FMBusinessDaily

Mace completes largest Passivhaus building in the UK

7 months ago

Mace, the global delivery consultant and construction expert, has successfully achieved Passivhaus standard accreditation for its purpose-built student accommodation (PBSA) project in Battersea for urbanest. The certification from the Passivhaus Institute makes it the largest Passivhaus building in the UK and the eighth largest in the world.

Situated close to the iconic Battersea Power Station, which Mace completed in 2022, urbanest Battersea provides high-quality, energy efficient accommodation for 853 students.

The achievement also establishes it as the largest student dormitory / university building designed to Passivhaus standards in Europe, and the third largest in the world after UTSC in Canada and the Cornell Tower in New York.

With a treated floor area of over 17,964 square metres, the building was designed by RIBA Stirling Prize winning architects AHMM with specialist Passivhaus design consultancy from Henriksen Studio. It was sustainably constructed by Mace using its innovative low-carbon, off-site technology.

Situated at the northern edge of the Battersea Design and Tech Quarter masterplan, the four-block development steps up in height from 11 to 19 storeys, serving as a gateway into the site. Its glazed terracotta façades in a vibrant colour palette of red, green and blue also reflect the site's industrial heritage. Opened to students last September, urbanest Battersea features ensuite and studio accommodation and boasts a cinema room, gym and roof terraces with views across the city.

Rendering conventional heating systems unnecessary, the low-energy construction concept makes efficient use of the sun, internal heat sources and mechanical ventilation with heat recovery. This allows

for space heating and cooling related energy savings of up to 90% compared with typical buildings and over 75% compared to average new builds.

Having undergone stringent airtightness testing, the building was also designed with great attention to all relevant construction details thus reducing thermal bridges as much as possible. High-performance opaque and transparent façade elements have been used in order to assure a comfortable interior environment. The building was also delivered to BREEAM 2018 Outstanding standard.

Ged Simmonds, Managing Director, Private Sector, Mace Construct, said: “This is a great achievement. Passivhaus accreditation is typically associated with smaller, private residential projects. urbanest Battersea, the largest building in the UK to achieve Passivhaus, not only demonstrates the potential for future applications on a much larger scale but also showcases what can be done collectively to make our buildings more sustainable.’’

Dragos Arnautu, Building Certifier, Passivhaus Institute, said: “urbanest Battersea exemplifies the benefits and innovation of Passivhaus design applied to student living. Delivering unmatched energy efficiency, Passivhaus buildings maintain consistent indoor temperatures and superior air quality, reducing the need for heating and cooling systems. Students benefit from a thermally stable space conducive to focus and relaxation, while the integration of renewable energy sources aligns with broader climate goals. This building also stands out for prioritising community and modern amenities, offering a holistic lifestyle that balances sustainability with urban convenience.”

Angus Kearin – Head of Development, urbanest said: “We’re delighted that urbanest Battersea has now achieved Passivhaus certification to become the largest Passivhaus building in the UK, setting the standard for sustainable student accommodation. From the start we wanted our Battersea development to be an exemplar for future projects not only in London but in cities all over the world that need to respond to the net zero challenge. This is just the beginning of our Passivhaus journey, and we look forward to continuing our work with the Passivhaus Institute to achieve accreditation at urbanest Canary Wharf, and all further urbanest schemes going forward.”

The project is one of the first Mace has used its in-house low carbon cassettes (LCC) offsite technology that significantly reduces embodied carbon, structural steel, deliveries to site and waste. Offering a more sustainable solution for the construction of lighter steel frames, this system is currently being rolled out in other projects including Heathrow Airport as part of Mace’s pursuit towards a more sustainable world.

Since 2008, urbanest has opened nine PBSA properties in central London, including King’s Cross, St. Pancras, Victoria, Vauxhall and Tower Bridge. This is the first Passivhaus scheme delivered by urbanest but it is already on its way to bringing forward a second Passivhaus scheme at an even larger scale in Canary Wharf. urbanest Canary Wharf is set to be the largest residential Passivhaus development in the world upon completion in 2026.