INTELLIGENT MEMBRANES™

WILLMOTT DIXON

HEADINGTON HILL CAMPUS AT OXFORD BROOKES UNIVERSITY

PASSIVE PURPLE

ADP Architecture

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Willmott Dixon
Headington Hill campus at Oxford Brookes University
Expanding the campus to transform science, technology, engineering and mathematics, plus creative activities on the campus.

Designed by ADP Architecture, the buildings provide a new home for the Faculty of Technology, Design and Environment at Headington and deliver their vision of making and thinking through collaboration and collocation.

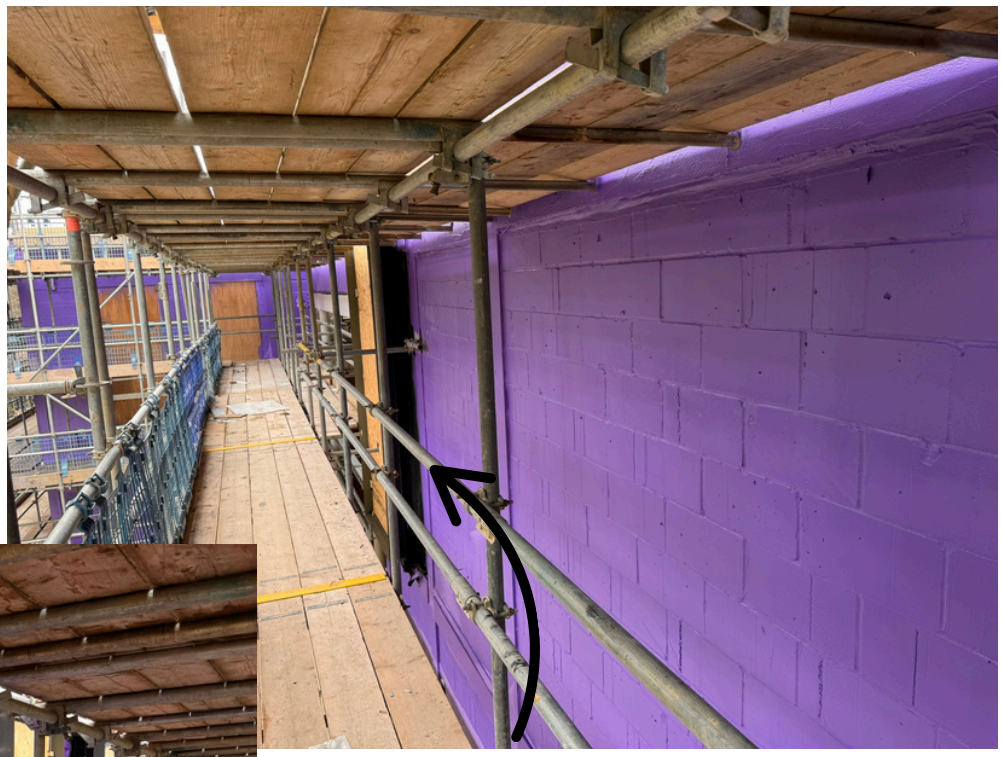
The all-new workshop...
The Workshop is a specialist building with a focus on support for mechanical engineering courses. It houses industry-standard manufacturing workshops, a wind tunnel, and engine test cells within the unique Headington Hill parkland conservation area, near the listed Headington Hill Hall. Designed with sustainability principles at its core, alongside a variety of high performing components, Passive Purple by Intelligent Membranes was chosen due to its exceptional performance and strong alignment with their net zero sustainability goals. As a high-performance airtight liquid membrane and vapour control, Passive Purple offers superior energy efficiency by minimizing air leakage, which significantly reduces a building's carbon footprint. Its VOC-free and eco-friendly formulation further supports environmental responsibility, making it an ideal solution for organizations committed to sustainable construction practices. By integrating Passive Purple into their projects, the Architect and main contractor demonstrates a clear commitment to innovation and environmental stewardship, ensuring their building practices are not only cutting-edge but also aligned with long-term climate goals.

The workshop will be the home to specialist engineering equipment with state-of-the-art labs and hands-on teaching spaces and thus require a perfectly controlled climate often gained by integrating products such as Passive Purple by Intelligent Membranes. The motorsport, autolabs and mechanical engineering facilities currently based at our Wheatley Campus will be located in the building. It will provide industry-standard technical facilities for students, staff and researchers based in the Faculty of Technology, Design & Environment.

Engineering labs, high-voltage testing, advanced scanning technology and an automotive lab with a range of Formula 1 racing cars will help develop students' understanding of suspension, chassis design and aerodynamics, and provide a base for the Oxford Brookes Racing team.

photo credit. ADP acrhcitecture

As seen here, Passive Purple was spray applied onto the blockwork prior to the installation of the External Wall Insulation (EWI). This approach ensures a continuous and airtight seal, enhancing the building's overall thermal performance



Any windows installed after the application of Passive Purple were simply set forward and the window EPDM was adhered to the blockwork ensuring

- A watertight and airtight seal around window openings
- Prevent moisture ingress and thermal bridging
- Allow for some movement between the window frame and surrounding structure due to its flexibility

The remaining holes left on the removal of the scaffold ties were simply infilled then Passive Purple BRUSH was applied fusing to the already installed Passive Purple, giving the wall a completley seamless airtight vapour control layer. Passive Purple BRUSH is a thick fibre-reinforced putty like filler designed to seal critical junctions and service penetrations in both new builds and retrofits. Unlike traditional tapes or silicone sealants, it forms a durable, flexible bond seamlessly to awkward areas, various and uncertain substrates.

Finishing up..

Zinc cladding was used to sensitively reflect the conservation zone setting, with the form referencing the gables of the old stables. The robust Workshop blocks are distinctly separated by lightweight connecting elements that engage with the local parkland and campus. This design meshes the building into the constrained site by celebrating key views and providing both inward and outward perspectives, fostering engagement with the local heritage context. The perforated cladding mitigates the visual impact of hidden louvred ventilation, enhancing the Workshop's distinct character and providing a textured architectural response to its masonry heritage context.

The facilities opened for the 2024/25 academic year and is the latest university project for Willmott Dixon.

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