

# More green building has **AGC INTERPANE** advancing sustainable living

Architectural glass from AGC INTERPANE features prominently in London's sustainable Bankside Yards development. Here Arbor, the first of eight buildings, exhibits the company's bright impact panes - contributing to a vibrant, energy-efficient environment. One will also see how PLP Architecture design prioritises natural light while fostering both well-being and productivity.

**B**ankside Yards, in the heart of London, is set to be the UK's first large mixed-use development - with no use of fossil fuels and net-zero CO<sub>2</sub>-emission from day one. Designed by

PLP Architecture (London), 'Arbor' is the first finished building of eight that have been planned here within 3.3 hectares of public space, which includes eight public



squares, 14 historic railroad arches and new retail and cultural spaces. Here the architects' concept for the 19-storey design was to create a sustainable and ultra-modern office building that, in line with the changing demands of the post-Covid era, promotes meaningful and productive interaction between people rather than just providing space to work. Integrated into the intelligent 'Energy Sharing Network' of the new district and supplied with renewable energy, it has achieved the 'BREEAM Excellent' certificate - WELL Gold is on target. The intelligent closed cavity façade for maximum daylight transmission, which



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Scheldebouw (Netherlands) realised with iplus 1.0 thermal insulation glass and extraordinary bright impact panes from AGC Interpane Architectural Glass, also contributes to this.

## MAKING CONNECTIONS

With 'Bankside Yards', a cultural and infrastructural connection between the South Bank and Bankside is being created along Lon-

don's South Bank after 150 years - a model sustainable and vibrant neighbourhood in which work and life, culture and state-of-the-art technologies, nature and art are to find a connec-



tion. 'Arbor' is the first of the buildings planned by PLP Architecture and realised with façade builder Scheldebouw in the first construction phase of the 'Bankside Yards Masterplan' on the south bank of the Thames, 'floating' above the access to the bustling Blackfriars station through 14 historic railway arches integrated into the building concept.

## USER-FRIENDLY DESIGN

PLP designed the building with a clear focus on holistic

sustainability and the well-being of the building's users: high ceilings and the floor-to-ceiling, three-metre-wide glazing of the closed cavity façade (CCF) provide plenty of natural daylight and open up panoramic views over the city. At street level, where the building and urban space meet, a large glazed lobby and external plaza ensure a seamless connection with the surrounding neighbourhood. The addition of the building creates a series of public spaces designed to encourage dynamic interaction between building users, visi-

tors and residents. The first public space leads through the elevated arches of the historic railway, next to the glazed and 14-metre high lobby as a transition into the interior of the Arbor. Here, escalators transport building users to a terrace-like interior landscape that can be used as both a work and social space. On the two levels above, there are communal work areas, a café and double-height event rooms behind dramatic six-metre-high glazing, which are designed to promote productivity and encourage 'big thinking' with an exceptional amount of natural daylight. Floors 18 and 19 also have this generous height, with an expansive space behind them connected to a large outdoor terrace that can be used for training, yoga and as an open-air cinema. On every second floor, the architects also created vital transition zones between the exterior and interior spaces by means of spacious terraces, with their own microclimate and attractive planting for a high level of biodiversity.

## CLOSED CAVITY FAÇADE WITH INTERNAL SHADING

The Closed Cavity façade realised by Scheldebouw (Netherlands) is a central part of the concept, which aims to utilise daylight and achieve excellent energy efficiency: The inner shell is formed by a double thermal insulation glazing, the outer skin by a thin laminated safety glass unit. In order

to achieve the highest possible daylight transmission, colour neutrality and excellent thermal insulation of the large-format glazing elements, AGC Interpane Architectural Glass combined around 15,000 square metres of highly efficient iplus 1.0 thermal insulation glazing in all required dimensions on the inside of the façade with laminated safety glass impact panes made of low-iron float glass 'Clearvision', which are intended to transmit maximum daylight into the building. In all other parts of the façade, the low-iron AGC base glass 'Clearvision' is used, for example in the partially screen-printed parapet glazing. The space between the inner and outer façade shell is completely encapsulated. This cavity is supplied with dried and purified air under slight overpressure during operation, which prevents condensation and dirt deposits. The profiles in a closed cavity façade can be particularly delicate, and the glass formats are particularly large at three metres wide. Inside the façade cavity, Scheldebouw installed automated or manually operated louvres under clean room conditions to shade the façade as required. On average, only around ten percent of the heat radiation that hits the outside of the façade reaches the inner shell throughout the year. In favour of maximum daylight transmission, it was thus possible to dispense with





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an additional solar control coating on the glazing, which greatly reduces the use of electric lighting in the morning and evening hours.

Daniel Moore, Partner PLP Architecture describes: “Technically speaking, Arbor’s façade has been extremely successful and delivers exceptional performance. However, I’d say where it really excels is in the experiential effect it creates for anyone in the building. The large 3-by-3-metre glazed panels bring in huge amounts of natural light and frame incredible views over London on all sides of Arbor. They’re of such a scale and clarity that you can’t be in the building and not feel the ‘wow-effect’. Over time, we will be able to see this

having a notably positive effect on occupants’ health, wellbeing and creativity.”

### THE SUSTAINABLE ‘BANKSIDE YARDS MASTERPLAN’

As part of the Bankside Yards masterplan, Arbor is integrated into a fifth-generation low-temperature energy network that spans a total area of 5.5 hectares. This is the term used to describe heating networks at a very low temperature level, which are connected to decentralised heat pumps in buildings and raised to the required flow temperature of the heating system. The term comes from the English term ‘fifth generation district heating and cooling’ (5GDHC). This network is utilised by the entire connected infra-

structure in Bankside Yards and leads to greater energy efficiency and immense CO2 savings. Arbor is also carbon neutral in operation, powered by electricity from renewable sources, despite the extensive flexible workspace of almost 223,000 sq ft. (around 21,000 square metres) across 19 floors. Arbor recently achieved the demanding ‘EPC A’ rating (Energy Performance Certificate) for its outstanding energy efficiency. Compared to standard buildings in this class, it saves around 30 per cent energy, thanks in part to real-time monitoring via smart metering and sensor-controlled LED lighting to avoid unnecessary use. State-of-the-art technologies also enabled the ‘WiredScore Platinum’

certificate for the building’s digital connectivity. Employees and the public are also to contribute to the CO2 neutrality of the new neighbourhood and will find 330 new bicycle parking spaces and a connected bicycle maintenance station.

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