Ye Olde Green Deal

Retrofitting insulation in traditional buildings demands sympathetic treatment

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2011 Seminar Programme

NBT announces free-to-attend seminar programme and 'Moisture in Buildings' masterclasses

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Passivhaus

Taking the right approach is key to the success of Passivhaus designs

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regulations, which is driving all kinds of design and construction processes that are not benefiting building performance, but rather continuing the de-skilling of the industry because of the tick box approach that has inevitably been adopted. As new regulations are introduced and existing ones reformed, the gap between designed and actual performance of buildings continues to grow.

Simple and realistic

To successfully address the issues we need to learn to walk before we try to run. This requires

in all parts of the delivery chain. Monitoring, smart metering and feedback will be vital to ensuring that compliance is enforced and that learning continues, not only within the industry, but also for homeowners, teaching them about the impact of their behaviour on the environment.

To allow for sufficient learning to take place, the St Pancras Group is also proposing that there should be no major changes to building legislation for at least six years, giving the industry the time to develop the confidence, knowledge and skills required to achieve the

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Passivhaus: when it's good, it's very good

Building Regulations
Making it work

Although the Passivhaus standard is now well established as the benchmark for the very high end of low carbon housing, there is still much debate as to its practicability, deliverability and cost-effectiveness on large scales across the UK.

Envelope focused approach

The most effective way to achieve Passivhaus standards is to avoid overcomplicated designs and focus on the area of greatest impact: the thermal coherence of the building envelope. A simple, highly efficient thermal shell, with minimal thermal bridging, should be created using insulation products with low thermal conductivity, facilitated by airtightness tapes and membranes.

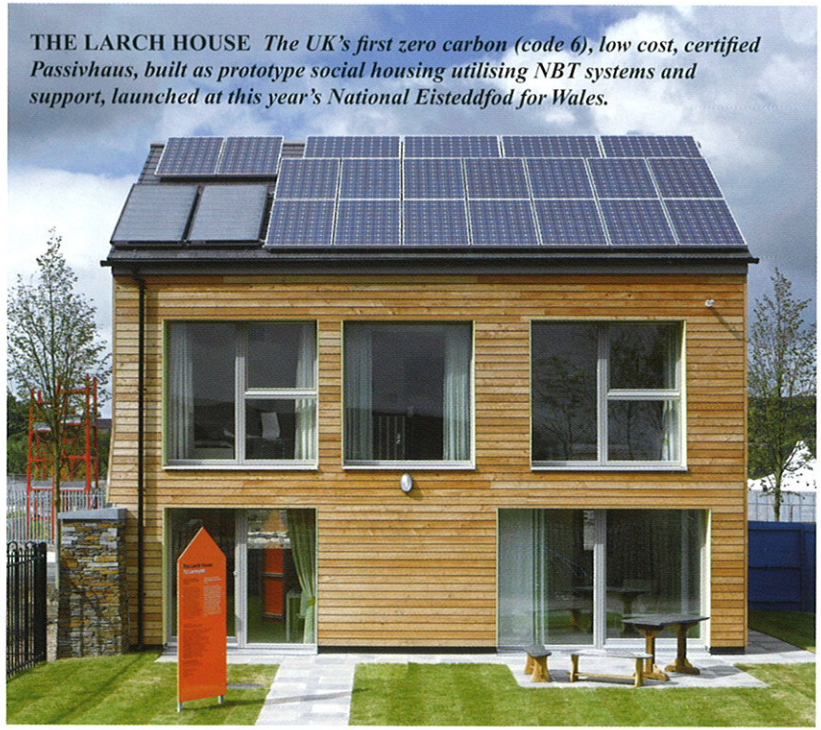
This approach was followed in the construction of the 66 unit Perryfields development using NBT's woodfibre insulation systems, and will subsequently deliver wall and roof U-values of 0.15W/m^{2}K and Y-values of 0.02W/m^{2}K, as well as an airtightness level of less than 0.6m3/hr/m^2@50Pa.

Product specification

As well as being simple, it is vital that the approach adopted for Passivhaus designs is also holistic, with products being selected on the basis of their capacity to work effectively together in high performing systems. Such an approach will ensure that a Passivhaus home is comfortable and healthy.

An understanding of the mechanics of housing, such as air changes, thermal mass and moisture regulation should lead product specification. This will avoid problems such as summertime overheating and condensation-induced mould growth, which is hazardous to both the health of the building fabric and a home's occupants.

As energy prices continue to rise, energy efficient Passivhaus homes will become increasingly attractive to consumers, and as cost effective and scalable designs become more readily available, they will also become more popular amongst developers and architects. However, in the design of each and every future Passivhaus home, the highest standard of technical support and guidance must be sought, in order to ensure that they are healthy and comfortable, as well as cost effective and sustainable.



THE LARCH HOUSE ***The UK's first zero carbon (code 6), low cost, certified Passivhaus, built as prototype social housing utilising NBT systems and support, launched at this year's National Eisteddfod for Wales.***

Photograph courtesy of bere:architects

nbt consult is able to offer architects high level technical support on the compatibility of building products for Passivhaus and other high performance standards, such as the higher levels of the Code for Sustainable Homes. Product recommendations are supported by robust research and analysis to ensure optimum performance is achieved.