New Vandemoortele head office shortlisted for Climate Proof Award

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On 6 May 2021, Bouwkroniek / La Chronique will present the Belgian Construction Awards 2020. Vandemoortele's Food Experience Center (FEC) in Ghent has been shortlisted for an award in the 'Climate Proof Award' category. By consistently opting for the most sustainable solutions, a Nearly Zero-Energy Building (NZEB) has been achieved.

The FEC is a new eye-catcher alongside the E40-E17 interchange, between the Ghelamco Arena and the Ringvaart. Vandemoortele's new 5,150 m² head office can receive approximately 400 people – employees, visitors, customers and suppliers – every day. A mix of open-plan and individual offices and meeting rooms over 3 floors are accessed via the impressive atrium. Applications of Vandemoortele products can be shown in the two-storey demo rooms on the ground floor. RAU architects was responsible for the design of the building, VK engineering for the stability engineering and Ingenium for the technical installations.

To achieve a NZEB building, the most sustainable solution was consistently chosen for the design and for the technical installations. BREEAM was the touchstone for this. The façade is largely in glass. While ensuring lots of daylight – and therefore less need for artificial light – this can, however, quickly increase the temperature inside the building. For this reason a slatted external sun protection system has been applied, simultaneously enhancing the building's architectural resonance.

At the design stage, Ingenium paid extra attention to studies more specific to the BREEAM assessment, such as daylight studies, commissioning reporting and dynamic comfort simulations, the latter even making the design 'climate-adaptive' by including the possible impact of climate change on comfort in the building. An additional advantage of the preliminary simulations was to allow the design of the technical installations to be done in greater detail and more precisely than would have been possible with a traditional static approach.

Inside the offices, heating and cooling are via climate ceilings, ensuring a high level of comfort. Heating/cooling is sustainably generated by heat pumps coupled to a BTES (Borehole Thermal Energy Storage) field. An indoor air quality plan was drawn up to guarantee good air quality. An innovative system has been chosen for ventilating the atrium. BaOpt (Bauer Optimierung) uses a special blowing technology at a lower speed and ensures an even temperature throughout. With fewer inlet grilles and ducts – and consequent absence of draughts – and lower air flow rates, comfort is increased and energy costs kept low.

Solar panels on the roof provide even more renewable energy on top of the geothermal energy and contribute to limiting the building's CO2 emissions. Together with the sustainable heat pumps, they give a Nearly Zero-Energy Building.

With an extensive building management system, the control and coordination of the various installations also becomes a lot easier, with benefits also for the commissioning process and for monitoring of the building once in operation. All building parameters can be easily read, monitored and adjusted.

The various designers started from the philosophy of 'circular and dismantlable construction'. The consistent modular construction of the technical installations allows for easy rearrangement of the office parts. At the same time, the conceptual and material choices that have been made ensure 'easy' dismantling of the entire building and maximum reuse of materials.

From the outset of the project, the various construction partners resolutely opted to exchange design information via a BIM model in Revit. During the execution phase, the BIM model served to create an as-built model, which can be used further in the operating phase and for maintenance.

Feel free to contact our project manager Joost Verstraete on 050 40 45 30 or via joost.verstraete@ingenium.be.