophy, we initially consider the potential for maximizing savings on the energy requirement. Secondly, we consider the generation of energy and thirdly, the efficient use of fossil energy.

The basis of step 1 involves looking for solutions in the building envelope. The less heat that "leaks" from the building, the less energy is required to heat or cool the building. The building envelope criteria for an industrial function, whereby the accommodation of people is secondary, are not very stringent in regulations* in the Netherlands. In fact: the regulations do not include any criteria for making an EPC calculation for the industrial function. Very few people are employed in a building with an industrial function; the people who do work there do not have a high temperature requirement (15 degrees is generally sufficient); goods are primarily stored, which only require frost-free storage.

We opted to create an insulation shell with a surrounding Rc value of 5.0 m²K/W for this distribution centre.

The temperature requirement for the office areas differs to the industrial function. Our choice for a high-quality insulation shell for the entire building meant that we did not need any thermal barrier between the office and industrial function.

For the climate control system in the office areas we chose a sustainable energy system. A VAV system was fitted in the office, which blows in more air when an area is occupied by more people or when the room temperature rises. Furthermore, the system was designed such that outdoor air can be blown in directly, when the outdoor temperature is suitable for this. This means that at these times less energy is required for heating or cooling the air.

In addition to the choice for a high Rc-value in the closed façade sections, due consideration was also given to thermal insulation when selecting the window frames. An aluminium frame profile fitted with triple glass glazing was selected here. The window frames have a U value of 1.0 and the glazing has a U value of 0.7.

Building site and building process

The building was constructed by main contractor Heembouw. Heembouw achieved the ISO 14001 certificate in 2013. The new-build distribution centre NewLogic II is the 2nd BREAM route for Heembouw. The experiences from the previous project created new objectives in order to reduce CO2 consumption during construction. In particular, attention was paid to waste separation, specifically wooden pallet waste. All building partners were encouraged to delivery their products on deposit pallets and to return them.

All taps in the changing room/rest room on the building site are fitted with automatic volume limiters so that water use is purely essential and that taps cannot be left on by accident. The portacabins are fully fitted with LED lighting, which is the most energy efficient form of lighting. In addition, a MAN 3 Eco portacabin was selected for the building site reception.

The energy consumption and water is was monitored weekly, in view of the fact that the speed of construction is extremely fast. We achieved the following results for this project:

- Energy use during construction = 1,310 kWh
- Water use during construction = 1,734 m³
of which 800 m³ is used to fill the pond eco portacabin

The skin of the building

The plinth of the building is fitted with a prefab concrete insulated element that is also fitted with a high Rc value (5.0 m²K/W). This plinth also serves as robust crash protection. The height of the panels is equal to the level of overhead doors, so that a neat line continues throughout the design. The insulated wall panels start above the concrete plinth.

For the airtightness of the building and particularly at the location of the offices, extra compribands are included between the offices. These connections have all been practically tested using an airtightness measurement and compared with the Qv-10 value using the EPC calculation. The result of this measurement is a Qv-10 value of 0.42.

The office façade is located to the south. In the design, consideration has been given to the later placement of fixed wooden louvres on the exterior of the building for permanent sun blinds. At this time, sun blinds have only been applied on the inner side.

The roof has a traditional roof structure (appropriate to a steel structure). The basis is a steel profile plate fitted with hard press insulation and roof cladding. This also has a high insulation value, such that we can achieve an Rc = 5.0 m²K/W. The roof cladding is a light PVC roof cladding. The light colour ensures that the sunlight is initially reflected as much as possible, before the warmth of the sunlight can penetrate the building.

Water usage

The front terrain is equipped with multiple grey-water tanks, which will provide the toilets with flushing water. The toilets have a maximum flush use of 4 litres /flushing. From the usage water-free urinals are in use. Also, all men's toilet facilities are fitted with more urinals than toilets in order to further reduce water usage.

Also, all spaces where water usage occurs are fitted with intermediate metering, so that water usage can be monitored well and any leaks can be quickly signalled.