New Warehouse in Ede

AG logistics services

Case study BREEAM-NL

Inhoud

Project situation

Historically, Ede is a location and a business district with a very strong logistics functionality and image. After the agro & food logistics sector, the focus has shifted to other strong logistics sectors such as fashion, e-commerce, electronics, medical technology products and services, and ICT, partly due to the arrival of logistics service providers.
AG Logistics Services B.V. is focused on this development. Within the food sector AG Logistics Services B.V. is developing a modern logistics centre. The complex was designed by Architectenbureau DBL at Lunteren and will be realized by HBE Circulaire Bouw B.V. at Ede.

The complex consists of a warehouse of approx. 30,000 m2 with two office areas of approx. 1,000 m2 in total, which make it possible to use the building as a whole or split it up. The warehouse has 48 loading docks and an internal height of 14 m.

AG Logistics Services

AG Logistics Services is a rapidly growing, no-nonsense family business that provides warehousing, storage and logistical handling for a wide range of customers. From food to healthcare, from SME to multinational. AG Logistics Services is a very flexible company with short lines of communication and can therefore anticipate changes quickly. With a respectful attitude and with the customer first, the company operates from several offices in the Netherlands.

Responsibility, quality and sustainability are key concepts within the company. That is why AG Logistics Services has chosen to build according to BREEAM-NL, because this goes further than just making a building sustainable. It provides added value at all levels and creates a healthy working environment for its employees. With BREEAM, the bar is set higher than the legal requirement and this suits them; they always think ahead and in solutions and are therefore fully prepared for the future and the next generation.

AG Logistics Services also invests in the latest innovations; this new warehouse in Ede will be equipped with an automatic pallet Layer Picker, which will make the logistics processes even more efficient and sustainable.

Building information

Client:	Holding Geurtsen Thomassen BV
BREEAM advisor:	Adamasgroep Arnhem
BREEAM assessor:	Bas Rutgers, Smits van Burgst
Construction year:	2021
Architect:	Architectenbureau DBL Lunteren BV
Constructor:	Cluistra | IBT Veenendaal
Infrastructure:	Boot
Constructor:	HBE Circulaire Bouw BV
Installation:	Hollander Techniek (W-installations) Leertouwer BV (E-installations)
Commissioning manager:	Adamasgroep
Functions:	industrial + office
Construction type:	[steel skeleton]
BREEAM-score:	>70% Category “Excellent”
Surface office:	± 1.000 m^2
Surface industrial function:	± 29.500 m^2
Surface terrain:	± 10.000 m^2
Surface traffic space:	± 150 m^2
Surface storage room:	± 500 m^2
EPG score office:	0,36
Rc-values:	3,5 m^2K/W (floor), 4,5 m^2K/W (facade), 6 m^2K/W (roof)
Cooling/heating:	Heat pump/VRF-system (office up to 21^o C);
Ventilation:	WTW via VRF-system (office)
Lighting:	LED in offices and hall with presence detection
Construction time:	10-2020 / 06-2021

Innovative and environmental friendly design

The new distribution centre has the following noteworthy sustainable design measures:

- presence detection for lighting in offices, washrooms, changing rooms and sanitary facilities;
- presence detection for lighting in the warehouse per aisle;
- energy-efficient lighting;
- water-saving toilets, equipped with flush buttons and flush interrupters;
- metering of separate energy flows;
- leak detection on refrigerants;
- high insulation values of roof and facade for minimal energy loss;
- all-electric-installation;
- V-Panels (2400 TIGER JKM360M-6TL3-V).

These measures lead to the following energetic building performance:

	yearly	yearly / m^2 BVO
EXPECTED ENERY DEMAND		
Building related installations*	**989,291 kWh** (9,010,886 MJ)	**31 kWh/m^2**
SUSTAINABLE ENERGY		
Generated by PV-panelen, of which:	**685.697 kWh** (6,319,379 MJ)	**22 kWh/m^2**
OTHER FUEL		
Building related installations (remaining energy demand)	**0 kWh** (0 MJ)	**0 kWh/m^2**
DRINKING WATER		
Expected use**	25,6 m3/person	

Based on EPC calculation with sports function for industry. Calculated with non-primary energyconsumption, i.e. the actual energy demand of the building, not the primary energy required to meet this demand (depending on the efficiency of energy generation).
****Based on average toilet visits per person per day: 4 times.***

Environmental friendly construction

Example
The new building will be constructed using steel construction. In addition to efficient construction and waste reduction through this construction method (large proportion of prefabricated components), waste is separated into at least six waste streams. Waste separation and reduction are components of the waste management plan drawn up by the construction team.

In addition, a work plan has been drawn up to further limit the environmental impact of the construction site. The work plan includes various measures to this end. Examples of intended targets are the limitation of CO2 emissions as a result of transport on the building site, limiting water consumption, minimising air and groundwater pollution. There is also an environmental policy plan in place and the contractor works in accordance with a certified environmental management system (ISO14001).

The implications of the project for the ecology of the plan area have also been taken into account in the planning process. Measures will be taken to prevent the co-occurrence of species tables 2 and/or 3 of the AMvB of the Flora and Fauna Act, and provisions will be made for special natural values such as the beaver. These plans have been drawn up in close consultation between the developer, builder and ecologist.

BREEAM-NL aspects

Example
By means of measures on 9 chapters within the BREEAM-NL system, the aim is to achieve A BREEAM rating of 'Excellent'. This score is achieved by scoring points within these 9 sections of BREEAM. The total score for this must be at least 70%. This approach was taken as the guiding principle during the design phase with all the stakeholders involved, resulting in a design with a PRE-Assessment score of over 86%.

In order to obtain a BREEAM certification, the adamas group was called in as "BREEAM expert" externally to advise, direct and guide the process. From the assessment tool also the approach of the "assessor" for testing the project. The adamas group steers and coordinates the realisation of the final proof, based on evidence provided by all parties involved.

SPECIFIC CREDITS

The project is characterised by an integrated approach. Structural and installation measures are therefore not aimed at a single credit, but at a combination of credits, as can be seen from the table on the next page. In the overview the most important measures and score for relevant credits. In addition, an indication of investment costs and benefits as a result of savings is given.

credit / measure	**Heat pump** investment approx. €XX.000	**PV-panels** investment approx. €XXX.000	**Ecological measures + site layout** investment still unknown	**Water-saving sanitary fittings** no relevant additional costs	**LED-lighting, presence detection, including user controls**	**LT heating + cooling** no relevant additional costs	**Purchase sustainable materials + reuse** no relevant additional costs
HEALTH							
HEA1 daylighting							
HEA2 view							
HEA4 HF-lighting					1		
HEA5 lighting NEN 12464			1		1		
HEA6 light control							
HEA9 volatile organic compounds							1
HEA10 thermal comfort						2	
HEA11 temperature control						1	
ENERGY							
ENE1 CO2-emission reduction	12	12			12	12	
ENE4 energy-efficient outdoor lighting			1				
ENE5 renewable energy	3	3					
ENE26 building envelope quality							
TRANSPORT							
TRA3 alternatief vervoer			2 + EP				
TRA4 safety of cyclists and pedestrians			2				
TRA8 supply and manoeuvring			1				
WATER							
WAT1 water consumption				2			
WAT3 leak detection				1			
WAT4 self-closing water supply sanitary				1			
WAT6 irrigation			1				
MATERIAL							
MAT1 building materials (MPG)							1
MAT5 substantiated origin of materials							4 + EP
WASTE							
WST2 reuse of aggregate							1
ECOLOGY							
LE4 plants and animals as co-users			2				
LE6 sustainable co-use in the long term			1				
POLUTION							
POL4 NOx-emissions from space heating	3 +EP	3 + EP			3 + EP	3 + EP	
POL7 light pollution			1				

Tips for a next project

Based on experience from this and previous projects, we consider the following points of interest to be important for a perfect BREEAM process:

- include BREEAM as early as possible in the process,
- BREEAM should be incorporated as early as possible in the process (SO- VO phase),
- quick-scan and selection list with costs and benefits must be leading in both the VO and DO phases,
- collaboration with accountant and subsidy advisor and assessor with respect to MIA, EIA and SDE+,
- experience with BREEAM simplifies the process; experience gives you a head start; and
- choose an FSC Chain of Custody certified contractor.