

HOTEL QO IN AMSTERDAM: ENERGY-EFFICIENT FACADE CONVINCES SUSTAINABLY

For particularly environmentally friendly, resource-saving and sustainable construction, the QO in Amsterdam was the first European hotel to be awarded „LEED Platinum“. The new building has thus reached the highest level of the international sustainability certificate Leadership in Energy and Environmental Design. An integral component of the energy and sustainability concept is the “living” façade consisting of glass and aluminium elements as well as moving panels. The unique building shell was realised by the Dutch metal construction company Blitta BV from Venray using the HUECK Trigon Unit L unitised façade.

The declared aim of the planning of the four-star hotel was not only to reduce the impact on the environment, but also to completely redefine the concept of a “hotel” based on independent units that blend into their surroundings. On behalf of the client Amstelside BV, the architecture firms Paul de Ruiter Architects and Mulderblauw architecten worked together to design a sustainable building that minimises the consumption of water, energy and other resources. In closed circuits, service water, heat and waste are generated and reused efficiently. But it is not only in terms of day-to-day operation that the hotel is energy-neutral; the planners also took care during construction to ensure the efficient use of resources, for example by using recycled materials from the surrounding area.

Opened in 2018, the QO hotel houses 288 hotel rooms and a restaurant, and is a striking example of the area’s redevelopment in the south-east of Amsterdam. In addition to a slender 75-metre tower with gently rounded edges, it features an eight-storey base whose height matches that of the adjoining buildings.



Figure 1: An essential part of the energy and sustainability concept is the “living” façade made of glass and aluminium. Following careful testing, aluminium proved to be the most sustainable material in this context. (Source: HUECK)

„We are really proud of this building. It’s truly one of a kind,” say the architects Robert Mulder and Paul de Ruiter. One key element of the building’s sophisticated sustainability concept is its intelligent façade, which fuses functionality and energy efficiency into a single aesthetic unit. “We opted for an aluminium façade because this has a higher proportion of recycled material than steel. The façade therefore scores significantly better in the LEED Platinum rating in terms of material usage,” explains de Ruiter, adding that aluminium is the most sustainable material for a façade of this type.

The development of the façade in particular was a long and drawn-out process. The challenge was to regulate the façade so that it responded intelligently to climatic conditions. For example, if you need heat in winter and the sun is shining, the window shutters open automatically to allow the heat in. And conversely if the sun is shining in summer, the shutters close so that less energy is needed for cooling. The more than 800 gold-coloured anodised panels within a strict grid arrangement of dark-grey aluminium elements and floor-to-ceiling glass surfaces therefore play a special role, and not just in terms of their appearance: when the guest is not in the room, the striking sliding elements in front of the glazing respond to weather conditions automatically, giving the building a lively and highly dynamic exterior appearance.

The renowned Dutch metal construction company Blitta implemented this unique façade using a special solution based on the HUECK Trigon Unit L standard façade system. This highly thermally insulated aluminium element façade with fixed glazing made of functional insulating glass meets the full range of requirements for modern thermal insulation. “The panels presented a challenge both for the metal construction company and for the systems provider,” says HUECK Key Account Manager Jeroen van der Roest, who supervised the project. Among other things, the façade had to dissipate the wind load from the panels – which run on tracks at the top and bottom – even at a great height. “That involved some tricky calculations.” Even more complex was the collaboration with the manufacturer of the automatically closing blinds. “Here, the façade technology, drive technology, electronics and building management had to be coordinated precisely to ensure that the panels work reliably in the long term,” says van der Roest.

Leadership in Energy and Environmental Design (LEED): The Leadership in Energy and Environmental Design (LEED) certification was developed by the U.S. Green Building Council in 1998 and is known today as a world-recognised sustainability assessment. As a system for classifying eco-friendly construction, it defines numerous standards for environmentally responsible, resource-efficient and sustainable building projects. The assessment categories include: Sustainable Sites, Water Efficiency, Energy and Atmosphere, Materials and Resources, Indoor Environmental Quality, and Innovation and Design Process. Points are awarded in each of the criteria in order to evaluate the building as a whole. The total number of points obtained then determines the classification used in certification. “Platinum” is the highest possible rating.



Figure 2: The façade elements with fixed glazing consisting of functional insulating glass are implemented using a special solution based on the HUECK Trigon Unit L standard façade system. The electronically controlled panels were mounted afterwards. (Source: HUECK)

The glass façade, which is curved by up to 51° with a radius of approx. 1,400 mm at the edges of the tower, was also quite a fiddly job. “Five different parts had to be bent and combined into one element: the top and bottom profiles, the transoms and two glazing beads,” says van der Roest. Aluminium of hardness grade EN AW 6060 T4 was used here. “This project marked the first time that we’ve worked with HUECK, and the collaboration was highly effective,” summarises Blitta’s Managing Director Henk Schaminee. “I received very positive feedback from our staff regarding both the system and the customer service.”



Figures 3 and 4: While the guest is not in the room, the sliding elements in front of the storey-height glazing are closed or opened automatically depending on weather conditions. (Source: HUECK)

A video report on the QO hotel can be found here: https://youtu.be/oZm1_qqtupE

The system house HUECK System GmbH & Co. KG, belonging to the HUECK Group, is one of the leading European suppliers of aluminium profile systems for windows, doors and façades. As a system supplier, the company bundles development, supply chain management, system management, marketing and sales under one roof. A large high-bay warehouse and accessories store can reliably ensure the supply with the proven system material for window, door and façade constructions.

The collected experience of HUECK combined with ample development work guarantee the feasibility, quality and versatility of the window, door and façade constructions. With numerous services, information and offers, HUECK endeavours to support the work of its customers. Many years of experience enable the HUECK team not only to develop system solutions of highest functionality, but also to assist customers as a strong partner for individual property developments. In addition to the internal conviction of the advantages of domestic production, HUECK relies on proven supply chains for accessories, which are also predominantly produced in Germany.