

Title:	Passivhaus Series
Date: (if webinar)	June 2022

Course description:	<p>Course content and structure</p> <p>Passivhaus has become the go-to low energy standard. Professional magazines and even politicians heavily promote the standard to tackle the climate crisis and fuel poverty. However, the actual uptake has been slow, and still, ten years after the first successful UK Passivhaus project was delivered, only about 1% of annual new build projects are being delivered to Passivhaus standard. Is Passivhaus only a costly luxury, and in time of a housing crisis can/should we afford it? Is the slow uptake due to a shortage of skilled contractors, or is it simply too restrictive and compromising when it comes to architectural design, buildability and usability?</p> <p>Passivhaus design is straightforward, and everyone can design and construct a Passivhaus – the technologies, materials and training for designers and trades are readily available. The actual challenge comes down to costs and financial viability. A common misconception is that the on-cost for Passivhaus is due to high performance components or a lack of experienced UK contractors, when the main issues are a misunderstanding of the requirements, late adoption, failure to integrate into the design process and underestimating differences and opportunities in local climate and construction. Even experienced designers often tend to ‘design by accident’ and over-engineer their solutions to fix ‘what went wrong’ or ‘could go wrong’ rather than truly value engineering their solutions.</p> <p>The Passivhaus series will share an architect’s learning from having been involved exclusively with Passivhaus in the UK from the beginning, ten years ago, and on all scales; private domestic, education, commercial, leisure and care facilities.</p> <p>In 2022, the Passivhaus Series is delivered across eight webinar sessions. You can attend all eight modules in the series, or you can attend relevant modules only, if you need to refresh your understanding.</p> <p>Programme</p> <ul style="list-style-type: none"> • Module 1: ‘Passivhaus principles’ and ‘Passivhaus certified’ - what’s the difference?, Tomas Gaertner: Monday 13 June 2022, 2-3pm • Module 2: The biggest hurdle - understanding the costs of Passivhaus, Tomas Gaertner: Tuesday 14 June 2022, 2-3pm • Module 3: Passivhaus benefits, Sarah Lewis: Wednesday 15 June 2022, 2-3pm • Module 4: How to integrate Passivhaus into the RIBA Plan of Work, Tomas Gaertner & Mark Siddall: Thursday 16 June 2022, 2-3pm • Module 5: Procurement, tender, form of contract and on-site delivery, Tomas Gaertner: Friday 17 June 2022, 2-3pm • Module 6: EnerPHit - the Passivhaus refurb standard, Sarah Lewis & Tomas Gaertner: Monday 20 June 2022, 2-3pm • Module 7: Tools for Architects, Guest speaker: Tuesday 21 June 2022, 2-3pm • Module 8: Passivhaus in Practice: Case Studies, Tomas Gaertner & Guest speaker: Wednesday 22 June 2022, 2-3pm
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Module 1: 'Passivhaus principles' and 'Passivhaus certified' - what's the difference? (1hr)

Module one will cover the following topics:

Passivhaus, the 2030 Climate Challenge targets, LETI guidance

- The basics behind the Passivhaus standard
- Examples of completed and monitored projects
- Typical detailing and construction methods
- How the different climate zones in the UK affect the design strategy
- In-use actual performance of buildings

Module 2: The biggest hurdle - understanding the costs of Passivhaus (1hr)

What are the additional costs of Passivhaus and why? Using data from Build UK Passivhaus projects, module two will look at:

- Where the typical on-costs are
- How the costs developed over the last decade
- Why there is an uplift
- How solutions can be engineered from the early stages to provide value for money
- Understand how the operational performance of Passivhaus pays back additional upfront costs

Module 3: Passivhaus benefits (1hr)

The multi-faceted benefits offered by Passivhaus will resonate with different stakeholders. Homeowners may be interested in superior quality & comfort whilst lowering energy bills. Eliminating fuel poverty, reducing rent arrears, and achieving zero carbon targets will attract local authorities. The government may focus on the potential to lower peak demand and amplify grid capacity for a smooth transition to renewable energy.

Module 4: How to integrate Passivhaus into the RIBA Plan of Work (1hr)

Module three will illustrate:

- How the Passivhaus design methodology can be integrated into the architect's workstream using the new 2022 RIBA Passivhaus Plan of Work Overlay
- The key stages and milestones required to meet the standard
- What additional information will be required
- The risk for everyone involved and how to mitigate this
- In-use actual performance of buildings

Module 5: Procurement, tender, form of contract and on-site delivery (1hr)

Focussing on the different procurement routes and contracts typically used in the UK, module four will cover:

- Key construction challenges and how to tackle them with the right procurement and tender strategy
- How the procurement routes and contracts can be applied to Passivhaus projects
- Risks and pitfalls
- In-use actual performance of buildings looking to best practices approaches (SFT)

Module 6: EnerPHit - the Passivhaus refurb standard (1hr)

	<p>Surrounding Passivhaus retrofit, module six will cover:</p> <ul style="list-style-type: none"> • Retrofit in the UK context • How deep do we need to go? • What EnerPHit, AECB, LETI Retrofit and Pas 2035 deliver • Various methods for EnerPHit certification • How the Passivhaus methodology can be used to inform other low-energy approaches • In-use actual performance of buildings with case studies, including Energiesprong approach <p>Module 7: Tools for Architects (1hr) Passivhaus tools can be easily integrated into existing workflows, module seven will cover:</p> <ul style="list-style-type: none"> • What tools are available, PHPP, DesignPH, Revitt plug-ins, phRibbon • SAP vs PHPP • How to manage large and complex projects • In-use actual performance of buildings <p>Module 8: Passivhaus in Practice: Case Studies (1hr) Our final module will bring together the learning from the series to look at delivered projects from around the UK, in three 20minute studies covering:</p> <ul style="list-style-type: none"> • New Build Housing • New Build secondary school(s) • Retrofit of a historic single-family home <p>All three case studies will look at in-use actual performance of the buildings</p>
<p>Speaker(s) & bio(s):</p>	<p>Speakers</p> <p>Tomas Gaertner, SE3D Tomas is a qualified architect and a director of SE3D, an RIBA Chartered, design led practice specialising in human centered design. In 2010, he became one of the first certified Passivhaus designers in the UK when he helped develop the UK's first multi-residential certified Passivhaus. He has since been involved as an architect and Passivhaus designer with the delivery of more than 200 Passivhaus dwellings, offices and schools and led on the Passivhaus design for the UK's first Passivhaus public pool and leisure centre for Exeter City Council. In 2018, Tomas helped deliver the very successful RIBA Core CPD seminar <i>Pick and Mix: the best of Passivhaus</i>. He is also a certified building biologist and oversees the IBNs UK seminar programme on healthy building. He is a regular speaker at Green Register events, the UK Passivhaus conference and Eco-build.</p> <p>Sarah Lewis, UK Passivhaus Trust Sarah is Research and Policy Director at the UK Passivhaus Trust. As an architect and Passivhaus consultant she has been involved in the development of some of the UK's largest Passivhaus schemes, and more recently, the first UK school aiming for EnerPHit certification. As a keen advocate for Passivhaus and equipped with a wealth of knowledge and expertise in the field, Sarah is also a published author of the best-selling book 'PHPP illustrated', a complete user guide to the Passivhaus Planning Package tool. In recognition of her contribution to low energy architecture throughout her career, Sarah also holds achievements including the 2018 European Sustainability and Environmental Women of the Year, 2015 Constructing</p>

	<p>Excellence Achiever of the Year, and in 2013 she was listed by AJ as one of the Top 20 Women leading the way in sustainable architecture in the UK.</p> <p>The series will also be featuring guest speakers which will be confirmed closer to the date.</p>
<p>Date of recording: (if on-demand)</p>	
<p>Learning time (minus any breaks):</p>	8 hrs
<p>Contact email: (if not using support@academy.riba.org)</p>	support@academy.riba.org