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MEMBRANES

 PASSIVHAUS  HUB@

WALTHAM FOREST COLLEGE



PASSIVHAUS TRAINING HUB,
LONDON

AIRTIGHTNESS & LOW-ENERGY CONSTRUCTION

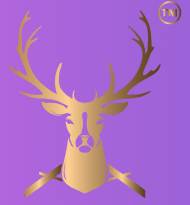


01223 208 174



Info@intelligentmembranes.co.uk

Building Tomorrow's Future



Waltham Forest College's Passivhaus Training Hub was created to give the next generation of construction professionals practical experience of the technologies, materials and techniques shaping the future of low-energy construction.

The facility forms part of a wider investment in green skills across London.

Waltham Forest College was one of a network of education providers benefiting from £6.5 million of Government funding secured by the Local London Skills Network through the Local Skills Improvement Fund. Of this wider funding, £3.6 million was allocated to the development of new green-skills training facilities.

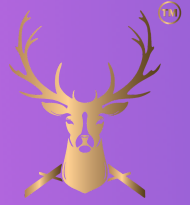


At Waltham Forest College, that investment included the creation of a new retrofit training centre designed to move learning beyond the classroom and into a practical, hands-on environment.

The result is a dedicated facility where learners can explore the principles behind energy-efficient buildings and understand how individual products and systems work together as part of a complete building envelope.



A Real Building for Real-World Learning



Rather than teaching low-energy construction purely through drawings and theory, the training hub gives learners the opportunity to see and interact with real construction details.

Waltham Forest College describes its retrofit training facilities as providing a "house in a box" environment containing technologies found in energy-efficient homes, including heat pumps and solar panels. Learners can practise installation, commissioning and maintenance in a live training setting.

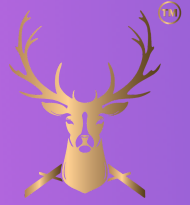
The hub brings together traditional construction knowledge with modern approaches to building performance, providing a space where learners can investigate insulation, airtightness, building services, renewable technology and retrofit techniques.



Most importantly, details that would normally disappear behind plasterboard, finishes and cladding can remain accessible for teaching, allowing students to understand not only what goes into an energy-efficient building, but why each element matters.



Collaboration from Industry to Classroom



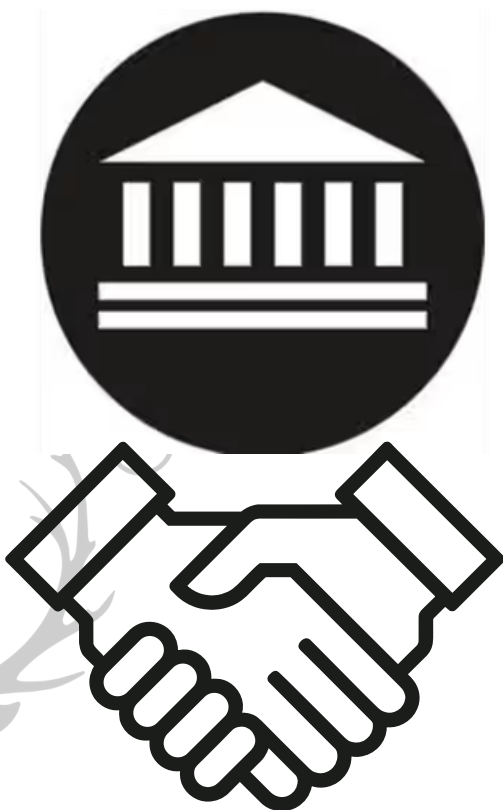
The Passivhaus ME Training School and Ecohub was delivered by Intelligent Membranes for Waltham Forest College, with White Haus Timber Frame involved in the physical build of the training facility.

Waltham Forest College's own project records identify Intelligent Membranes Ltd as the appointed contractor for the scheme, forming part of the College's wider LSIF Green Project and sustainability programme.

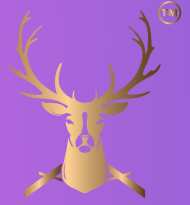
Bringing industry experience directly into an educational setting helped create a training environment based around the realities of modern construction.

The hub allows products, materials and building systems to become teaching tools in their own right. Instead of simply showing learners a finished wall, the facility helps demonstrate how individual layers and junctions contribute to the performance of the completed building.

It is an approach that connects education with the construction industry and gives students experience of the standards and techniques they may encounter on future projects.



Making Airtightness Visible

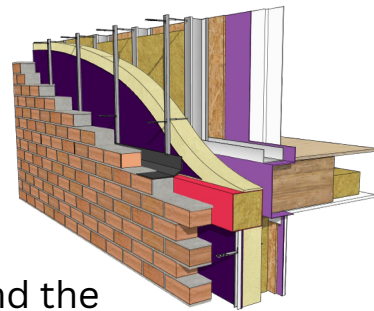


Airtightness is one of the most important elements of high-performance construction, but once a building is complete, much of the airtight layer is hidden from view.

The Waltham Forest College hub turns that hidden element into something learners can physically inspect.

Passive Purple was incorporated into the training environment to demonstrate liquid-applied airtightness and vapour control. Its distinctive purple finish makes the airtight layer immediately visible, helping students follow its continuity across surfaces, junctions and details.

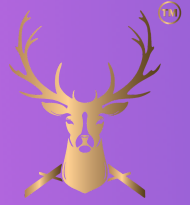
This provides an opportunity to demonstrate why airtightness is about much more than simply coating a wall. Penetrations, interfaces, openings and changes in material all have to be considered if the building envelope is to perform as intended.



For learners, seeing those details at full scale creates a direct connection between the principles taught in the classroom and the workmanship required on site.



Test It. Find It. Understand It.



The hub was designed to make building performance something that can be investigated rather than simply discussed.

Airtightness testing and diagnostic equipment allows learners to understand how air leakage occurs, how weaknesses in the building envelope can be identified and why apparently small defects can affect overall performance.

This makes the facility particularly useful for demonstrating the relationship between design, installation and testing.



The College later used the hub as part of its Build Tomorrow: Construction Sustainability and Innovators Youth Summit, bringing students and construction-industry professionals together to explore sustainable construction and emerging technologies.

During the event, Adam White of Intelligent Membranes delivered live demonstrations covering airtightness testing, energy-efficient heating systems, retrofit techniques, Passive House principles and green technologies.



More Than an Airtight Building

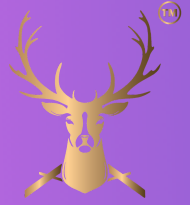
A high-performance building is not created by one product or technology in isolation.

The training hub gives learners the opportunity to explore how airtightness works alongside insulation, heating, renewable energy and other elements of low-energy construction.

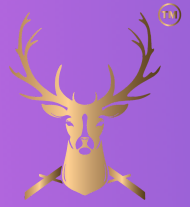
Waltham Forest College's wider green-skills programme specifically includes practical training with technologies such as heat pumps and solar panels, allowing students to gain experience in their installation, commissioning and maintenance.

By bringing these technologies together in one learning environment, the hub helps demonstrate the building as a complete system.

That knowledge is becoming increasingly valuable as the construction industry moves towards lower-energy buildings, improved retrofit standards and a workforce capable of delivering them correctly.



Green Skills for the Next Generation



The importance of the hub goes beyond the building itself. Waltham Forest College is part of the Mayor of London's Sub-Regional Green Skills Hub and says it is working with colleges and industry partners to coordinate specialist training in green and retrofit skills, including Passivhaus standards.

The College's Build Tomorrow Summit demonstrated that ambition in practice, bringing students together with construction companies, sustainability organisations and industry specialists to explore both new technologies and future careers in the green economy.

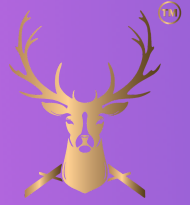
For Intelligent Membranes, the project offered an opportunity to take the principles we work with every day and put them directly into the hands of the people who will shape the future of construction.



Because better buildings depend on better understanding.



From Construction Project to Teaching Tool



The completion of the Waltham Forest College Passivhaus Training Hub marked the beginning rather than the end of the project's purpose.

The building now provides a practical environment where airtightness, building-fabric performance, retrofit and low-energy technologies can be explored together.

For learners, it creates the opportunity to see details that might otherwise remain hidden until they encounter them on a live construction site.



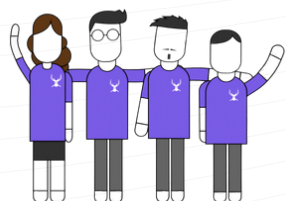
For industry, it represents something equally important: investment in the skills needed to deliver the next generation of better-performing buildings.

And for Intelligent Membranes, it demonstrates how our knowledge and products can contribute not only to high-performance construction today, but to the people who will be delivering it tomorrow.



We didn't just help deliver a Passivhaus training hub. We helped create a place to teach the next generation how to build better.





Rated Excellent



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