

SOLUTIONS: DOORS & WINDOWS

A window onto a warming world

Architect Justin Bere is so determined to be part of the solution to climate change that he's set up his own glazing business, writes **Pamela Buxton**

PHOTOS: KEVIN COVATON/STIMBERIS

As an architect, it was never Justin Bere's ambition to set up a window company. But frustration at the standard of UK-manufactured windows, coupled with his admiration for German-made Bayer products, led him to do just that, and this summer Double Good Windows was born. Not only will the company operate as the UK agent for the super-

airtight Bayer range, it also aims to encourage UK manufacturers to produce similarly high-performing windows of their own. "I realised that people's expectations in the UK are much lower than they need to be," says Bere. "I saw the opportunity to help bring about a rapid change in the environmental performance of UK buildings through some-



There's been a revolution in performance windows.



Wood windows are sustainable and good looking. But what about performance? Thermal efficiency? Maintenance? Life expectancy? Backed by service life and Life Cycle Assessment data in BRE's new 'Green Guide', windows bearing our quality mark meet or exceed thermal efficiency requirements and are independently audited for weather performance and other standards. They also come with low maintenance, a long life and certified timber guaranteed. So you can be confident they'll perform. Quite a revolution. Choose our windows. Call 0870 458 6939 or visit www.woodwindowalliance.com

The **Wood Window Alliance**

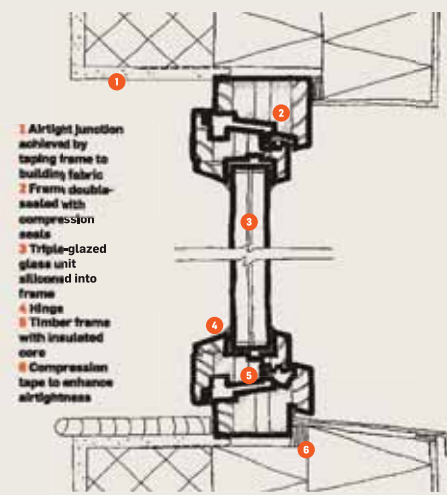
Photographs courtesy of The Wood Awards, Mumford & Wood and JELD-WEN.

ENQUIRY 11 AT WWW.ENGURENOW.COM/BD



Justin Bere specified a 4.6m stretch of folding timber triple-glazed windows by Bayer for his north London house.

HOW THE WINDOWS ACHIEVE PASSIVHAUS STANDARDS



Double Good's premium model (above and left), certified by the Passivhaus Institut, is a triple-glazed timber framed window with laminated insulation in the frames. It achieves a U-value of 0.8 W/m²K including frame.

WHAT IS PASSIVHAUS?

Passivhaus is a standard for residential energy-efficient construction which, its promoters claim, can reduce energy use by 90% compared with existing housing. Its aim is to achieve a building with a comfortable interior climate, requiring little supplementary heat. This is achieved through excellent insulation, airtightness, mechanical ventilation, and heat recovery. Passivhaus homes use passive principles for space heating and hot water provision such as solar heating. Since Passivhaus buildings have a very tight cap on the amount of energy they can use — an annual limit of 15kWh per sq m for space




Passivhaus standard housing exemplar (above) in Freiburg, Germany, using Bayer's super-airtight window.


heating and cooling — airtight windows are essential. To achieve institute certification, the glass, frame and seals all have to be of the highest possible standards. The first four Passivhaus buildings were erected in Darmstadt, Germany, in 1991. Since then, 6,000 more have

been built to Passivhaus principles in mainland Europe, and Passivhaus buildings are now beginning to be built in the UK. According to Gavin Hodgson of Passivhaus UK, plenty are at the planning and construction stages, but as yet no UK dwellings have been certified as Passivhaus, although Ireland has one. But he says the standard has been identified by organisations such as the Association for Energy Conscious Building as a way to achieve the 2016 goal of zero-carbon new-build housing. The BRE manages Passivhaus standards in the UK, and offers consultancy and certification. www.passivhaus.org.uk


S
W
S




Entrance Doors



Folding Sliding
Timber (SF6) Aluminium (SF70) or Alu-wood composite (SF8)



Internal Doorsets



Sliding
Timber, Alu-ded or Aluminium



Windows & Doors
Timber (S8) or Alu-wood composite (Bergen)

For further information please contact us:
Scandinavian Window Systems Ltd 10 Eldon Street, Tuxford, Nottinghamshire, NG22 0LH.
Tel: (+44) 01777 871847 Fax: (+44) 01777 872650 email: enquiries@scandinavian-windows.co.uk web: www.scandinavian-windows.co.uk



ENQUIRY 13 AT WWW.ENGURENOW.COM/BD

SOLUTIONS: DOORS & WINDOWS

thing quite simple — windows and doors.”

Bere's quest for premium airtight windows began six years ago, when he conceived the design for his own house in Islington, north London. Determined to make it as energy-efficient as possible, he designed his own triple-glazed windows with double seals, taking inspiration from the Swedish-made windows he'd seen at the 1960s offices by YRM at Graystoke Place in central London.

But the UK company he commissioned to manufacture them took an entire year to complete the project, during which time Bere's boarded-up house was broken into and burgled. For windows elsewhere in the house, he tried another UK company which was much swifter, but the result was not entirely satisfactory.

When Bere came to source the final windows for his home — a 4.6m stretch of folding timber win-

dow opening onto a terrace — he realised what he'd been searching for was a product that conformed to the Passivhaus criterion.

This German building performance standard, which requires an airtightness about 14 times above Breeam, is just beginning to gain currency in the UK, and several German and Scandinavian companies offer Passivhaus-accredited products. Bayer's premium triple-glazed product, available in Germany since 2000, fulfils the criterion of achieving an 0.8 W/m²K U-value rating overall, including frames and seals, rather than just for the glass. This compares with 1.8W/m²K for Part L1A of the 2007 Building Regulations, and 1.4W/m²K for a standard German double-glazed window with uninsulated timber frame.

Bayer's Passivhaus windows have frames 110mm thick, with an insulated core. They are tapered into the building fabric, and glass



The windows open inward to avoid being exposed to rain.

is silicone into the frames, which open inward to avoid being caught in the wind or exposed to rain. The double-compression seals are a key factor in the airtightness, providing a flexible, airtight membrane far superior to brush seals. Specialist tape is used to achieve air-

tight joints between the window and the building fabric.

With such impressive airtightness, capital costs are inevitably greater than for lower-spec products, but Bere is encouraged by the level of enquiries he's had already.

"We believe the lifetime costs are far, far lower. There's no comparison with PVC-U or aluminium," says Bere. "We want local councils and housing associations which would otherwise put in something disastrous — like PVC-U windows."

Bere, who says environmental concerns were one of the reasons he became an architect, is evangelical about the need to increase uptake of the Passivhaus standard in the UK.

"If the Passivhaus standard is achieved in all aspects of a building, reliance on energy is reduced to a fraction of what is otherwise required to meet the Code for Sustainable Homes — zero-carbon level 6," he says.

Bere Architects' competition entry for zero-carbon housing in Nottingham, featuring Passivhaus-specified doors and windows.



ment — alongside his practice, Bere Associates. He is in the process of turning Double Good into a joint venture with timber specialist Timbmet.

Mike Packer, a director at Timbmet, first looked at a similar venture several years ago, but says that at that time the market, unlike now, wasn't ready. He wants to encourage specifier interest in energy-efficient doors and windows by widening the range and aesthetics of Double Good's off-the-shelf products, and by developing a bespoke service.

A full 20% of Double Good's profits will go into the charitable Double Good Foundation which will, hopes Bere, enable him to encourage more environmentally aware attitudes. Always a bit of a campaigner — he opposed lead in petrol in his school days, why before it became a mainstream issue — Bere is keen to make a difference.

"There's too much commercial interest in doing the wrong thing. The foundation would like to be a balancing force to help influence policymakers," he says.

Bere's own house, despite its layer windows and other energy-saving features such as 300mm of wall insulation, does not fulfil Passivhaus standards overall — he was well advanced on the project before becoming aware of the standard. But Bere Associates is proposing a development of 38 Passivhaus units for a project in Nottingham, and Bere has plans for an ecology event at next year's London Festival of Architecture.

He hopes the foundation can foster a higher standard of UK window manufacture so that maybe in future, if demand accelerates, some Double Good windows can be made in UK.

Meanwhile, he's looking forward to enjoying his own Bayer windows when his house — complete with terrace lap pool — is finally finished next year.

Bere runs Double Good — so called because it claims to be good for both occupants and the envi-

ronment — because there is not enough lead to provide the biomass needed for energy-hungry buildings. The only answer is to make buildings so energy-efficient that solar thermal, PV electricity and wind energy can realistically provide the energy demands of the country."

'There is too much commercial interest in doing the wrong thing'

Double Good offers three models: the Passivhaus model in timber, a standard model with insulated aluminium external facings, and a basic window intended for refurb projects in either timber or aluminium facings. Although not Passivhaus standard, these two latter models still outperform most UK windows, says Bere.

Bere runs Double Good — so called because it claims to be good for both occupants and the envi-

MORE INFORMATION AT
www.doublegood-windows.com

NEW SOLUTIONS



Hawa at the Objekt apartments.

SHUT AWAY FROM HEAT
 Hawa's Frontside 60 sliding shutter systems are designed to protect buildings from heat gain and loss, and can be used with wood, metal and plastic shutters 28-40mm thick. At the Objekt apartments (pictured) in Austria, designed by Baumschlager & Eberle, the shutters stack in front of one another when open.

The systems use toothed belts that permit shutters to slide simultaneously into the open or closed positions without contact noise being caused by colliding catches. The tracks fix to walls, ceilings and lintels, and have clip-on covers for concealment.

SASH WITH A NEW ANGLE

According to Mighton Products, its new Eco tilt window system achieves a window energy rating of B, to exceed compliance with Part L of the Building Regs. With a timber exterior and a PVC-U jamb liner, Mighton claims it is the only B-rated timber sliding sash window on the market.

Putting Eco tilt together requires minimal routing and joinery, which can radically cut the long lead times that sash windows usually have. The window also tilts — hence the name — while both sashes can be removed for cleaning and maintenance from inside.

GRAND OAK DOORS
 Vicalma's Exclusive Oak doors were put under the spotlight when Grand Designs presenter Kevin McCloud viewed a residential project at Tipton, West Midlands, which involved the refurbishment of a grade II listed 18th century church tower. The refurb, comprising six bedrooms, an indoor pool, gym, sauna and library, features Exclusive Oak fire doors with glazing and beading throughout. The doors were chosen to match reclaimed oak skirting and architraves.



The carbon footprint for imported cement is probably bigger than you think.

Imported cement can add around 10% CO₂ from shipping alone. One way to cut emissions is to use cement from Castle, which is manufactured in the UK using the most efficient dry-process kilns. We burn up to 60% recycled and non-fossil fuels and use waste as a source of raw material — all of which would otherwise go to landfill or incineration. (Every tonne of cement Castle produces means 130kg less landfill.)

And to meet expected market growth, we are expanding our UK manufacturing capacity to meet demand in the most sustainable way.

For a copy of our Sustainability Report with steps towards environmentally-responsible building go to:
www.lowercarboncement.co.uk



I WISH I'D DONE THAT

STEWART DODD
 Brion-Vega Cemetery
 San Vito d'Altivole, Italy



During the summer of 1989, Adam Cornish, associate director at Richards Partington Architects, and I spent four weeks in the Veneto region of Italy, carefully and painstakingly measuring the Brion-Vega Cemetery as part of our building evaluation and measurement project.

Each day, we would make the pilgrimage to the little village of San Vito d'Altivole to draw, measure and record the cemetery, where members of the Brion family are buried together with their esteemed Venetian architect, Carlo Scarpa. Our daily ritual unfolded amid the obsessive details and mix of materials produced by this quiet yet highly respected architect.

The thing that struck me was that there is no real function — the cemetery is an expansive place, some 2,200sq m, but in reality, it has little reason to exist other than to hold the sarcophagi of its patrons, Giuseppe and Onorina Brion.

This project is essentially a garden, where most of the visual elements that define the architecture are openings —

doors, windows or some type of threshold. One morning as we approached the cemetery, I noticed something different. For the first time since our arrival, the door to the site was closed. The door was a heavy concrete wall on brass and stainless-steel rollers which slid secretly into the boundary wall of the cemetery, right across our path. It looked as if we might not be able to enter, but with a slight touch of hand,



Brion-Vega: obsessive detail.

it opened with the ease of a well oiled wheel. To think a mechanism like this was designed for the entry to a cemetery built in 1972, one that is permanently exposed to the elements, helps you understand Scarpa's drive for perfection.

Scarpa had a passion for detail that is obvious in all his projects, but what is not so apparent is that he understood and hunted down traditional Venetian craftsmen to undertake all his work.

It is this that gives the Brion Cemetery its intrinsic quality. In the words of the architect, "I consider this work, if you permit me, to be rather good, and which will get better over time." Stewart Dodd is a director at Satellite Architects.



Why waste space?



Gain lots of extra space thanks to Scigno disappearing sliding doors!

More space

Now found in numerous countries, Scigno frames and framing systems for disappearing sliding doors help you gain space that would otherwise be taken up by swinging doors.

Easier to furnish

Gain more space with disappearing sliding doors and furnish more freely as the doors occupy only the opening width.

Easier to live in

Scigno is living. Scigno single, double and made-to-measure sliding doors, make indoor space more livable and free the imagination of those who design and plan contemporary living space.



For further information please contact:

The Disappearing Door Company Ltd - phone 0845 072 0102 - fax 01634 720866 - e-mail: info@disappearingdoors.co.uk
www.disappearingdoors.co.uk - www.scrigno.net