AECB publishes design guidance for their Passivhaus and Gold Standards

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"Usable technical guidance to help you achieve high levels of energy efficiency"

New detail-by-detail guidance 'removes mystique' from ultra-low energy design

The sustainable building association, the AECB, has published its long-awaited construction design guidance for designers and builders, helping them to deliver buildings aiming at the Passivhaus and AECB Gold standard.

The guidance looks at the design and construction of floors, walls and roofs with the very high thermal performance needed to meet Passivhaus standards, and the higher levels of the Code for Sustainable Homes. It will allow readers to rapidly gain an understanding of the 'hows and whys' of advanced energy-efficient construction practice.

The guidance gives in-depth design advice, and an 'energy literate' commentary that accompanies the 40 sample construction details. It effectively translates advanced and practicable North American and Continental ultra-low energy construction experience into a UK context .

The main building elements -- and the all-important junctions between them -- are covered for three main building types: load-bearing masonry, concrete frame and timber frame.

The guidance concentrates on tackling the two areas in which UK buildings most singularly fail to perform well thermally; poor airtightness and high thermal bridging. It offers ways to meet Passivhaus requirements for 'thermal bridge free' details, equivalent to a y-value less than 0.03 in SAP calculations.

The guidance will be extended over time to cover additional construction types.

The Passivhaus and AECB Gold standards offer 80% or greater cuts in energy consumption compared with the measured average consumption of a typical building of the same type. High-performance buildings, free of energy-sapping thermal defects and delivering high levels of comfort with low bills, can be achieved simply by good design. The AECB's new guidance gives designers the benefit of "pre-calculated" design details, enabling them to hit the ground running when designing truly low-energy buildings.

Joint author of the guidance and AECB chief executive, Andy Simmonds explains that the guidance can be used on a number of levels. Developers, designers, specifiers, self builders etc will be able to rapidly build up a library of high performance ultra low-energy construction details applicable to their individual preferred methods of construction, and when developing 'bespoke' details for individual projects. The guidance, with its clear explanations and vivid images of heat flux and isotherms, can also be used for awareness raising, educating and upskilling, and when communicating with clients.

"This guidance should really save time for architectural practices, because the well informed, practically minded and building physics-based approach adopted by the AECB will bring team members rapidly up to speed with advanced construction detailing," Simmonds says.

The guidance has been welcomed by hands-on practitioners and senior industry figures alike.

John Tebbit, Industry Affairs Director of the Construction Products Association believes that guidance of this sort is very much needed: "It's good to see an organisation putting its money where its mouth is, and producing usable technical guidance to achieve high levels of energy efficiency.

"What I like about this series of standards is that it's the AECB's view of how to do it, consistent with what they believe, and you can go out and build it," he added.

"We don't need more people telling us what the problems are, we need more people giving us solutions like this. I'd like to see others producing guidance too. It will save people wasting time trying all the millions of ways that don't work."

Writer and ecobuilder Will Anderson also believes that the publication is timely: "Until recently, designers and builders in Britain had to look abroad if they wanted to be truly ambitious in their energy specification.

"With the publication of the Passivhaus and AECB Gold Design Guidance, everything they need is now in one place, communicated with clarity and thoroughness. This guidance will be invaluable in speeding up our slow progress towards a low-carbon, energy secure future."

And one long-standing AECB member and self-builder commented: "If only such clear and readable 'Passivhaus/Gold Standard Design Guidance' had been around when our first home was renovated! It would have helped us to recognise inefficient construction details and to have replaced them with the energy-efficient versions shown here."

"This very practical document (more like a book) is likely to become a key source of reference. And who knows -- during an earlier building slump on the Continent, builders who knew how to work to this standard tended to stay in business.

"This guidance removes the mystique from low-energy building, and is likely to be used widely in both design offices and building sites."

VOLUME FIVE: CARBONLITE STEPS TWO & THREE DESIGN GUIDANCE: Passivhaus / Gold Standard is available free to AECB members. Annual AECB membership costs from £50 to £250 (£25 for full-time students), depending on the size of business. More information from www.aecb.net/join.php

Background for editors:

The AECB, the sustainable building association (www.aecb.net), is a network of individuals and companies with a common aim of promoting sustainable building. It brings together over 1800 builders, architects, designers, manufacturers, housing associations and local authorities. The AECB is run by its members and is an independent, not for profit organisation. Tackling climate change is an urgent priority for the AECB and it has amongst its membership many of the UK's leading practitioners in low energy building.

The Passivhaus and Gold standards place the emphasis on a high level of insulation and airtightness, efficient heat recovery ventilation, and careful use of passive solar heating. They offer energy and carbon reduction by virtue of the building design itself, rather than bolt-on renewable technology.

For more information on this press release, please email Sally Hall at sally@aecb.net

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