

# i-build

FEBRUARY 22 - ISSUE 91

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COVER STORY

## HEAD OVER HILLS

Built into a rugged hillside overlooking the extensive natural coastline in South Wales, this new-build, contemporary family home with a sustainable vision will leave you head over heels



### CASE STUDIES

#### MEET THE 28-YEAR-OLD SELF-BUILDER

Patsy Parr took a leap of faith to build her very own sustainable oak-framed home

### MATERIALS

#### IMPROVE THE INDOOR AIR THAT YOU BREATHE

If you want to include an MVHR system in your build's plans, where should you start?

### I-DEAS

#### A KITCHEN FIT FOR AN INTERIOR DESIGNER

When a designer is the homeowner, the attention to detail moves up a gear

### INSPIRATION

#### INTRODUCING THE VERY TRENDY VERY PERI

For the very first time, Pantone has created a brand-new colour named 'Very Peri'

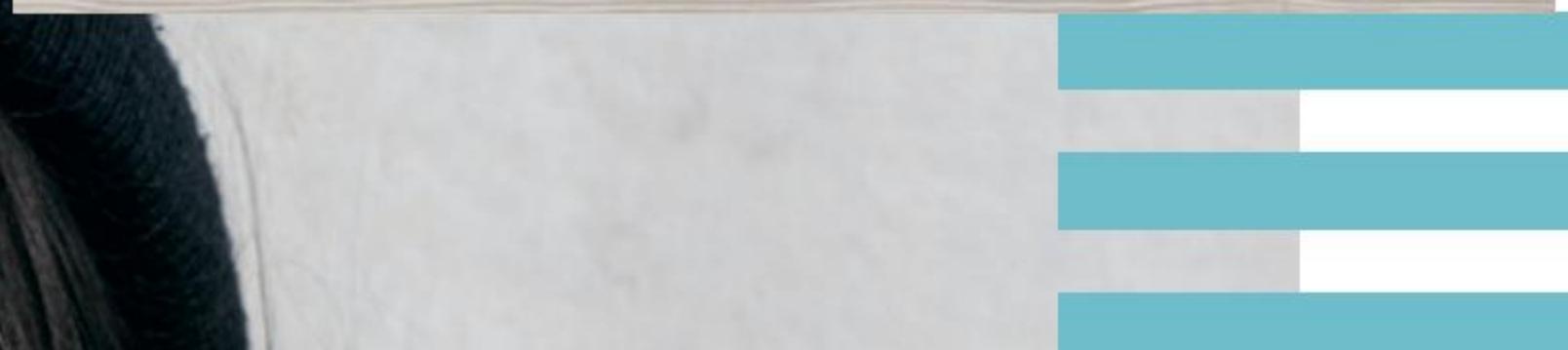
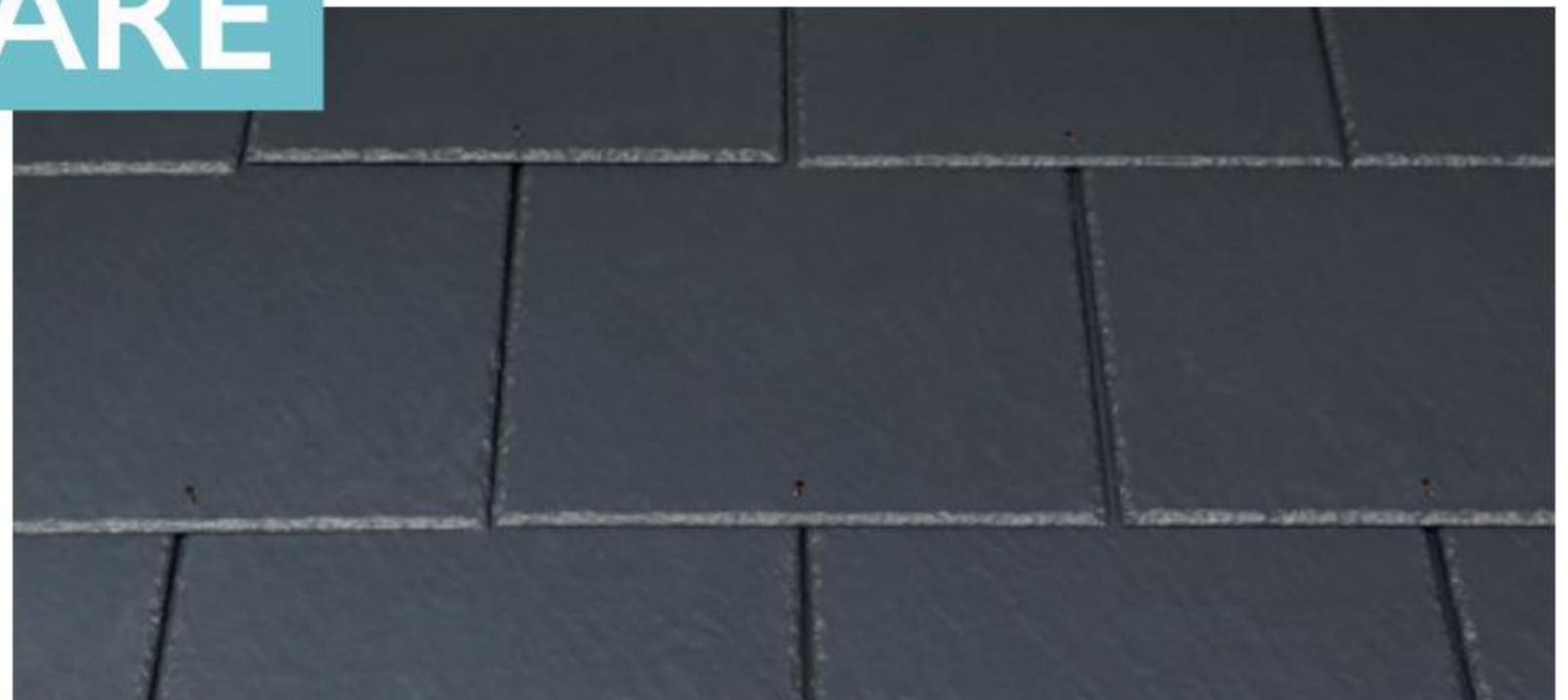
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# i-Build

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**Cover story:**  
Designed by Loyn + Co, this contemporary hillside home, which blends naturally into the landscape, makes extensive use of Kebony for the home's facade.  
**See page 18.**

# Editor's Welcome

I-BUILD FEBRUARY 2022



The housing ladder has always been one for fluctuation; rising and falling as it pleases, while everyone keeps a sharp eye on its next move. However, house prices only seem to be travelling in one direction of late, and that's up. And things don't look set to improve anytime soon for potential buyers. Which? recently reported that experts have predicted that house prices will continue this upward trajectory throughout the year due to a lack of new properties coming onto the market. And they're not wrong. Just look at your local estate agents' listings or hop online and head to Zoopla or Rightmove. Not only are listings sparse, but prices are through the roof, leaving little hope for first-time buyers and others looking to upsize. Of course, coronavirus' impact on the economy, the Government's Stamp Duty holiday and an imbalance between supply and demand are just a few of the challenges that have led to this domino effect.

Despite all this turmoil, some sincerely inspiring self-build and conversion stories are still developing, and one exceptionally motivating project was built in just 22 weeks. When 28-year-old Patsy Parr of Staffordshire started to look for a new home, she faced pages of properties that were entirely out of her price range. Having grown up in the village of Kinver, she wanted to remain close to home, and a morning run with her stepfather made that dream a reality. After coming across the plot during her daily exercise, she discovered that it was

available and, due to the chances of securing planning permission being deemed "very unlikely", the best news was that it was affordable. Turn to **page 24** to read about Patsy's award-winning home.

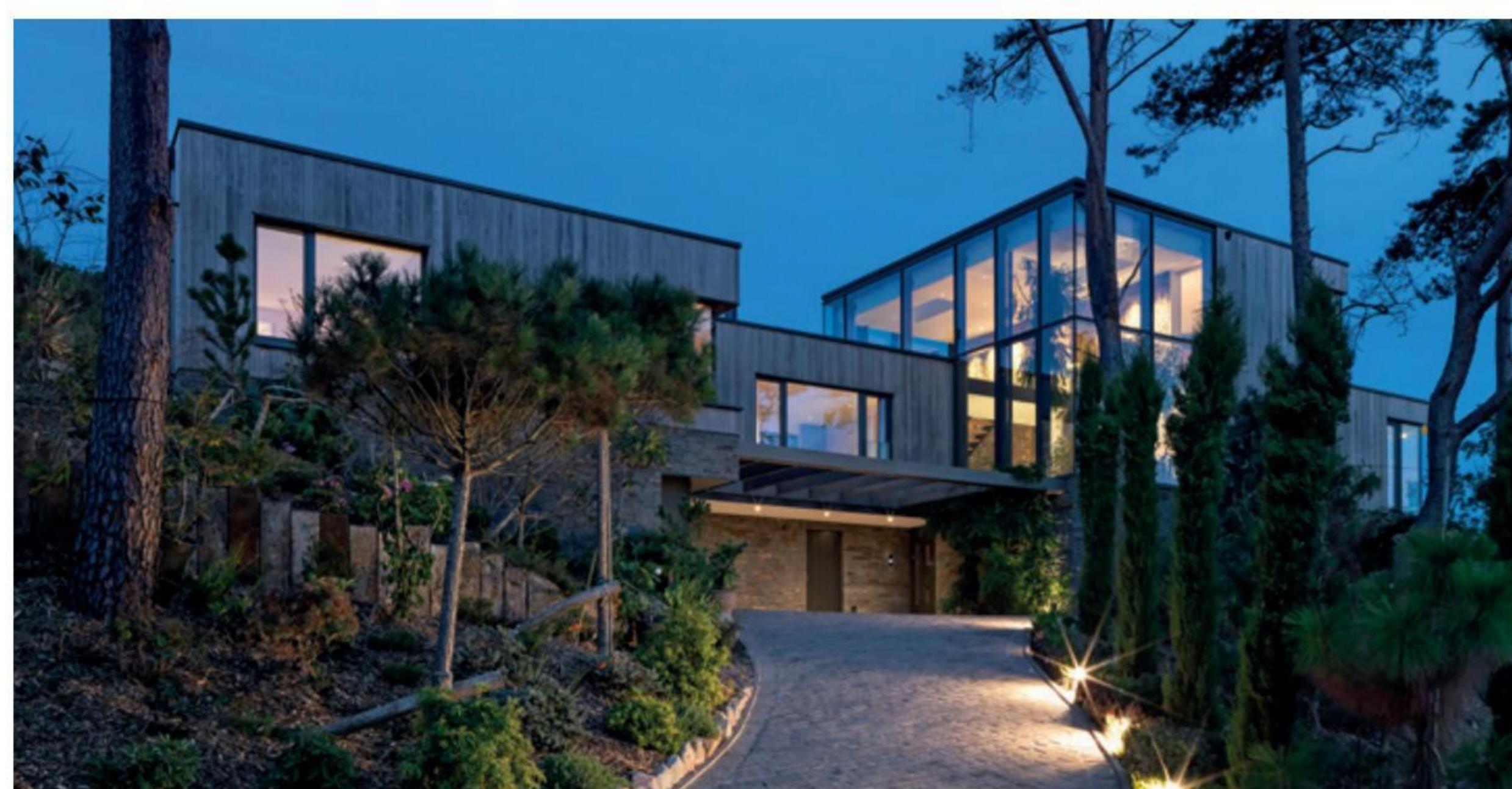
And Patsy's not the only homeowner in this month's issue that has strived to move into a property that's closely linked to her childhood. Fiona Smedley's father bought a cluster of Grade II Listed barns and a farmhouse in the 1980s and ran the site as an active farm until he retired in 2017. Having inherited the granary, Fiona and her husband, John, have transformed the property into a light-filled, unique and rustic home across two years. As she's grown up on the farm, the granary has played a significant role in Fiona's life and, as the Builder, Ken, explains, the site still had "old farming machinery, cow partitioning and even had ducks and chickens living in a part of it" when it came to starting the project. Turn to **page 12** of this month's issue to discover how the Smedleys brought this old family building back to life.

## Rebecca

Rebecca Kemp  
Editor

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# Desired Designs



©UNSPLASH

## HEARTS AND STARS

*Valentine's Day isn't for everyone. Whether you're a hopeless romantic, realist or aromantic, the truth is we're all different, and it's these distinctions that set our homes apart. While some spend time chasing hearts, others are more interested in reaching for the stars.*

This month, we're striking a balance between the two with a star-studded and plumpy heart-adorned line-up. So, whether it's convex curves or five-sided geometries you're tracking this month, we've got you covered with a handful of designs that will scatter some whimsical charm around your home. Let's begin with eye-catching prints. Whether it's a block, brick or half-brick or even a dot repeat, pretty prints make themselves at home within the most comfortable kitchens. For

example, these patterns slot into the interiors of farmhouse-style properties and family homes in the form of upholstery, blinds or even tea towels. Now, if your style is more on the light-filled, contemporary side, think Nordic-style accessories in light-wood or white-painted materials that you can sparingly dot around your home. And, for the industrialists looking for something more unconventional, look at giving reused materials a second home. For example, copper piping that has been shaped into the form of a heart.



### YOURS TO BUY

- 01.** Large sirius star lantern, £1095, Besseling & Jones
- 02.** Mini brass star hooks, £9.50, Mint & May
- 03.** 'What a Star' embroidered cushion orange, £49.50, Bombay Duck
- 04.** Red love edition candle, £40, Rockett St George
- 05.** Star brass spoon, £8.50, Mint & May
- 06.** Hearts tea towel, £10, Rebecca Pitcher
- 07.** White cast-iron heart bottle stopper, £9, Dibor
- 08.** Sophie Allport hearts bed cushion, £41
- 09.** Padded stars blanket, €80, einrichten-design.de
- 10.** Industrial copper pipe heart, £47, Lime Lace



**Bombay Duck**

**OUR BRAND PICK**

Bombay Duck has been creating happy homewares since 1993. Designed in London and made by artisans around the world, the quirky brand is passionate about creating unique, colourful designs.

**YOURS TO BUY**

1. Valentine's Day 2022 cushions, from £45
2. Darling Heart Plates, £27.50
3. Silver star glitter doormat, £24.50
4. Heart trinket dish, £9.50

**HOT PRODUCT**

## Beautiful bedding

Whether it's for a child's bedroom or an adult's, there are some stunning bedspreads on the market, and they don't have to be garish. Rather, think small prints, delicate embroidery, lots of white space and soft-touch, fluffy wool blankets.

**02****03****04****YOURS TO BUY**

1. Sophie Allport hearts embroidered bedding set, £50
2. Scattered stars bed linen in organic cotton percale, £17, The Fine Cotton Company
3. Red hearts throw, £98, J.J.Textile
4. Cuckooland Icon star kids weighted blanket, £59.95, Cuckooland

**TOP TIP**

**Why not?** Enjoy the best of both? Purchase small, changeable star-themed home accessories and change them up for hearts as part of a seasonal scheme. Switching up your interiors to match the seasons is a great way to brighten up your home as we enter the sunnier months. What's more, it offers your home's interiors a new, refreshing ambience. Remember, it's often the smallest changes that have the biggest impacts!

# Desired Designs

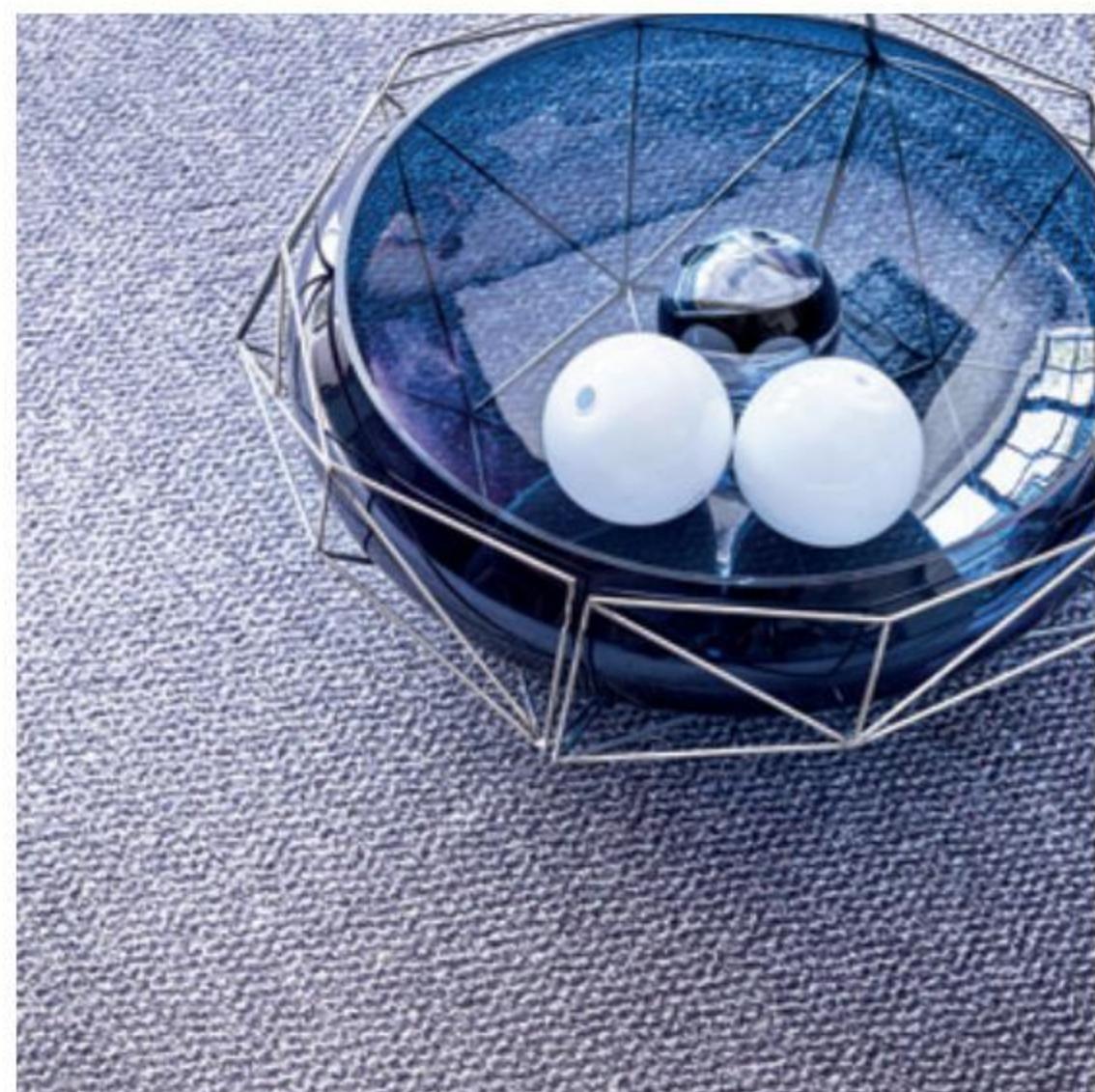
## ON-TREND VERY PERI

*For the very first time in the history of the Pantone Colour of the Year, the colour authority has created a brand-new colour named 'Very Peri'.*

### Neon lights

Electrifyingly cool, the 'Boys, Boys, Boys' neon light box is a dazzling showpiece for all the fellas! Showcasing a snazzy style, this neon light-up sign features the words 'Boys, Boys, Boys' in a striking electric blue colour enclosed in a large perspex box.

[www.rockettsatgeorge.co.uk](http://www.rockettsatgeorge.co.uk)



### Cool clocks

TOO designs is celebrating the new Pantone Colour of the Year for 2022, Very Peri, with a limited edition pale purple wall clock. The acrylic design comes in a stunning matt finish in a pale purple colour and is available in two sizes with black or white hands.

[www.toodesigns.com](http://www.toodesigns.com)



### Lay the carpet

Made in the UK, the Kosset Belford tweed carpet, in amethyst, is crafted from a pile of 100% polypropylene. This gives the benefit of being able to clean this carpet with a mild bleach solution, without the fear of damaging its appearance.

[www.carpetright.co.uk](http://www.carpetright.co.uk)



### And, that's the tea

Taking inspiration from a variety of periods to construct the pattern, with floral elements like orchids, peonies and delphiniums, this wallpaper links eastern culture, where tea leaves were discovered, to western culture after King Charles II introduced it to Britain.

[www.bobo1325.com](http://www.bobo1325.com)



### Wow your guests

Make the ultimate statement and opt for a more permanent home for Pantone's Very Peri shade with Italian brand Fontanot's 'Scala Clip Very Peri' helical staircase design. Striking in colour and form, this structure will act as the perfect centrepiece.

[www.fontanot.it](http://www.fontanot.it)



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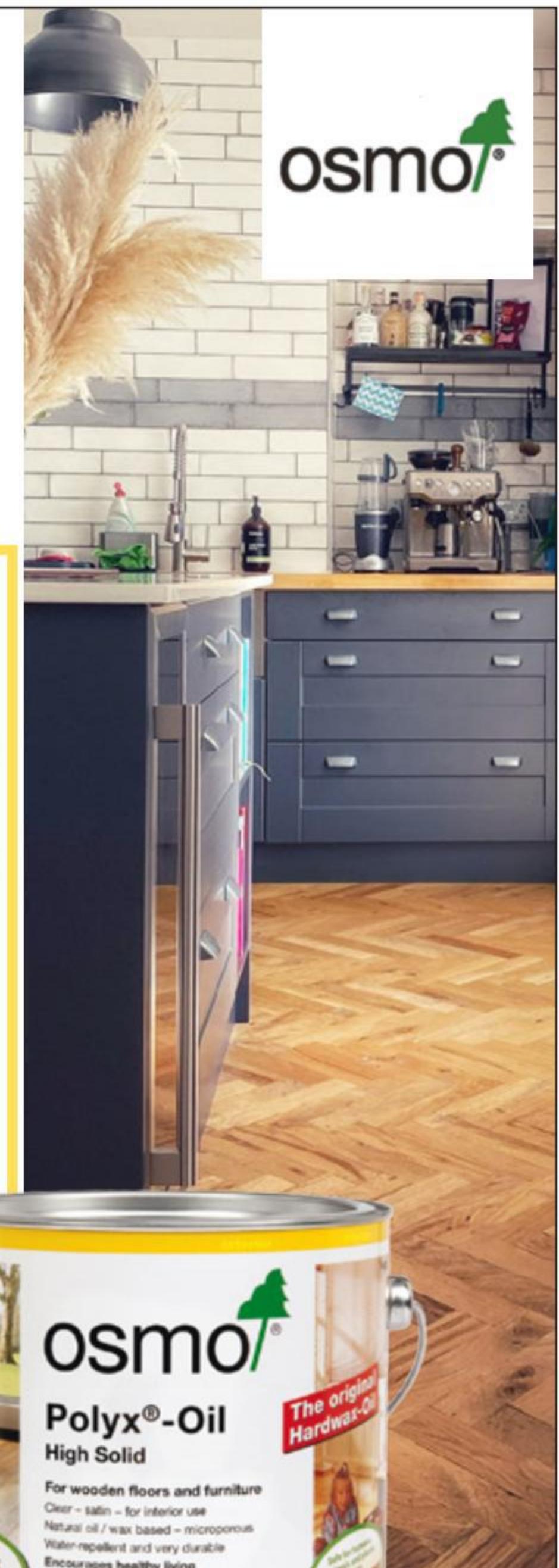
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## How structural glazing is helping self-builders and renovators see the light

When it comes to bright interiors and uninterrupted views, structural glazing is hard to beat, as Jason Eggerton, UK Specification Sales Manager at Pilkington United Kingdom, part of the NSG Group, explains.

**T**he Architect Le Corbusier, one of the pioneers of modern building design, said: "The history of architecture is the history of the struggle for light." It's a challenge that is still faced by those building houses today.

When designing a living space, ensuring natural light will flood the key interior spaces is usually a top priority, which means maximising the proportion of the building envelope made up of glass.

The traditional approach is to include more and larger framed windows, but there are limitations to what can be achieved with this approach. The panes of glass supported by the frames are limited in size, and the framed window system must be adequately supported by walls and beams. This places constraints on designers looking to optimise the way light enters a building, and that's where structural glazing comes in.

### No interruptions

The concept of structural glazing is to allow the glass to be largely self-supporting. Instead of being supported from the edges by frames, as with traditional glazing units, structural glazing typically uses countersunk holes in the glass along with low-profile stainless-steel point fixings to support the glazing in place, removing the need for frames.

To add strength to larger installations, perpendicular glass fins are often used to support the glazing, avoiding the use of large mullions or columns.

This makes it possible to build whole walls and roofs of continuous glass, creating exceptionally bright interiors while also offering entirely uninterrupted views of the building's surroundings. The approach can be used with single-pane or laminated glass, as well as double- or even triple-glazed units, so there's no need to compromise on energy performance.



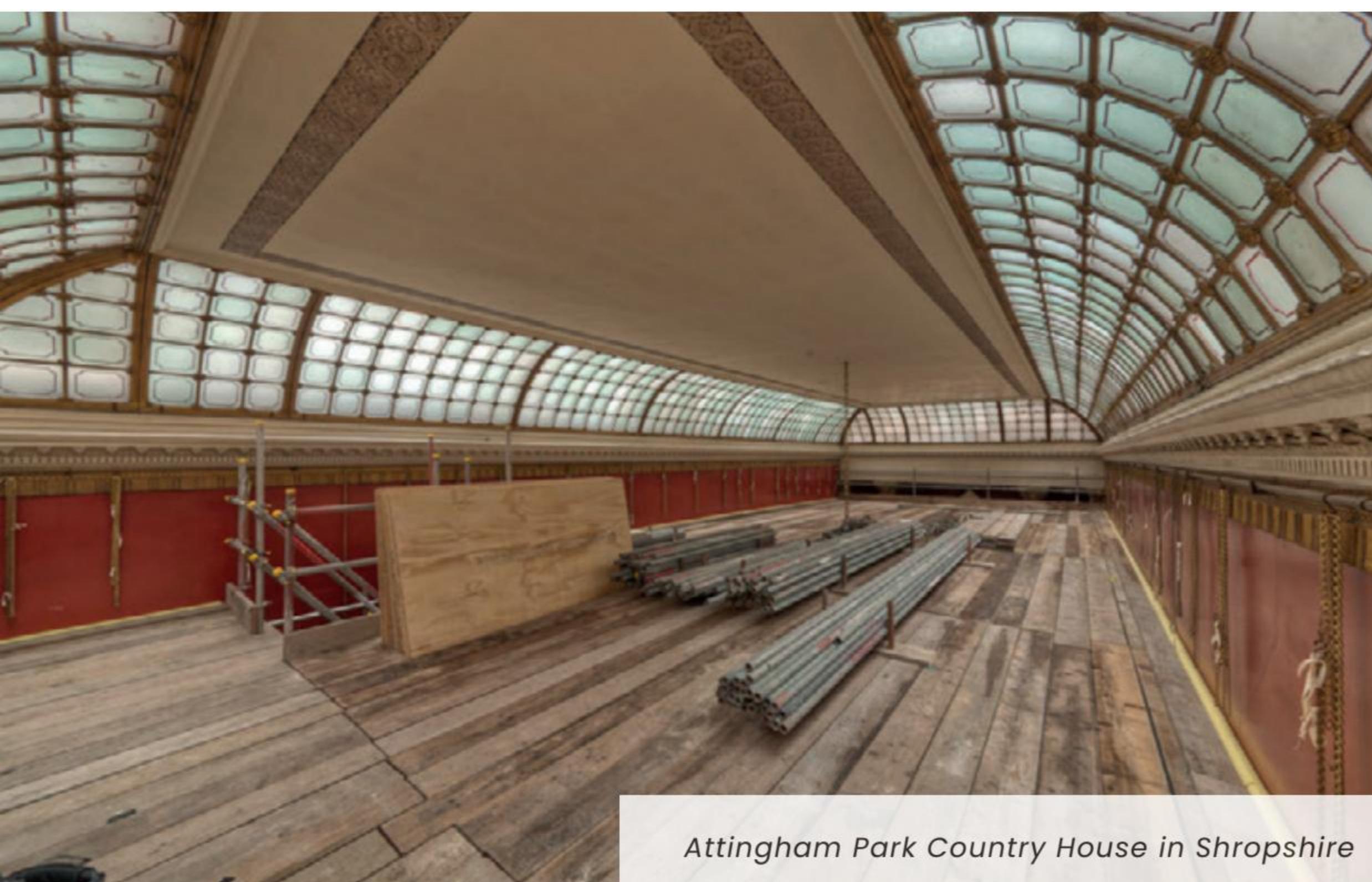
Attingham Park Country House

### Connecting indoors and out

One of the significant advantages of structural glazing is that it creates the opportunity to achieve a seamless visual link between the interior and exterior of the building, meaning occupants can enjoy panoramic views of their natural surroundings while sitting on the settee or cooking in the kitchen.

One of the best recent examples we've seen of this was a project in Norway named Summer House. The house enjoys a stunning setting on the rocky shore of a fjord. The client and their architect were keen to design the building to make the most of the views. To do this, they specified a structurally-glazed wall along the outward-facing side of the property's open-plan kitchen, living and dining space.

Architect Per Oscar Haaland explains: "The view is what makes the house, so one of the biggest requirements for the design was to maximise the occupants'



ability to enjoy it all year round. However, the site is very exposed to the weather. It experiences very high wind speeds and low temperatures, so while we wanted to create the largest possible area of glazing, obviously it was also vital that it would be very strong and deliver high levels of thermal insulation."

The wedge-shaped window is more than 10m wide and almost 5m high at its tallest point, creating a panoramic scene of the fjord and sky. To maximise the vertical aspect of the view – as well as the amount of natural light entering the building – the window is topped by a 90cm-deep section of roof glazing. As a result, despite the rugged setting and the often wild weather conditions it experiences, the occupants feel immersed in nature while they enjoy the luxury of a climate-controlled interior.

## Modernising buildings without compromise

The capacity of structural glazing to create frameless, self-supporting and almost entirely transparent walls means it is just as in-demand among those renovating historic buildings as it is with designers of ultra-modern homes. The systems give architects a solution that allows weather-sealed links to be created between old and new elements of buildings, enabling minimal distraction of the historic architecture for it to stand in splendid isolation. It can also be used to enclose previous outdoor spaces such as courtyards, adding internal floor space without excessive visual impact to create light and airy buildings.

An excellent example of structural glazing being used to bring a much-loved house into the 21st century in a sensitive way is the new roof at 230-year-old Attingham Park Country House in Shropshire. The house has



a unique stained-glass and cast-iron roof – designed by renowned Regency Architect John Nash – sitting above a picture gallery. To protect the roof against the elements for years to come, a structural glazing installation of frameless, glazed units supported by slimline steel trusses was put in place above the historic roof. This protects it from the elements while allowing it to be illuminated by daylight as the original designer intended.

## A new frame of mind

For most homes, the glazing is one of the definitive elements of the design. It has a huge effect on the way interior spaces feel while also determining the lines of sight through the home and out towards the surrounding area. It is, therefore, an area where extra investment can make a big difference to the look and feel of the build.

So – whether you're renovating or building something new – if you're finding it a struggle to choose the right windows to maximise the light in your build, structural glazing could be the solution you're looking for. ●



## Rebuilding history

The Grade II Listed barns and farmhouse at Elms Farm, Derbyshire, are packed full of history. Originally built in 1775, the barns are the former home of the Little Eaton Brewery Company, owned by Officers, and were used as a malthouse and granary before later becoming a working farm.

**N**ow, what was once the granary, stands the home of Fiona Smedley and her husband John, who transformed the barn into the unique and rustic property it is today, all while ensuring the essence of its history remained.

Fiona's father had bought the barns and farmhouse in the 1980s and ran the site as a farm until he retired in 2017. It was then that he passed on the former malthouse and granary to Fiona and her brother, who took on the buildings intending to turn them into homes two years on.

### Working with the professionals

Fiona and John worked with local architect Paul Gaughan Building Consultants to draw up the plans for the granary, which was being used as a barn at the time. After a few tests to analyse the conditions of the groundworks, all legal checks and necessary approvals were granted without any major changes to the initial architectural drawings.

When Builder Ken Tansley from Interbuild was first introduced to the site back in May 2017, the barn was still full of old farming machinery, cow partitioning and even had ducks and chickens living in a part of it.

"It was a typical old barn when we first started," explains Ken. "We needed to rip a lot out of the building, dig out the floors, do some repointing, and the roof needed to be redone. With it being a listed building, all this preparation and rebuilding work had to be done very carefully and by the book."

"As the build went on, the architect's drawings did have to be slightly amended, as is the way with many renovations, but fortunately, everything went pretty smoothly, and there weren't any major problems or changes."

### Window of opportunity

Light and heat were two significant factors that had to be considered during the planning stages. The barn had little-to-no insulation, and what would become the second floor had no access to natural daylight – two common issues to tackle in a typical barn conversion.

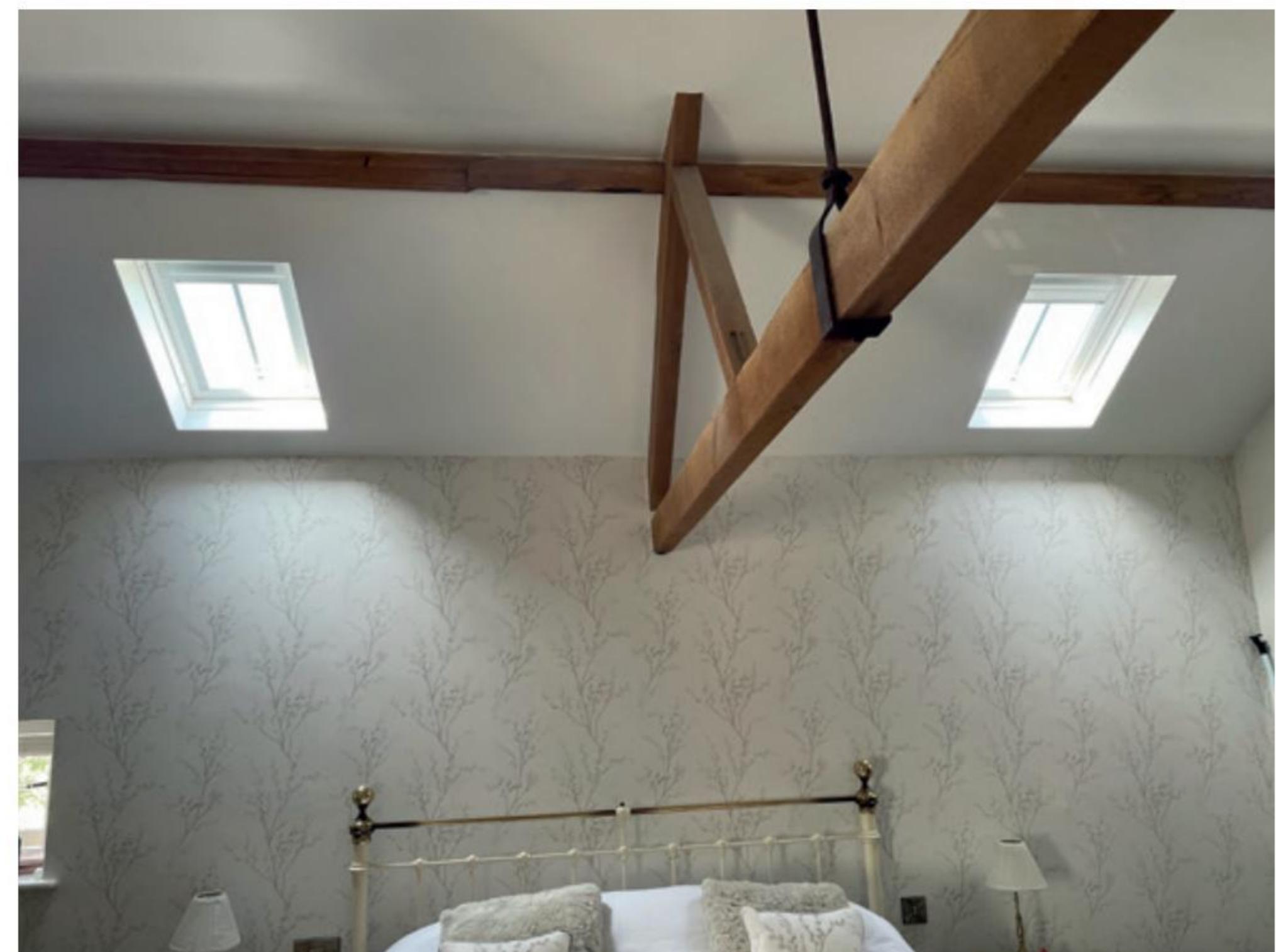
Still, a Grade II Listed property would need extra care and compliance. To accommodate this, many of the upstairs' original beams, which the owners had hoped to keep, had to be covered for insulation, and 15 roof windows were drawn into the plan to bring natural daylight into the top-floor rooms.

Ken first heard of Keylite when visiting Buildbase in Derby and soon contacted Keylite's National Brand Development Manager, Tom Jarvis. Ken describes: "Tom was fantastic. He came out to Elms Farm to meet us and even brought a sample. It was an easy sell due to the price and the fact that all the flashing and add-ons came with the windows as standard, which, again, saved us on time and price. That, and the homeowners knew they could also get a wide range of blinds from Keylite."

He continues: "The team and I work quite regularly on listed buildings, which meant drawing out the specifications and dealing with local conservation and listed building authorities was a straightforward process."

"Usually, roof windows can pose an issue for listed buildings, as they sit higher than the roof tiles and, therefore, cause compliance issues, as well as being an eyesore. However, another huge selling point for Keylite is that the windows are recessed as standard – meaning they sit lower in the roof, enhancing the overall appearance and improving the thermal performance of the window." ▶





## Staying true to history

Two years on, the barn at Elms Farm has been transformed into a beautiful rural home. Having stayed true to the building's long history, homeowner Fiona has worked to ensure as much of the original structure is incorporated into her home as possible. As she explains: "The barn has such a long heritage, and having grown up on the farm, it's been such a massive part of my own history too. We've kept many of the old original beams uncovered, particularly downstairs, and tried to incorporate as many of the inside stone walls as we can without plastering or covering them up. The stone floor that you can see has always been here and was actually what used to cover my old horse's stable! We took the stone up, installed underfloor heating throughout the property, cleaned it up and laid them all down again."

The L-shaped building consists of a lounge, three bedrooms with en-suites, and a sunroom, which used to be an old pigsty, looking out into the garden.

True to its name, the sunroom invites a plethora of natural daylight and warmth thanks to the bi-fold doors and two Keylite roof windows.

Fiona continues: "There is no attic in the barn, meaning the second floor is literally in the roof. Skylights, or roof windows, were the obvious choice to help bring natural light into the upstairs rooms. Four of our hard-to-reach Keylite windows are electric, which saves us from having to reach with a pole every time we want some fresh air, or when it rains. The three bedrooms all boast two Keylite roof windows, and each en-suite has an added one. The light that the windows bring in is terrific and really helps enhance the property's beauty."

## The initial vision

"The idea of building our own home on the site of my parent's farm was something we always wanted to do – the scope that the existing barns enabled was something that we just wouldn't have found anywhere else."

Our vision was to create a rustic and homely property that encompassed as much of the original building and history as possible. From start to finish, it took around three years to gain planning permission – as the barns were Grade II Listed, we had a lot of hoops to jump through, along with the requisite bat and bird surveys and environmental studies too. While, the project took approximately two years, which was also roughly how long it was initially predicted. We completed the construction and moved in at the beginning of October 2018."

## Powerful teams and connections

Fiona goes on to illustrate: "My husband and I were always very close to the whole process – although we were fortunate to strike up an excellent relationship with our builder, Ken, which enabled the project to run as true to plan as possible. Being close to the project management of the development, we were within about 10% of our budget plan – most of the overage came in from areas outside



of our control in terms of material costs and requirements to meet criteria linked to the listed status.

"Due to it being a listed building, only specific materials or specifications can be used to ensure compliance. Fortunately, the building team had worked quite regularly on listed buildings, which meant drawing out the specifications and dealing with local conservation and listed building authorities was a straightforward process.

### Fitting in

"The barns are built with the original and traditional stone brickwork that is synonymous with the Derbyshire countryside – now cleaned up and refreshed; the barns look idyllic amongst the surrounding village. As the barns and farmhouse have been on the land for centuries, the renovations fit in with the landscape perfectly. They are a massive part of the village's history, so the community is thrilled to see each of

the buildings done up and well looked after, whilst still very much staying true to its former glory."

### Taking it all in

Looking back on the project, Fiona explains: "We were just saying the other day how much we love it here. We would have liked to have kept more of the original structural beams and inner walls, but, of course, for longevity and insulation purposes, the builders did what they could. Other than that, we love how cosy it is, it's a proper countryside home, and it's really stayed true to its long history. The thing we love the most is the wooden beams; they really add so much detail, history and personality to the home. Our favourite room is the sunroom. It gains an immense amount of light, and you can look right out over the garden, the paddocks and the fields beyond.

"I think we always look back and think we may have tweaked things here and there, but, overall, we were fortunate to have the chance to build a home

for our family that suits our needs. We learnt an awful lot in this process, and that information gained would stand us in good stead if we ever have the opportunity to go again."

### Fiona's advice

When asked if she had any advice for other home renovators, Fiona answered: "Question everything. And make sure you get a builder, like Ken, who commits to the project wholeheartedly. There is nothing worse than unreliable tradespeople in this business – one carpenter doesn't turn up for two days, the plasterer can't work, and the decorators are guaranteed to be booked up elsewhere for the delayed slot. The ripple effects of a seemingly minor problem are huge – you have to micro-manage quite a lot. Don't be afraid to ask the daft questions if you're not sure about something – there is no rocket science or mystery about it!" ●

[www.keyliteroofwindows.com](http://www.keyliteroofwindows.com)



DRU Virtuo 80/3 three-sided electric fire

## How to incorporate a fire or stove installation into a self-build project

Whether building a new home from scratch or refurbishing an existing structure, the fireplace you choose will be a key feature in the property's overall design and energy rating. So don't treat it as an add-on; always define the specification at the planning stage. Modern gas fires, electric fires and wood stoves require careful consideration to work as part of the general home heating system, says Niall Deiraniya, UK General Manager at DRU Fires.

### Gas, wood or electric?

Decide which fuel type best suits your home. Modern gas fires have realistic flame pictures and are much more energy efficient than older models.

Furthermore, despite the development of air and ground source heat pumps, gas appliances will continue to be a mainstay of UK heating systems for many years to come.

Wood stoves and fires also have greatly-improved energy efficiency due to European Ecodesign regulations. The only downside is that much more work is involved with buying and storing the wood and cleaning the stove after use.

Today's electric fires are a far cry from those of the last century, which usually depended on coloured light bulbs and ribbons for their flame effects. The latest models have innovative projection systems that replicate the flames of real log fires. They have all the attributes of gas and wood fires with enhanced visual appeal and improved energy efficiency.

Both gas and wood fires have room-sealed options. This means that no air from inside the home is used for combustion, and all waste emissions are expelled outside, resulting in clean burning and high efficiency. Electric fires, in contrast, are much easier to install as there are no complex flue systems to account for.

### Built-in or freestanding

If you are converting a house with an existing chimney, you may wish to retain the chimney, to incorporate a more modern fire. Conventional flue gas fires are designed to fit seamlessly into standard chimneys and require minimal building work. The chimney will almost certainly need sweeping before installation, and the fire may require a chimney liner for essential safety.



DRU Metro 150 XT gas fire



Most wood fires are also designed for chimney installation and make full use of the air circulation properties to provide visually attractive and energy-efficient fires. You can either elect for a basic 'insert' fire, which matches the dimensions of a standard chimney or a widescreen or vertical model, which will require some structural building work.

Freestanding stoves are very popular, as they offer greater flexibility of location and provide dramatic room features. They are available in gas or wood and generally need a flue connection to an outside wall or through the roof.

### No chimney options

Contemporary balanced flue gas fires are designed to be installed without a chimney, so you can incorporate them almost anywhere in a self-build project. However, they still need to be specified at the earliest possible stage. A typical installation will require the fire to be flued through an outside wall, with the flue concealed behind a false chimney breast.

Fires can be located in room-dividing walls and other architectural features. Many homes are now installing gas, wood or electric fires into fully integrated 'media walls', incorporating home cinema systems, bookcases and other storage modules. You can also enjoy fires in kitchens, bedrooms, loft conversions and many different settings.



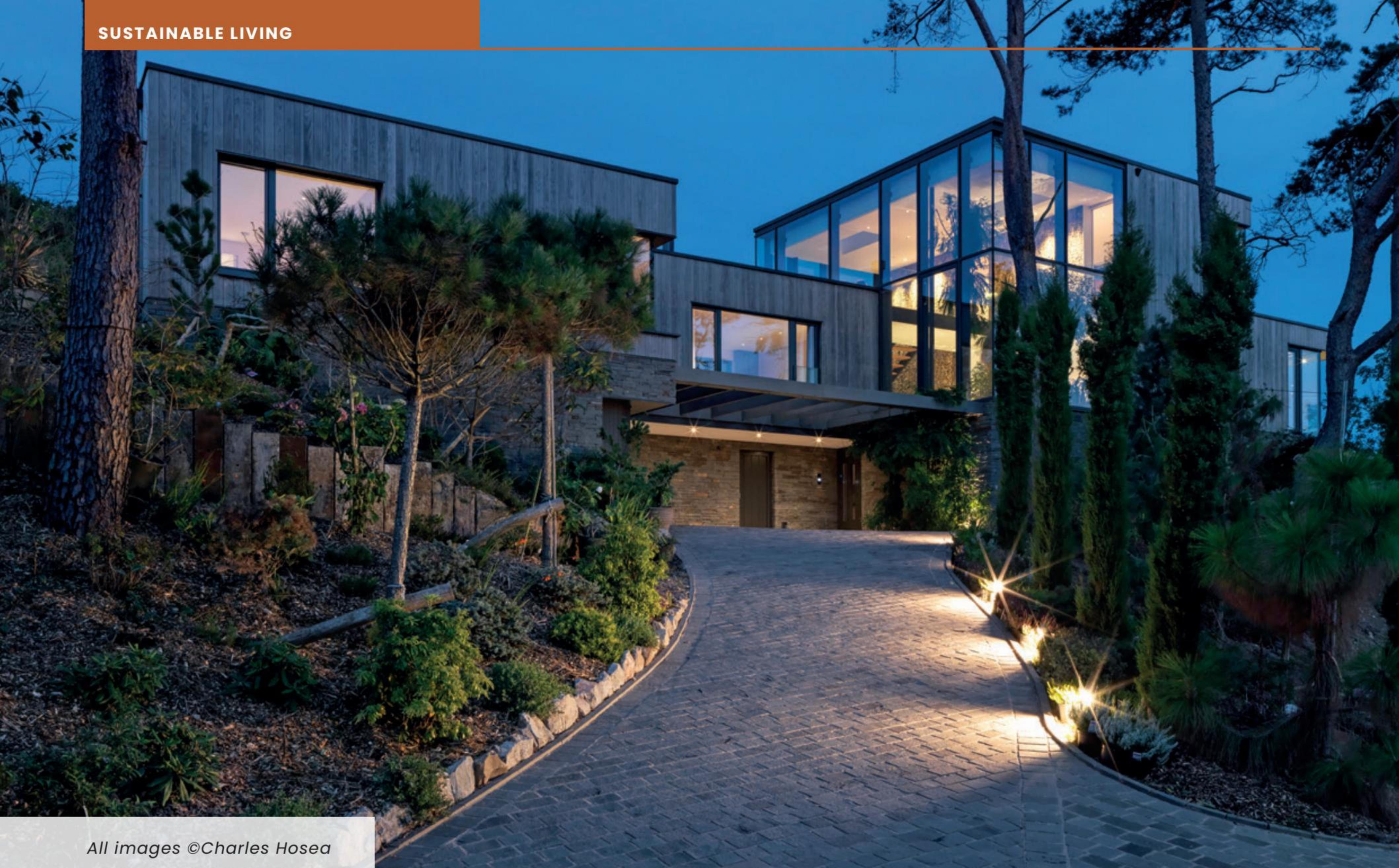
These installations are made possible by extended, fan-assisted balanced flue systems. They allow multiple gas fires to be placed in larger properties, with the flues hidden in crawl spaces and other discreet areas, terminating on the roof.

If you install a gas or wood fire with an A or A+ energy label, it will enhance the overall energy rating of your property, making it easier to obtain planning permission and pass Building Regulations, as well as saving money on energy bills. Finally, if you are building a passive house, you

can select a model with a lower heat output for purely decorative use.

In conclusion, the secret to having attractive and energy-efficient fires and stoves in any self-build project is design, plan, cost and implementation. Always consult an approved fireplace dealer to assist with the design and specification of your fireplace and employ the services of a fully-qualified Gas Safe engineer for gas fires or a HETAS engineer for wood fires and stoves. ●

[www.drufire.com](http://www.drufire.com)



All images ©Charles Hosea

## Head for the hills

Built into a rugged hillside overlooking the extensive natural coastline in South Wales, a new-build family home with a sustainable vision is now complete. Designed by award-winning architect firm, Loyn + Co, the home, which blends naturally into the verdant landscape and sits beneath towering pine trees, makes extensive use of Kebony, a global leader in the production of sustainable wood, for the home's facade.

**T**he design brief for the new home was to make the most of the beautiful views, capturing the potential of the sensitive location and prioritising the contextual importance of the site, topography and existing trees. As keen gardeners, the clients also wanted a house that would be suitable for the warm months and harsher winters. The dwelling is partially cut into the site and organised to have incredible sea views and arranged so that a central atrium planted with specimen trees provides a winter garden and an inspiring circulation space serving each of the three levels and putting nature at the centre of the home.

The family home – which has been cut into the valley side amongst established trees – uses Kebony wood extensively. This diverts the need for deforestation by transforming sustainable wood species, such as pine, into Kebony wood with comparable features, and in some cases superior, to those of precious tropical hardwoods.

Following the COP26 climate summit, which saw 100 world leaders promise to end and reverse deforestation by

2030, Loyn + Co's decision to make extensive use of sustainably-sourced Kebony wood for the stunning new-build home reflects the global shift to favour sustainable materials in construction. This will soon become imperative for architects, homebuilders and developers to rapidly curb the impacts of climate change, including the destruction of trees, which depletes forests that absorb vast amounts of CO<sub>2</sub>.

Here, i-Build's Editor, Rebecca Kemp, talks to James Stroud, Director at Loyn + Co Architects, and Nina Landbø, International Sales Manager at Kebony, about the design and material details that made the project such a great success.

### Loyn + Co Architects

#### RK: What was the vision behind this sustainable build?

**JS:** The owners wanted a modern, attractive and sustainable home. In response to this, we looked to design a build that complemented its surroundings whilst not having a detrimental impact on the nature that they are so fond of. The existing

dwelling on the site did not interact with the complex topography of the site and did not offer views out to the beach. Our vision was to work with the levels and existing trees to create an efficient home.

#### RK: How does the building fit with the surrounding landscape?

**JS:** Beautifully situated on the rugged Welsh coastline, the new-build home has made extensive use of Kebony for the home's facade, blending naturally into the verdant surrounding landscape. At the lower level, where the build is set into the ground, we have used local stone to embed the design and reference the solidity of this level as a base to the lighter, Kebony-clad upper levels. Overlooking the coast, the home is framed by towering pine trees, meaning it was essential to ensure it was in keeping with the area's natural appearance. The Kebony wood and stone have a tone and quality that allows them to blend with their surroundings, which is reinforced by the horizontal nature of the building. ►



**RK:** Why did you choose to use Kebony for this project?

**JS:** The way in which Kebony wood ages and silvers mean that its tone is perfect for this site. Additionally, the use of Kebony ensures structural stability and durability even in exposed locations, as well as being particularly low maintenance, which has often proved popular with homeowners. We, and the clients, share a passion for detail and the option to use a secret fixing detail was another advantage.

**RK:** Would you recommend Kebony to other architects?

**JS:** Yes, there are considerable benefits of using Kebony – a highly-durable, sustainable wood with the aesthetics and performance of the best tropical hardwoods. We would be pleased to recommend it as a reliable material to other architects.

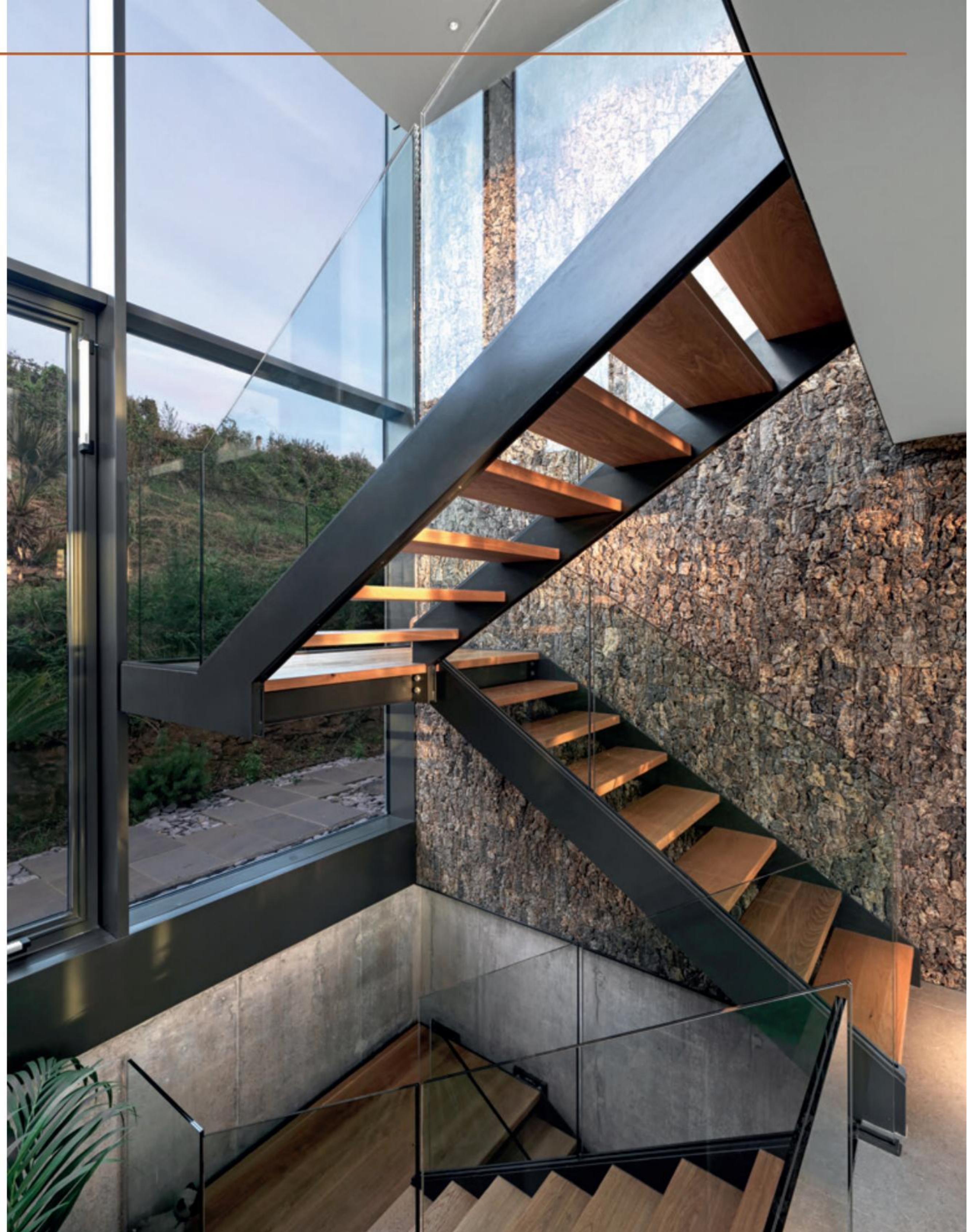
**RK:** What were the key challenges faced?

**JS:** A key challenge of the project was obtaining consent for a replacement dwelling within an area of outstanding natural beauty for a contemporary design that is not commonplace. We were, however, supported in our approach by the local planning authority as a result of pre-application dialogue and engagement. Building bespoke homes in remote locations can be challenging for many reasons, as was the case with this project. Access to the site was difficult, and the project did take longer to complete than initially proposed by the main contractor, despite being a timber frame structure.

**RK:** How was the build affected by COVID-19?

**JS:** We experienced some delays and disruption due to the pandemic; however, the site was not 'shut down' for an extended period. One of the challenges for the client was that they lived a few hours from the site, and as a result, their site visits were reduced to the minimum due to restrictions. I felt for them as building a house is an exciting and challenging experience!

Concluding his Q&A, James says: "The new home has been thoughtfully knitted into this complex site to work with the varying levels and existing beautiful trees. The design truly brings the outside in, not only through 'inside-outside spaces' and visual links through the house to the sea beyond but through the indoor garden within the central atrium where nature is the focus. Simple measures, such as bringing the Kebony cladding in and through the atrium, reinforce this concept."





## Kebony

### RK: Tell us about Kebony's technology.

**NL:** Kebony utilises patented wood modification technology to enhance the qualities of sustainable softwood, giving it the characteristics of premium hardwood without environmental damage.

### RK: How does using Kebony wood benefit the environment?

**NL:** Kebony's vision is to reduce CO<sub>2</sub> emissions and tropical rainforest deforestation by utilising patented technology to produce superior and sustainable wood. Kebony is recognised as one of the leading sustainable timber pioneers globally. Using a proven timber modification technology, Kebony produces an enhanced wood that is both environmentally friendly and cost effective.

### RK: What other architectural projects has Kebony recently been used in?

**NL:** Kebony has been used for various architectural projects, from new-build homes to large-scale commercial

projects. The company has an impressive portfolio of international, high-profile projects, including headline-grabbing architectural ventures and a host of award-winning commercial, residential and public sector builds.

### RK: How does Kebony age over time?

**NL:** Kebony is unique in its appearance, starting as a rich brown colour which then ages over time to a striking silver-grey. Following exposure to elements, Kebony wood maintains its hardwood-like properties, is resistant to weathering and provides a reliable and resilient material. The changing colouring is subtle and in keeping with the natural aesthetic.

### RK: Why is Kebony so popular?

**NL:** Kebony provides its customers with sustainably-sourced, quality wood that is available at a low cost and requires very little maintenance other than usual cleaning. As the construction industry is becoming increasingly aware of its environmental

impact, many architects are looking for sustainable alternatives to protect the world we live in.

### RK: Where else is Kebony useful in a house-building project?

**NL:** Kebony wood can be used for both practical and decorative functions as it is a multipurpose material that is durable and aesthetically pleasing in nature.

Nina concludes: "It's fantastic to see more and more homes embrace the use of sustainably-sourced wood like Kebony, which decreases the logging of precious tropical hardwoods and provides a long-lasting and sustainably-sourced wood alternative to concrete, plastic and steel. The architects, Loyn + Co, have created an exceptional home in Wales, and one that should set an example for how remarkable dwellings can be built and benefitted by innovative, environmentally-friendly materials." ●

[www.kebony.com/en](http://www.kebony.com/en)  
[www.loyn.co.uk](http://www.loyn.co.uk)



## Sound, smooth, dry: the watchwords for a perfect subfloor

'Sound, smooth, dry' are the three key aspects of a subfloor that will determine if a flooring installation will look its best and, importantly, maintain its integrity throughout its lifetime. It sounds simple, and it is, as long as correct procedures and practices are followed. However, shortcuts and guesswork can result in major issues down the line. Peter Wilson, Brand Manager for Setcrete floor preparation products, explains further.

**S**creeded floors, particularly, have the potential to cause problems if simple steps are not taken.

There are two main types of subfloor screeds that are used in modern homes – traditional sand/cement or, newer calcium sulphate screeds.

Calcium sulphate screeds are becoming increasingly popular in the construction industry because they offer several benefits over traditional sand/cement screeds, including speed of application over large areas, less shrinkage and fewer joints required within the subfloor. They also provide better conductivity, which is beneficial if underfloor heating is incorporated in the screed.

### Sound and strong

Whichever screed is used, the principles of 'sound, smooth and dry' are still applicable. The first thing to look for is that the screed is sound and stable, not showing evidence of cracks and

not easily broken up. If either case is apparent, the subfloor screed has been incorrectly installed and will require remedial work before proceeding.

What is common on newly-laid screeds is laitance, a crust of cement and fine aggregates that forms on the surface of the screed as it dries. It can vary in thickness from fine dust to a few millimetres. Laitance doesn't present a major issue, but it should be removed using a rotary sander, shot-blasting or abrading machine. If not, it will eventually delaminate from the main aggregate screed and cause floor failure.

### Moisture management

The next step is to check for moisture in the subfloor, which is the number one cause of flooring installations failures. Measured in terms of relative humidity (RH), subfloor moisture levels should be below 75% or below 65% if wooden flooring is going to be installed. Above these levels, moisture can cause

adhesives to debond, vinyl to blister and wood floors to warp.

With new-build properties, excess subfloor moisture will typically result from the screed not having had sufficient time to dry out.

To check for the presence of moisture, hand-held moisture meters can be used at various points around a room to assess if moisture is present. However, to get an accurate reading of moisture levels, a digital hygrometer should be used, again, at various points around the room.

As a rule of thumb, a sand/cement screed will take around a day per millimetre of thickness to completely dry. If time is pressing, a liquid, epoxy resin damp-proof membrane can be applied over the subfloor to provide protection against moisture and allow the installation to proceed as soon as the membrane has cured (with fast-track systems, this can be in as little as three hours).



Calcium sulphate screeds must be allowed to dry out completely and cannot be fast tracked using a damp-proof membrane. These screeds dry from the bottom up, so a moisture test may deliver a positive reading right up until the point the subfloor is completely dry. The drying process can be accelerated by ensuring areas are adequately ventilated by opening windows or using a dehumidifier and/or turning on underfloor heating, if incorporated within the subfloor, at a low temperature.

### **Smooth and level**

Having ensured the subfloor is sound and dry (or protected from moisture), the final step is to ensure the surface is smooth and level to optimise the appearance of the installed floorcovering and ensure that blemishes and ridges in the subfloor don't manifest themselves through the floorcovering and spoil its appearance.

This is especially important when installing thin, resilient floorcoverings, such as luxury vinyl tiles (LVTs) or planks, which are also increasing in popularity, because of the variety of finishes and designs now available,

alongside their obvious practicality. But, in truth, all floorcoverings will benefit from being installed over a smooth and level surface.

As such, it is recommended that the screed is finished with a floor-levelling compound. A levelling compound will smooth out any marks, ridges or slight fluctuations in the screed, providing the perfect surface for the installation of the selected floorcovering.

For domestic use, a general-purpose levelling compound will be suitable. Still, options such as heavy-duty versions should be considered for wood floor installations, as the compound is more able to withstand the stresses and strains imposed by the wood as it tries to expand or contract in response to changes in humidity and temperature.

Again, if time constraints demand that the flooring be applied quickly, fast-track levelling compounds can be used to allow the floorcovering to be installed as soon as two hours after application.

Having checked and, where necessary, taken measures to ensure each of the three key aspects required of the subfloor (sound, smooth and



dry) have been achieved, you can undertake the installation of the floorcovering with confidence that the finished floor will look its absolute best and that it will maintain its appearance throughout its lifetime. ●

[www.setcrete.co.uk](http://www.setcrete.co.uk)



## A well-protected dream home

28-year-old Patsy Parr took a leap of faith to set about building her own sustainable oak-framed home, 'Little Gem', in the picturesque village of Kinver. Determined to build a high-specification home on a tight budget, her plans featured an open-plan kitchen and a spiral staircase leading to an undercroft.

**H**ere, i-Build's Editor, Rebecca Kemp, talks to Patsy about her homebuilding project and finds out how she determined all-important fire safety products for the inspirational build.

### **RK: What inspired you to embark on your own project rather than buying?**

**PP:** I wanted to remain living in the village where I grew up. However, the costs were not affordable, so my only chance was to undertake a self-build project.

### **RK: What was the vision and inspiration behind your new home?**

**PP:** The vision was to build a beautiful eco-house that would benefit from the latest technology whilst complementing its surroundings.

### **RK: How did you approach finalising your design brief?**

**PP:** Before starting the project, I made a thorough list of my 'non-

negotiables', such as it being open plan and then was really flexible on everything else.

### **RK: Did your project need to cater for any special requirements?**

**PP:** We had to make several considerations as the building plot was on the green belt, in a conservation area surrounded by 50 trees – under a tree preservation order (TPO). Despite the initial challenges, we developed a home that was sensitive to the surrounding area and complied with the agreed planning requirements. Altogether, it took two years to gain planning permission.

### **RK: How and why did you choose this plot?**

**PP:** My stepfather and I were running past the plot when we first saw it was available. The chances of securing planning permission for the land was deemed very unlikely, and so it was really affordable. Despite the potential

challenges, I was determined and felt like I had to jump at the opportunity.

### **RK: Did you install any renewable systems?**

**PP:** We wanted to avoid fossil fuel heating and installed air source heat pumps as a low-carbon solution. As such, the property achieves the highest energy rating.

### **RK: How long did the project take, and did you remain within budget?**

**PP:** It was completed in 22 weeks, just two weeks over schedule. I did stay within budget, but there were some unexpected costs, such as additional landscaping. To overcome this, I had to review and make cuts in other areas, but I was also really fortunate to find discounts in other areas. For example, the kitchen was supposed to feature in an exhibition at the NEC, but after the show was cancelled because of the pandemic, I managed to get it for just 10% of the advertised retail cost. ►



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**RK:** What does the local community think of the new property?

**PP:** After some initial resistance, people seem very happy with the finished design. I was also recently awarded the 'spirit of self-build', and the house has been crowned as the readers' choice home of the year in The Daily Telegraph Homebuilding and Renovating Awards.

**RK:** Is the final property everything that you hoped it would be?

**PP:** Honestly, it is truly my dream home. From the open-plan kitchen to the spiral staircase, it's everything I wanted and more. The hallway is very special to me. The vast windows make me feel like I'm actually in a forest when I'm walking through.

**RK:** Would you do the whole thing again?

**PP:** Yes. It was an incredibly challenging project but by far the best thing I have ever done in my life.

**RK:** What advice would you offer to anyone looking to self-build?

**PP:** Go for it. Be creative, positive and keep going. Do your research, and don't be afraid to ask for help.

**RK:** How did you decide which plants to use and how to place them?

**PP:** I employed a landscape architect but was keen to keep it very simple. In the end, we placed three bay trees at the front of the house. My stepfather used to live on a farm, so he was very helpful throughout the process.

**RK:** Were there any challenging aspects to the project and build?

**PP:** To commence the build, 700 tonnes of soil needed to be removed, but planning constraints also presented several challenges. Especially as the home is built over four floors, the site is sloping, and it was a very tight, small space we were building on.

I was also really conscious of mitigating the risk of fire, given it's made of oak and surrounded by trees, and finding a suitable suppression system that wouldn't take up lots of room and wouldn't ultimately damage the home if it was ever activated.

**RK:** How did you approach material and product specification?

**PP:** I was fortunate to get a lot of expert advice from my connections, which helped keep costs down. But I also did a lot of research; and I mean a lot of research. That was actually how I came to find Automist. I was searching for a system that was discreet in design, without jeopardising quality, that would enable me to have an open-plan living area in compliance with Building Regulations. ●





## PATSY'S FIRE SUPPRESSION SYSTEM

Patsy wanted to install a smart fire safety solution that would complement the innovative and attractive design of her home and wouldn't take up lots of room, as space was limited. After researching suitable fire suppression systems, Patsy was drawn to Plumis' award-winning technology, Automist, because of its discreet design and the fact it didn't need a tank as it connects directly to the domestic water supply.

Automist also uses a tenth of the water of conventional sprinklers upon activation, resulting in minimal consequential damage. Patsy explains: "After spending so much...I wanted to make sure it was well protected – especially given it is made of oak – and, in the event of a fire, that the suppression system I did have in place, wouldn't destroy the interiors. I was really impressed by the system's ability to reduce water usage without compromising safety, which was one of my reasons for choosing the system."

Plumis' system uses heat and smoke detectors in tandem to identify and target the origin of a fire. The spray head located closest to the fire is then activated, enabling the pump to drive the mains water through the unique wall-mounted nozzle unit, quickly filling the room volume with a dense fog. Watermist removes heat and displaces oxygen from the fire zone, resulting in fire control, suppression or extinguishment. Patsy was also reassured by the system's 'black box' memory which captures data that can be useful for any insurance claim. The simplicity of the system, along with the speed and ease of installation, also fitted in with Patsy's 25-week build schedule – all completed safely during the coronavirus pandemic. Automist not only enabled Patsy to integrate a system that offered increased protection whilst fitting with the aesthetics of the home but building control was also impressed with the system's capability.

Patsy concludes: "The first thing that struck me about Plumis' product was that it looked amazing and was the perfect solution for my open-plan design. I love problem-solving technology, and Plumis ticked all the boxes for me and building control. From a personal point of view, I feel safe in my house and that my dream home is well protected."



## Airtightness and ventilation: the perfect balance

Good indoor air quality has never been more essential, with the pandemic highlighting the importance of effective ventilation. When building or renovating your own home, you want to ensure you get the balance right between airtightness for energy efficiency and ventilation for optimum indoor air quality (IAQ). In this article, Christian Rehn of National Ventilation explains more about what you need to consider and how to choose the correct ventilation.

**A** whole-house ventilation system has many benefits for modern airtight homes with mechanical ventilation with heat recovery (MVHR) increasingly the ventilation system of choice for new-build projects and major renovations. It combats condensation and mould by reducing humidity, filters out pollen and pollutants from the outside air and extracts viruses and other small particles from within the home. It then introduces clean tempered air, improving indoor air quality (IAQ) and making the home a healthier place to live. MVHR also saves energy by recovering heat that would otherwise have been lost. So, if you want to include MVHR in your build, where should you start?

### Involve a ventilation designer early on

When installing a whole-house ventilation system, good design is vital.

This ensures that the system provides the correct ventilation levels with good IAQ and will work within the structure. Free design services, such as the one offered by National Ventilation, supply a full design, kit list and recommended duct routes. They will also ensure compliance with the latest Building Regulations (updated Documents Part F and Part L of the Building Regulations were published on 15th December 2021 and provide a step change on the route to net zero by not only improving the energy efficiency and airtightness of homes, but also increasing ventilation rates).

A designer will provide a ventilation design that fits seamlessly into a project and ensures no clashes with architect drawings, steels, etc. Another advantage of a professionally-designed system is that it will be provided in REVIT files – a format your architect or contractor will understand, making things easier.

Furthermore, a designer should supply information on how a whole-house ventilation system works and its many benefits. With net zero not far away, MVHR is set to be the technology of choice for new-build ventilation. This is thanks to MVHR reducing the carbon footprint of homes and effectively and efficiently tackling indoor air pollution, CO<sub>2</sub> and humidity levels.

### Select the correct MVHR unit

If an MVHR unit is specified and it is too big, it will not be energy efficient and will over ventilate. While if a unit is too small, it will under ventilate affecting IAQ. A ventilation designer will use architect drawings and property details to enter building data into an airflow calculator. This ensures that the ventilation specified can meet the airflow demands of each room. Once the total airflow figure is calculated, an MVHR unit is determined to meet these requirements.

The design will also indicate where the MVHR unit should be sited. The ideal location is in a loft, although care should be taken not to install the unit above a bedroom. However, if there are vaulted ceilings in a home, an alternative location is needed, such as a utility room. Wherever it goes, it's vital to ensure the MVHR unit can be easily accessed so you can change filters to help maintain good IAQ.



## Ducting

When using MVHR to ventilate your home, you also need to consider ducting. Larger projects generally use traditional rigid ductwork, which requires experience and time to install correctly. Rigid ductwork runs off a central spine with multiple connections, which all need sealing – and with each seal, there is a greater risk of a leak.

For smaller developments, such as a self-build home, semi-rigid ducting is a simple alternative that is easy and quick to install. Semi-rigid radial ducting is both low profile and flexible, meaning it is perfect for installing in places where space is restricted. It has a central manifold with a single length of pre-sealed ducting running to the unit and the air valve, meaning only two joints and no need for tape or mastic. It's available in rolls that can be cut to the appropriate length, meaning far fewer connections, easy routing and supporting of the duct compared with traditional rigid ductwork. This makes installation to a high standard straightforward. Using semi-rigid ductwork also means fewer bends, minimising resistance, making it more energy efficient and quieter while improving airflow. Some semi-rigid ducting comes with an antibacterial coating that is also anti-static, so it doesn't collect dust, helping to enhance IAQ further.

You also need to consider your building's design when locating the

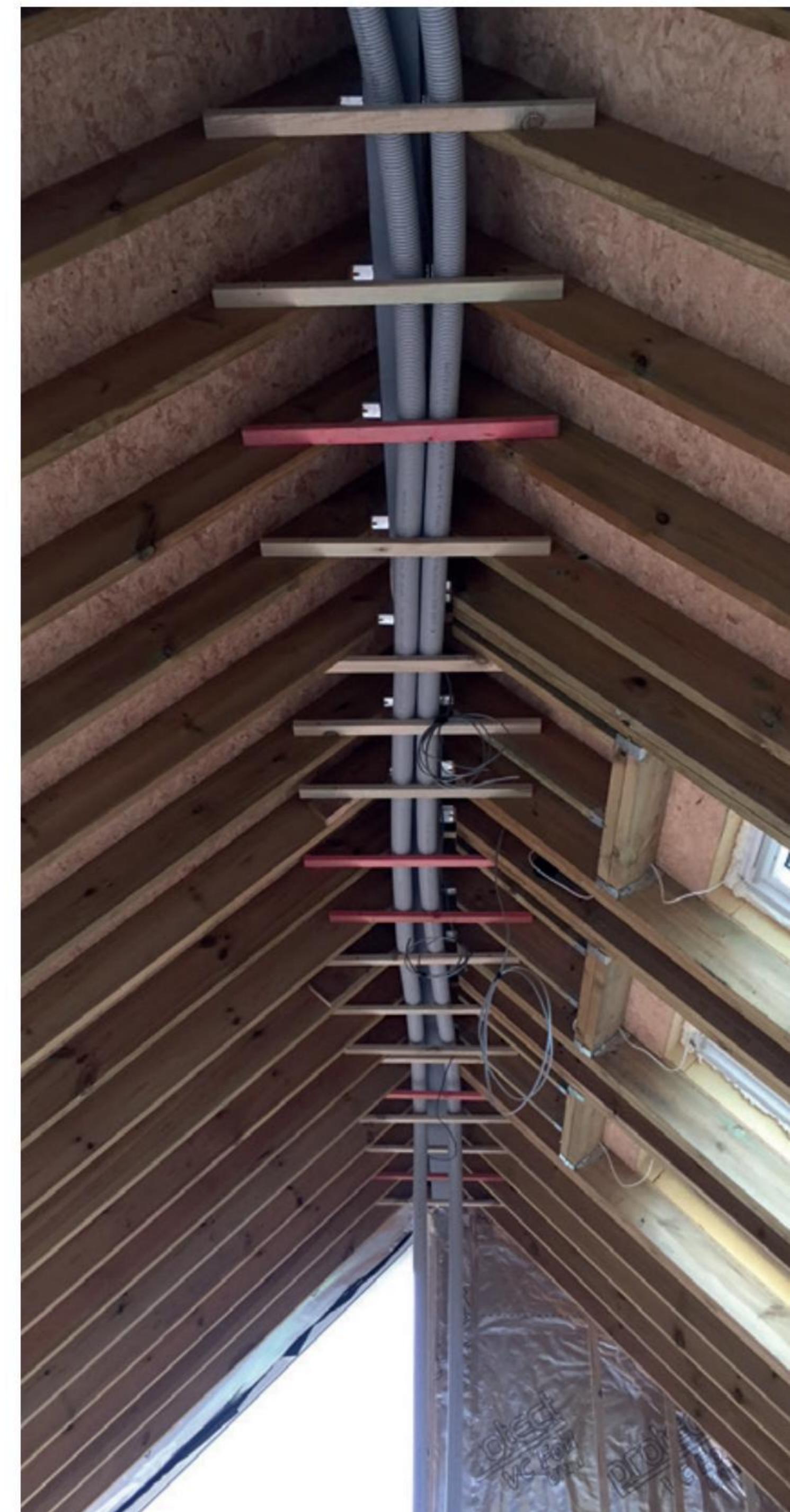
risers and ducting. Do the ceilings have voids to run the ducting? Alternatively, you can run ducting along webbed eco joists, between floors or within stud walls.

## Control

Traditionally, MVHR is boosted on bathroom lighting, but not every bathroom visit is a shower or a bath, so systems can boost unnecessarily. As an alternative, an in-duct humidistat can be fitted in the ducting, meaning the boost only triggers when humidity rises, avoiding nuisance running. It's also quicker and more cost effective to install, as ventilation contractors only need to wire the humidistat back to the fan.

Some of the latest MVHR units feature app-controlled commissioning, encouraging best practice and high performance. Installers can check that the ductwork is fitted correctly via the app and check airflow is correct, simplifying and reducing installation time and ensuring accurate commissioning.

By using a free ventilation design service, you can rest assured that you will have a well-designed, fit-for-purpose MVHR unit for your individual property. It will be sited correctly along with the ducting and will provide effective, quiet, energy-efficient ventilation. Add to that the many benefits of good IAQ, and it's clear that well-designed MVHRs are the ventilation systems of choice for new builds. ●

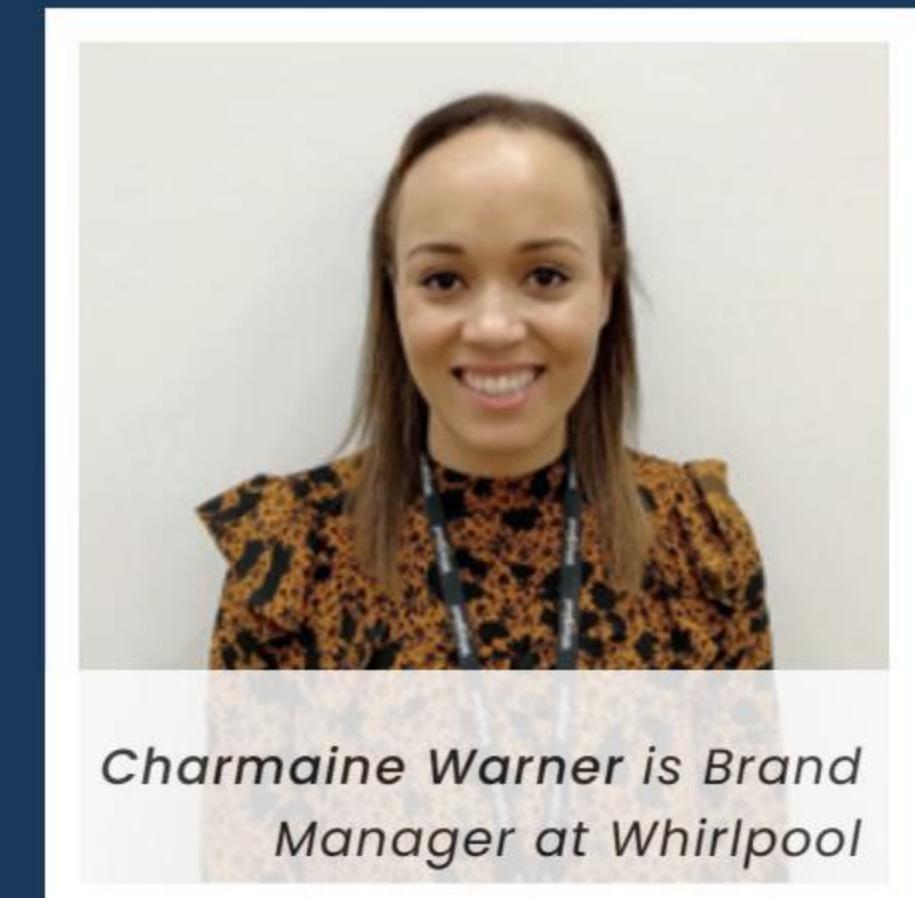


The Whirlpool SupremeSilence 10kg washing machine (W8 W046WR UK) boasts an 'A' energy rating, 6TH SENSE technology and the Extra Silence programme for completing a load of laundry in near silence



## What to look out for when choosing energy-efficient home appliances

In this article, Charmaine Warner, Brand Manager from premium appliance manufacturer Whirlpool, explains the energy label displayed alongside home appliances, in-store and online, and what to look for when investing in a new appliance for your home.



**Charmaine Warner** is Brand Manager at Whirlpool

### What is the energy label?

Introduced in 1996, the energy label was created to help consumers choose the most energy-efficient appliances, with the aim of ultimately reducing greenhouse gas emissions. It not only highlights how energy efficient an appliance is but also provides information including noise output and water consumption, where applicable.

Energy labels are mandatory for most appliances and must follow a specific format, allowing the prospective buyer to easily compare models and make an informed decision on their purchase. Products are given a rating, which sits on a traffic-light scale, and the higher the rating is, the more efficient the appliance.

### Energy label changes explained

With advances in technology, appliances available to purchase today are significantly more resource efficient compared to those available in 1996, and, therefore, the energy label was updated in 2021.

To simplify the labelling system, the added plus classes, (A++, A+ and A+) have been rescaled, with a clearer energy scale from A to G, retaining the familiar seven-step colour system.

With the new energy label comes new measurement methods for calculating the energy rating to encourage the innovation of increasingly resource-efficient appliances and challenge manufacturers to place a greater focus on resource efficiency.

### A phased introduction

The first appliances that displayed the new energy labels were dishwashers, washing machines, washer-dryers and refrigerators, including wine storage appliances and freezers. Since 1st March 2021, all new products within these categories display the new label.

Other product categories, including ovens, tumble dryers and specialist cooling appliances, will transition to the new label in 2022.

### How consumers will benefit

To drive the market towards increasingly resource-efficient appliances, the revised grading system means appliances with the very best energy rating on the old scale may not reach the top of the new scale. As a result, only the very best performing products will now gain an A rating.

For example, the brand-new Whirlpool SupremeSilence washing machine (W8 W046WR UK) benefits from an 'A'-energy rating and 6TH SENSE technology. By sensing the size of the load and continuously monitoring the wash programme, 6TH SENSE adapts the cycle to optimise resources, saving up to 45% energy<sup>1</sup> and 50% water<sup>1</sup>.

According to Youreko, an energy savings tool, the Whirlpool 10kg SupremeSilence washing machine (W8 W046WR UK) delivers energy savings of up to £294 over its lifetime when compared to the least efficient model available in the UK<sup>2</sup>.

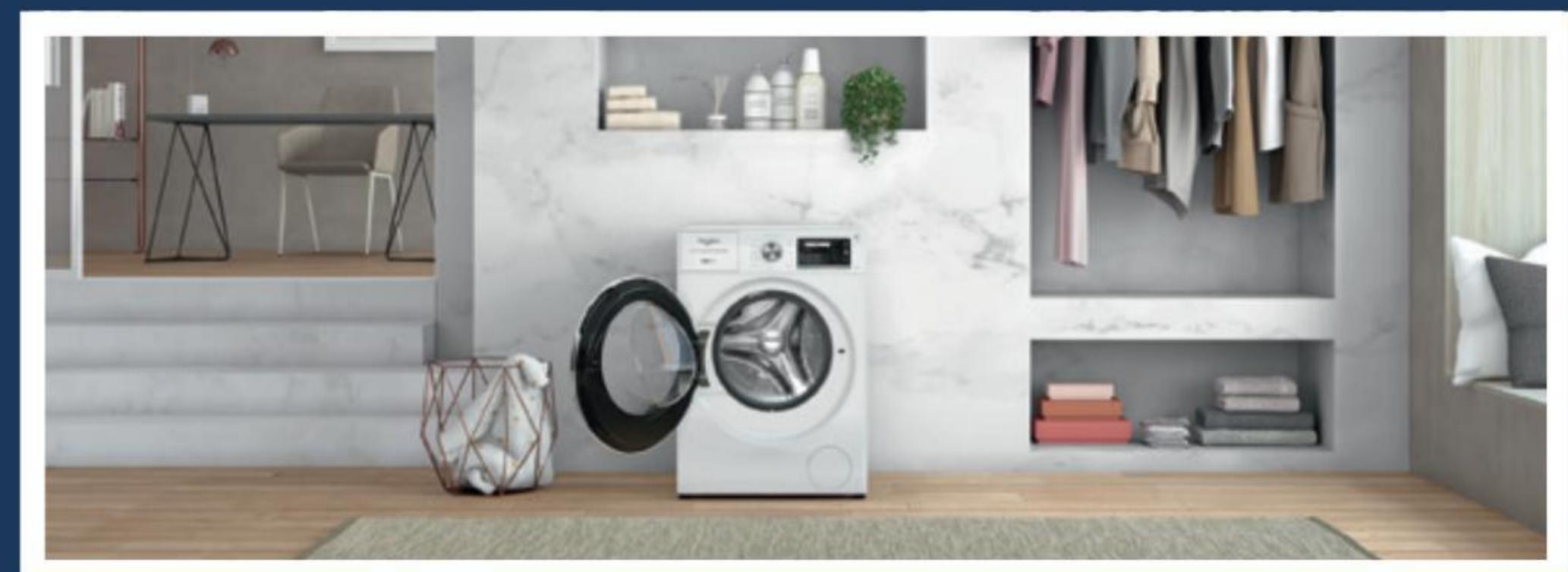
WHIRLPOOL



The new energy label will make it simpler for consumers to choose the most energy-efficient appliances by making it easier to compare an appliance's resource consumption against another. Each new label features a QR code that consumers can scan with their smartphones to get the clearest-ever understanding of a product's energy and resource performance and its many other benefits.

### Trends and buying tips

Technology trends for 2022 stem from the significant amount of time consumers spent in their homes during the COVID-19 pandemic. It allowed consumers time for self-reflection and re-prioritisation, causing a shift in the demand for technology to not only save time and effort by making life easier, but to empower the user while delivering a pleasurable experience. Ultimately, the consumer is seeking a product that boasts a high-quality design, which is equally reflected in its technical capability. To be more environmentally friendly, consumers are continuing to search for more conscious home appliances that boast sustainable credentials by using fewer resources, in addition to the recyclability rate of the components used to build the appliance.



There are several factors that consumers must consider before buying a new appliance. They have to weigh up what matters most to them in terms of technology, design and resource efficiency, as well as how the appliance will fit into their living space.

Capacity and style are often high on the list of important factors when consumers are looking to purchase a new appliance. However, consumers should look at more than just aesthetics to ensure they benefit from the wide variety of technological innovations available in appliances today. Advances in technology, and paying a little more for good energy efficiency, will not only deliver greater convenience and help the user live a more

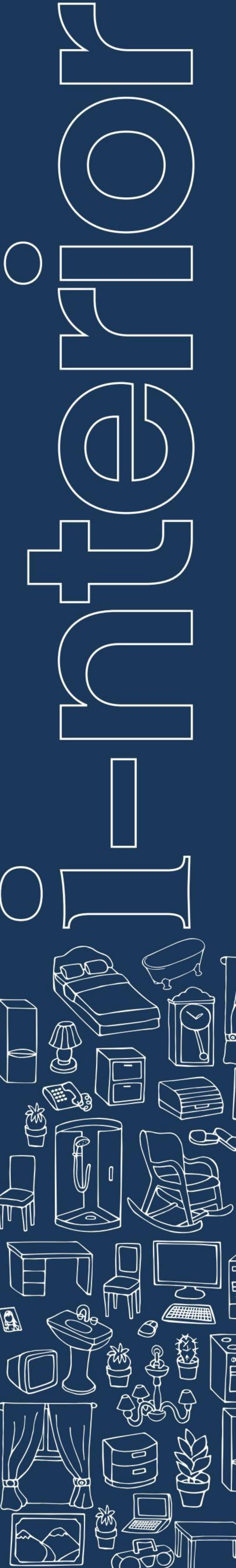
sustainable lifestyle, but will also provide long-term household resource savings. Special programmes and sensor technology in appliances can improve their overall cost effectiveness also.

With vast amounts of resources available, such as online review sites, print and digital publications and blogs, consumers should spend time conducting research before investing in a new appliance. When visiting a store, physically or virtually, ask the retailer for recommendations based on your needs as well as advice on brands, offers and warranties. Utilise the expert advice to make an informed decision alongside your pre-visit research. ●

[www.whirlpool.co.uk](http://www.whirlpool.co.uk)

<sup>1</sup> Tested on Full Load 45 min, cotton, mixed and ECO 40-60 cycles with and without 6TH SENSE

<sup>2</sup> Cost savings, provided by Youreko, are based on the energy usage of this model compared to the least efficient 10kg model in the market, operating on the energy consumption per cycle for the eco 40-60 program, completing 284 cycles per year over 11 years, with an average current energy cost of 18.86p per kWh and an average annual increase in electricity costs of 4.78% per year.





## Time to join the green roofing revolution?

Green roofs are an aspirational choice for many self-builders and home renovators wishing to finish their project with a gorgeous living roof that changes with the seasons and attracts a host of insects and birds.

**D**emand for green roofs is booming, with many manufacturers – Wallbarn included – reporting their strongest sales to date in 2021. It's a green revolution driven by consumer commitment to sustainability and a desire for more natural products and a more natural finish.

The benefits of green roofs are well documented, but we find that most homeowners are interested in two key areas – the 'feel-good factor' of having a living roof and their ability to support biodiversity, creating habitats for flora and fauna (most notably pollinators; a study of green roofs in London recorded more than 20 species of bee foraging on them).

In addition, they are a valuable asset in managing stormwater runoff by extending the time between rain falling and entering the drainage system and have been proven to improve air quality by absorbing pollution and dust particles (up to 0.2kg per m<sup>2</sup>). In towns and cities, they reduce the urban heat island effect by absorbing heat rather than radiating it back into the atmosphere and offer sound and thermal insulation benefits. There's also evidence that adding a green roof helps with gaining planning permission, can make a building sell more quickly and add value.

With so many benefits, it's easy to understand why green roofs are so popular. And product development means that you now have a greater choice of how your roof looks. Sedum has long been the go-to plant of choice. Still, some producers offer British wildflower mixes that deliver an even more natural finish with greater seasonal variation in appearance.

For those considering including a living roof in their plans, there are two key considerations:

- Load-bearing ability of the building
- Choosing a traditional roll-out green roof or modular system.

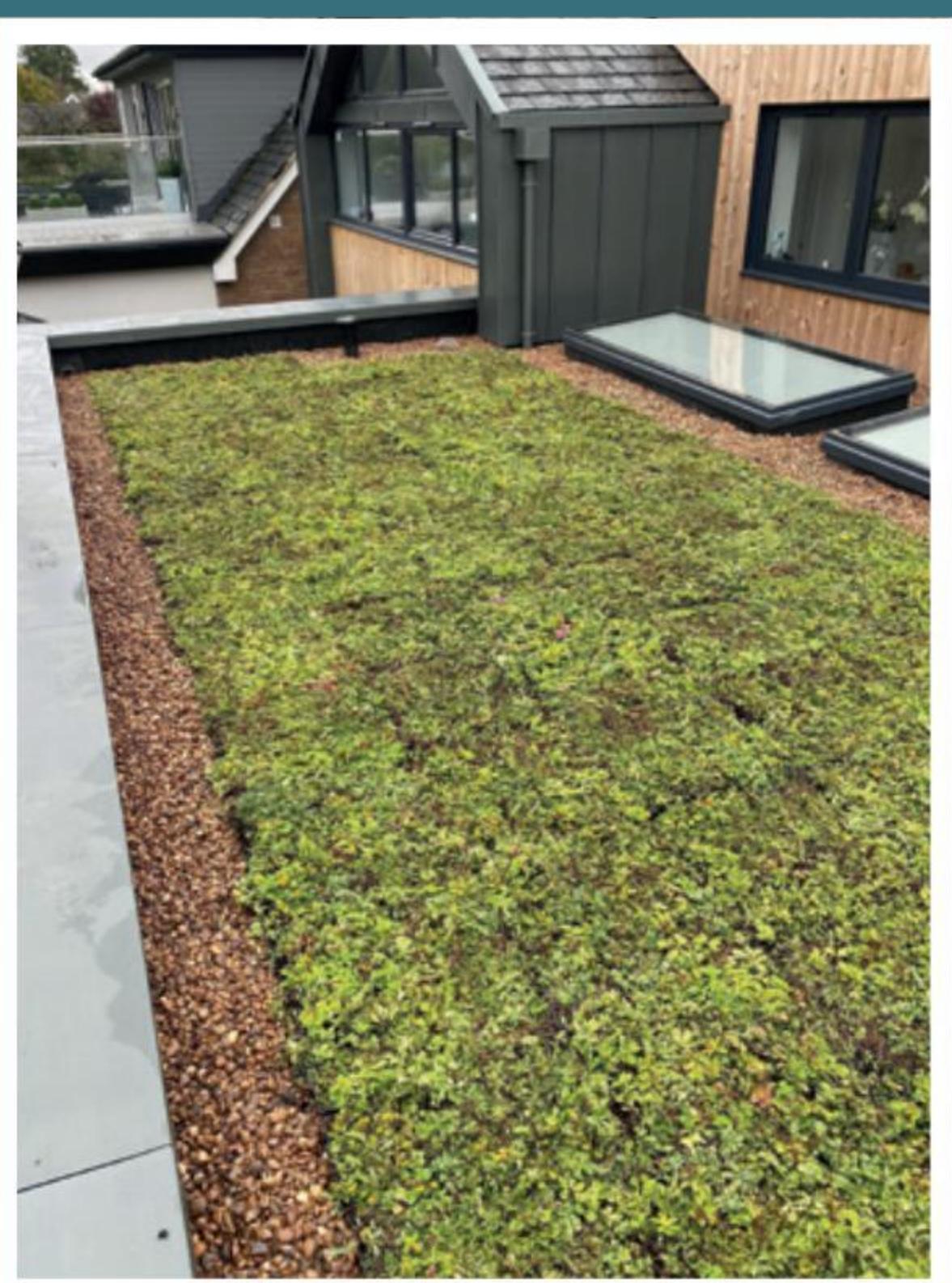
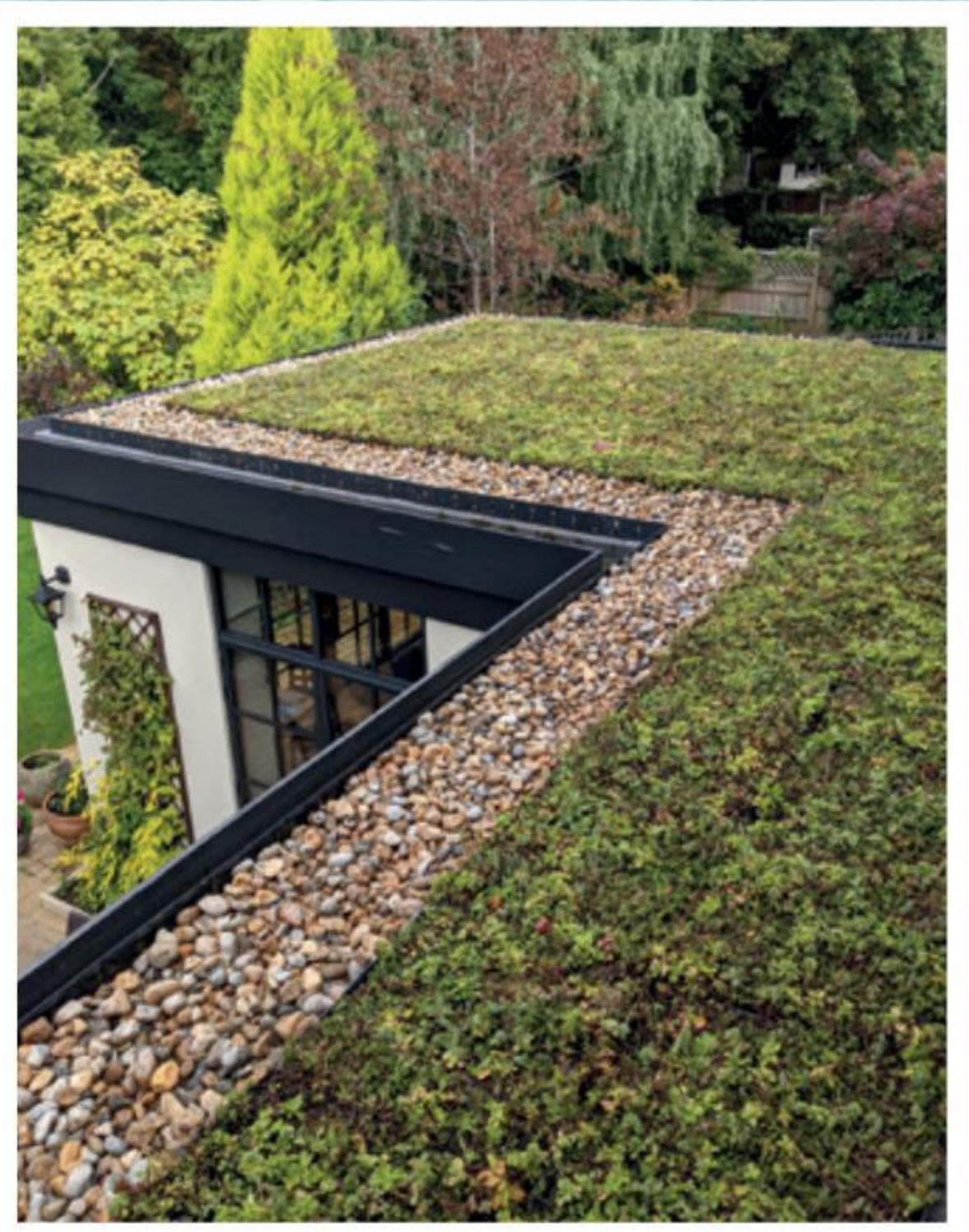
### Load bearing

This is the first consideration for any green roof, modular or roll-out. A structural engineer should advise if the structure can support the weight. For new-build projects or extensions, the required structural integrity can be designed in.

### Traditional or modular?

Until a few years ago, the established method for laying a green roof involved installing each element separately, so drainage, root barrier, substrate and sedum plants. For large expanses or roofs with different depths or a pitch higher than around 15° (for example, a convex design), this traditional approach remains popular.

The alternative is modular systems that combine all elements of a green roof, including plants, in pre-prepared trays that click together. They are, essentially, a green roof in a box and deliver an instant finish quickly and cleanly with little onsite waste. Quality control is high because all system elements are prepared off site in a controlled 'factory' setting, ensuring optimum plant health and long-term growth. The best systems are 'grown on' for at least nine months, and quality checked before dispatch, ensuring a fully-established green roof with mature, well-rooted plants arrives on site. Specification is straightforward, and investment in the product recouped from onsite time and labour savings.



## Modular solutions offer three distinct advantages:

- Competent self-builders and renovators can install them; just lay the supplied geotextile fabric onto the roof membrane/finish and position the green roofing cassettes, clicking them into place. It's a one-stop-shop solution that's clean, quick and straightforward.
- Where site access is an issue, modular trays can be carried by hand through buildings, upstairs and passed through windows to reach inaccessible roofs, all without mess or disruption
- If access is required to the roof deck post-installation, it is straightforward to remove and reinstall individual trays.

## Technical considerations

For both traditional and modular green roofs, there are important technical considerations. Fire regulations require a hard border between vegetation and building walls and around features such as rooflights. The roof also needs to be relatively level and generally no more than a 15° pitch.

## Fire performance

This is an area being more frequently discussed in relation to green roofs. Leading manufacturers offer systems with industry fire classification BRoof (T4) EXAP gained through physical independent testing to CEN/TS1187:2012 (Test 4) and CEN/TS 16459:2019, Test methods for external fire exposure to roofs. Look out for no fire penetration of the green roof system in a one-hour physical fire test and ask for certificates.

## Substrate

Not all green roofing systems offer comparable substrate depths (substrate is the growing medium for the plants). The GRO Green Roof Code ([www.greenrooforganisation.org](http://www.greenrooforganisation.org)) lays out recommended minimum depths for different systems, starting from 60mm. We believe that 100mm is the ideal depth for modular systems, allowing optimum space for healthy roots. The Green Roof Code also discusses the content of substrates and advises that they should comply with BS 8616:2019 Specification for performance parameters and test methods for green roof substrates. An independent laboratory test showing that the substrate complies with BS 8616 should be provided by the roof supplier.

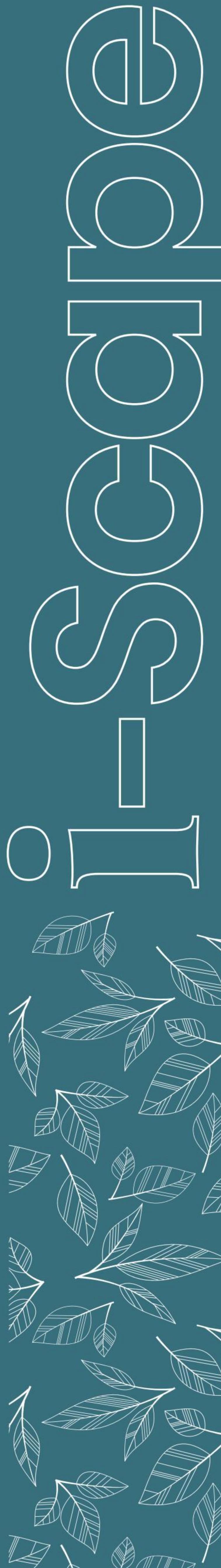
## Delivery

With any green roof system, it is essential to consider the time spent in transit and the need to unpack the system within 24 hours of delivery to ensure optimum plant health. If left too long on transport crates – we advise a maximum of 48 hours – enzymes begin to break down the plants.

## Maintenance

Green roofs are low maintenance but not no maintenance. Sedum plants are hardy and will tolerate extreme conditions – there are green roofs worldwide thriving in a wide variety of climatic conditions, some of them 75 years old or more. In exceptionally dry conditions, it may be necessary to water the roof; some clients choose to install an irrigation system, and we recommend twice-yearly maintenance, including applying a slow-release fertiliser for best year-round results. ●

[www.wallbarn.com](http://www.wallbarn.com)





## Luxury surfaces that turn a practical kitchen into the heart of a home

A light, airy space where friends and family can enjoy each other's company is a familiar design brief for many kitchen renovation projects. And when the interior designer is also the homeowner, the attention to detail and the expectation move up a gear.

**F**or Lisa Hensby, Owner of LH Interiors, it was her knowledge and insider insight into what materials, colours and finishes work best in the modern kitchen that really helped set her own kitchen transformation apart.

The brief was simple enough; to make what was previously a dark and cold kitchen into a large, sociable space with plenty of natural light. For Lisa

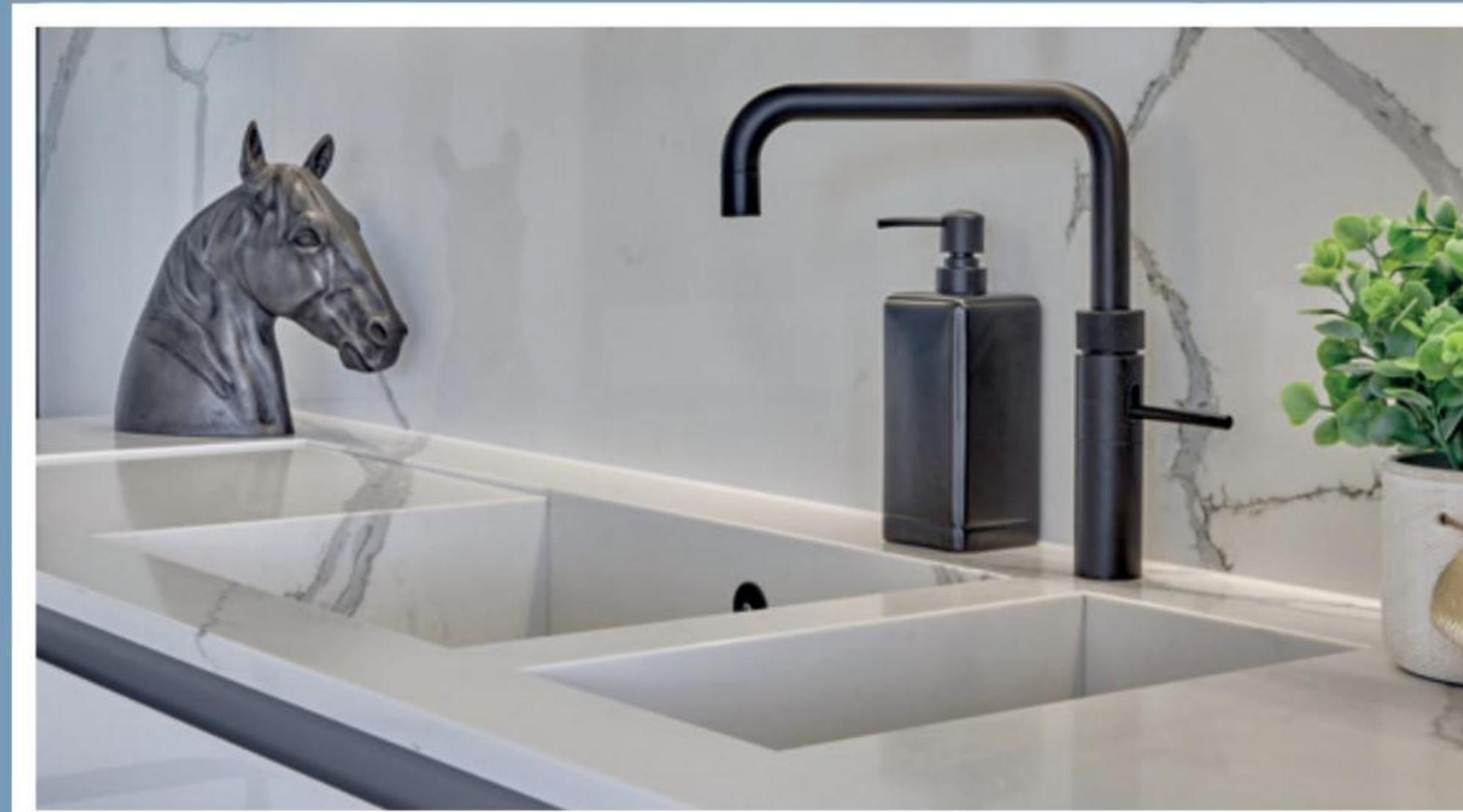
as the homeowner, the most crucial element of the design was to ensure that the various areas within the ample, open-plan space were creative and beautiful, but also practical and functional. "We are a family of five with three young children, and I was conscious that I didn't want to be precious or conscious when enjoying the space. It had to be easy to use and maintain as well as look visually stunning," Lisa explains.

Therefore, the material choice was a key consideration, with surfaces that look beautiful but hardwearing and easy to clean being the ideal solution, delivered to perfection by CRL Quartz Calacatta, which now sits at the heart of this home. Perfect for embracing the natural beauty of marble without any of the disadvantages of a marble worktop, Calacatta quartz from CRL Stone is whiter than most marbles but with more pronounced veining for a dramatic effect, giving the kitchen a high-end and luxurious feel.

"Calacatta is a timeless stone that will never date," explains Lisa. "Its clean, sleek look creates the wow factor, but it's also super practical. With three children, the surface not only looks incredible, with a modern feel, but it is extremely hardwearing and practical too. Stains are easily removed, and the surfaces become shiny with one sweep of a cloth."

The bold marble-inspired patterning of Calacatta makes a visually-striking effect clad on one wall, with the material also chosen for the work surfaces, combining brilliantly with other materials including porcelain floor tiles, a faux leather booth seating area, acrylic and glass.

"Texture is key in all my designs; it's a great way to create accents and makes a room pop," comments Lisa. And that's exactly what has been



CRL STONE



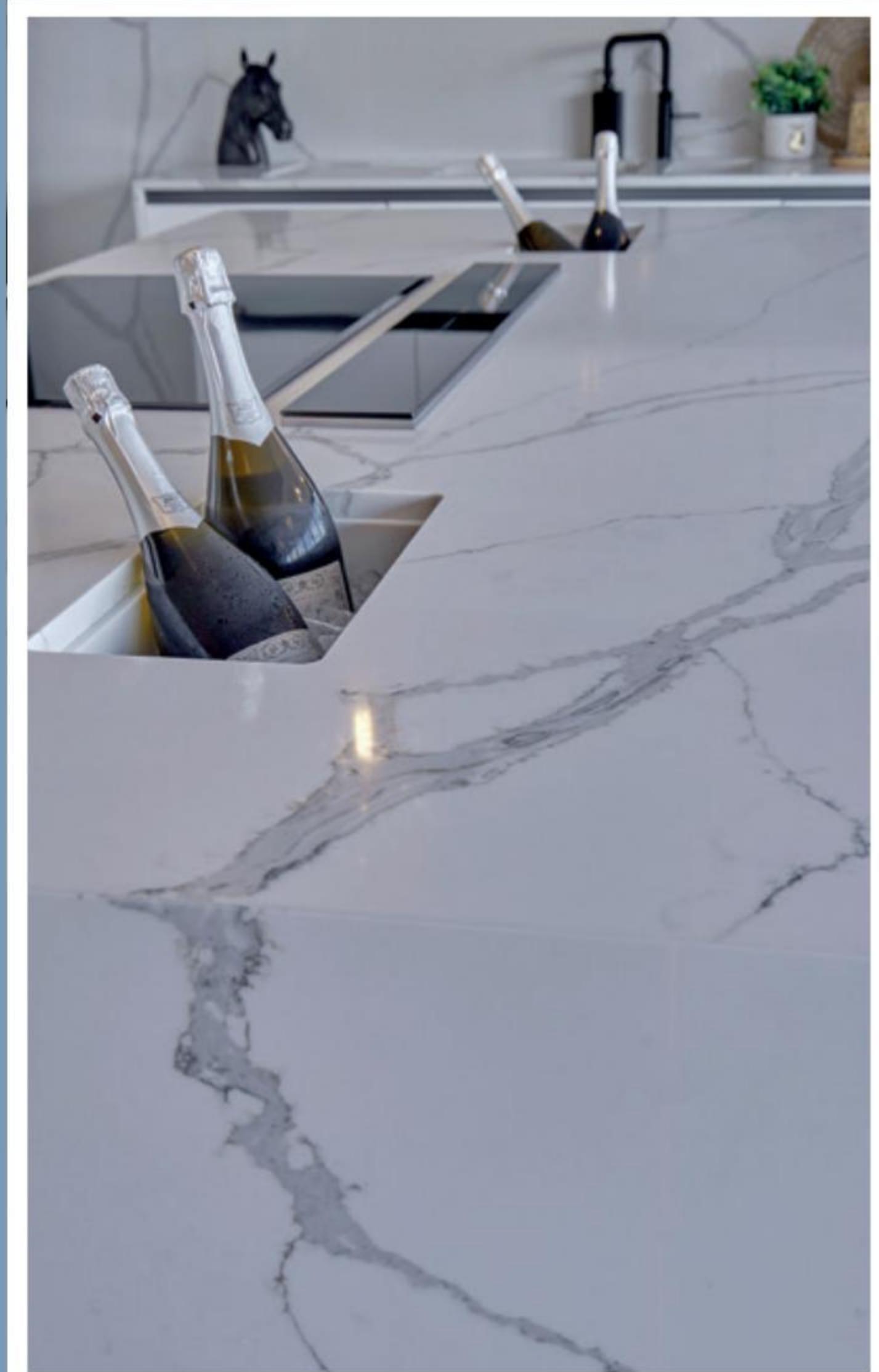
achieved in Lisa's own kitchen, which combines CRL Stone Calcatta on the work surfaces and one feature wall, with porcelain floor tiles and a console and coffee table made from acrylic and glass. A booth seating area was created with faux leather, including plinths and a faux leather border surrounding the cupboards.

In the finished space, the island is the family's favourite spot; the ideal place to chat, do homework with the kids, unwind from a busy day, entertain, watch the children playing outside through the bi-fold doors that open onto the garden and have everyone at the same eye level. "The island is the main preparation area of the rest of the kitchen, but also a place where you can sit and feel part of the action," explains Lisa.

With family life continuing around the kitchen revamp, keeping to a timescale was essential, and with an interior designer not only project managing but also owning the property, the pressure was on. But as Lisa explains, installation of the surfaces was timely and hassle-free, and her vision of what the finished detail should look like was met. "The installation process was straightforward with Stewkley Stone; their attention to detail was incredible," she says.

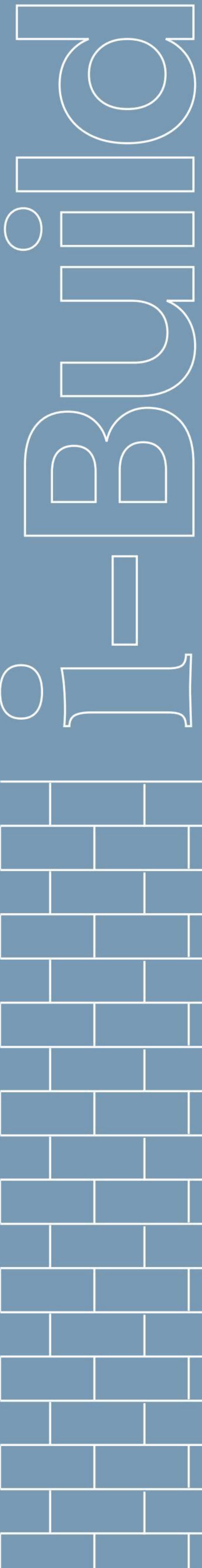
"I was clear that I expected the veins to match with the bookends and joins of cladding. The team were extremely helpful and ensured that they stuck to my design brief. Their talented craftsmanship is clear with the outcome of the finished product and how stunning it looks."

Worktops in, and it's Lisa's attention to detail that makes this kitchen even more special. Champagne troughs added to the design of the island create extra entertaining spaces, an integrated extractor fan creates a seamless impression, and faux leather on the plinths and borders of the cupboards add another level of luxury. And, of course, LED lighting adds a cool, modern aesthetic to the space while the gloss units prevent sticky fingerprints, and the booth seating area is perfect for watching the chef cook up a storm and for relaxing, eating and enjoying each other's company.



The design brief for this project was to create a light, modern and practical space, with clean lines, timeless colours, somewhere to make memories but an area that still had a wow factor. For Lisa, that brief has been achieved and then some. "The kitchen/diner area is our favourite place to be in our home; it suits our life in every single way," she says. "We're a busy family that always makes time to chat about our day in the most beautiful, practical space." ●

[www.ceralsio.co.uk](http://www.ceralsio.co.uk)





## Net-zero pioneer Futurebuild returns for 2022

*Futurebuild, the event that has championed a sustainable built environment for the past 16 years, has opened registrations. Taking place from 1st to 3rd March 2022, at the ExCeL, London, the event will connect specifiers, decision makers and disruptors with major brands and start-ups from across the built environment.*

If there is one message that is loud and clear from the global climate emergency, it's that we cannot go on as we are. The recently-announced UK Government 'Net Zero Strategy; Build Back Greener' and the recently-concluded COP26 conference emphasise the importance of taking action now to keep global temperature rise to 1.5°C.

Futurebuild, previously Ecobuild, will be perfectly timed to focus on these key issues and the actions needed. The focus is no longer about ambition – it is about delivery. As the only event to attract 20,000+ senior professionals from right across the built environment, Futurebuild is the perfect opportunity for the industry to meet and collaborate together, to achieve the transformational change needed if the built environment is going to reach net zero.

As the home of innovation, Futurebuild 2022 will be organised into six sections – Buildings, Offsite, Interiors, Resourceful Materials,

Energy and Critical Infrastructure. The curated event will showcase over 250 leading brands, the companies who are developing the most innovative technologies, products and solutions. Visitors can participate in the innovation trail, which highlights the event's innovation partners. The winners of the Big Innovation Pitch, a competition that celebrates new approaches to the biggest challenges facing the industry, will also be announced during the event.

"Now, it is more important than ever to meet in person and do business face to face because our exhibitors and attendees are all working towards a common goal – achieving net zero," explains Martin Hurn, Event Director at Futurebuild. "To ensure we can deliver a sustainable future, we've curated an event that cultivates cross-sector collaboration, addresses key industry issues and inspires transformational change."

The event will also feature six spotlights: Digital Impact in

**futurebuild**  
the future of the built environment

partnership with Glider, Whole House Retrofit in partnership with the Retrofit Academy, Circular Materials in partnership with 540 World, District Energy in partnership with UKDEA, Future Installer in partnership with MCS and Intelligent Buildings in partnership with KNX. These spotlights will include a mixture of presentations, discussions and practical demonstrations that will cover the fundamental issues facing the built environment.

Visitors can also attend Futurebuild's renowned knowledge programme, which includes a conference programme sponsored by Construction Innovation Hub that will explore ambition towards net zero on a macro-level, as well as two keynote stages. Each keynote stage session will be delivered by industry-leading partners and associations, such as the RIBA, Passivhaus Trust, MCS, BEIS, MPBA, ASBP, Good Homes Alliance, The Concrete Centre and many more.

For those interested in visiting Futurebuild 2022 and exploring the most innovative products and solutions in the built environment, you can register for your place via the website below.

# ROUND WOOD

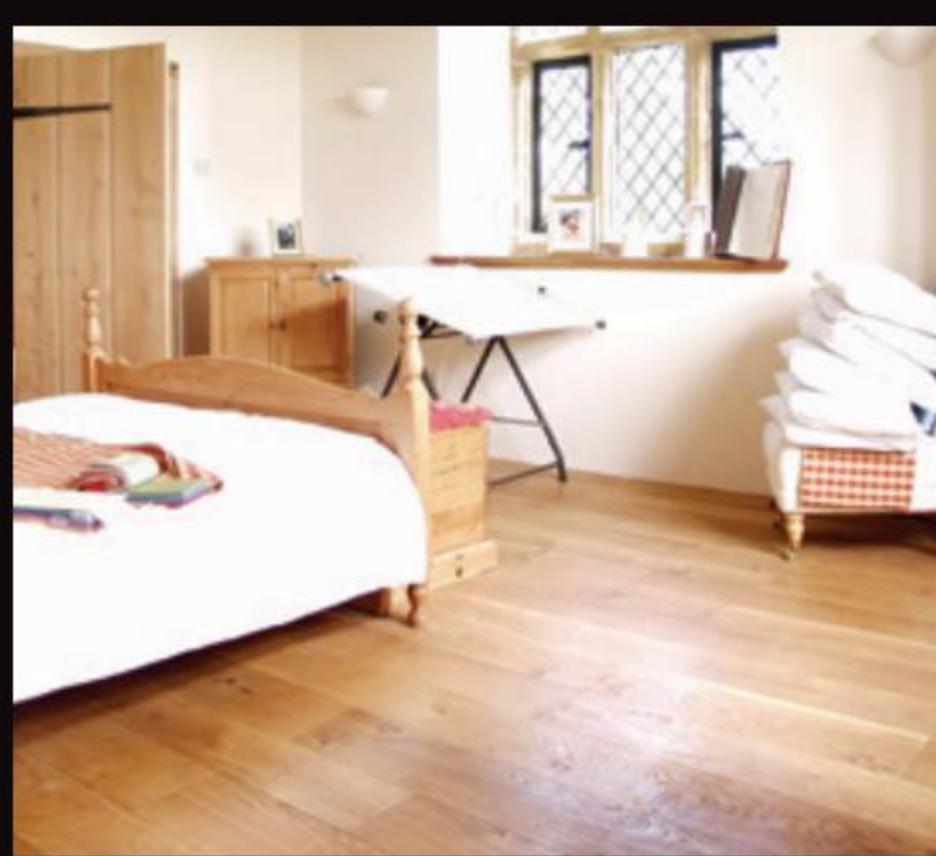
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## Traditional Georgian timber windows and door replacement in Oxfordshire

*The Sash Window Workshop specialises in traditional timber windows and doors for period properties, offering a supply-and-install service in London and southern England and a supply-only service nationwide.*

**T**he company was contacted to quote for several timber sash windows and a door for a project in Oxfordshire. The old windows were rotten and needed replacing.

The new windows needed to be as energy efficient as possible while also being in keeping with the architectural style of the building. Some of the windows were in a better condition than others, so a quote was produced for a mixture of complete new windows, installing new sashes into existing window frames and an entire new door.

After the customer confirmed that they wanted to go ahead, The Sash Window Workshop manufactured the new sash windows and door.

The new windows and door were made using a timber called Accoya, which comes with a 50-year anti-rot guarantee, and were double glazed and draughtproofed to help with energy efficiency.

The windows and door were then installed by some of The Sash Window Workshop's experienced installation team. In total, nine complete new timber windows (including the window frame), one complete new door and 10 new pairs

of sliding sashes into existing window frames were installed for the customer.

After the work was completed, the client noted that the quality of the windows and doors was excellent and commented that they would like "to say how pleased we are with the work that has been carried out for us".

The Sash Window Workshop is proud to provide high-quality windows and doors, along with excellent customer service, reflected in the fact that roughly half their orders come from recommendations and existing customers.

Established in 1994, The Sash Window Workshop has extensive experience working on various projects for homeowners, contractors, architects, designers and developers. Some of its previous prestigious clients include Buckingham Palace, The Admiralty Buildings, The Grove Hotel and The Royal Academy of Music.

The Sash Window Workshop manufactures a wide range of timber windows and doors suitable for various period properties, including Victorian, Edwardian and Georgian homes. In addition to replacement windows, the company also offers a draughtproofing and overhaul service for timber windows.



All new joinery is manufactured in its workshops in Bracknell, Berkshire, where it works hard to replicate the proportions and designs of historic timber windows as closely as possible whilst incorporating the latest manufacturing techniques.

The Sash Window Workshop is FENSA registered, FSC certified, Safe Contractor accredited and a member of the British Woodworking Federation. The company is also a member of the 'Which? Trusted Trader' scheme and recently won November's 'Which? Trusted Trader of the Month' award.

To find out more about The Sash Window Workshop's products and services, or to obtain a free, no-obligation quotation, contact the company on the below details. ●

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01344 868668  
[info@sashwindow.com](mailto:info@sashwindow.com)



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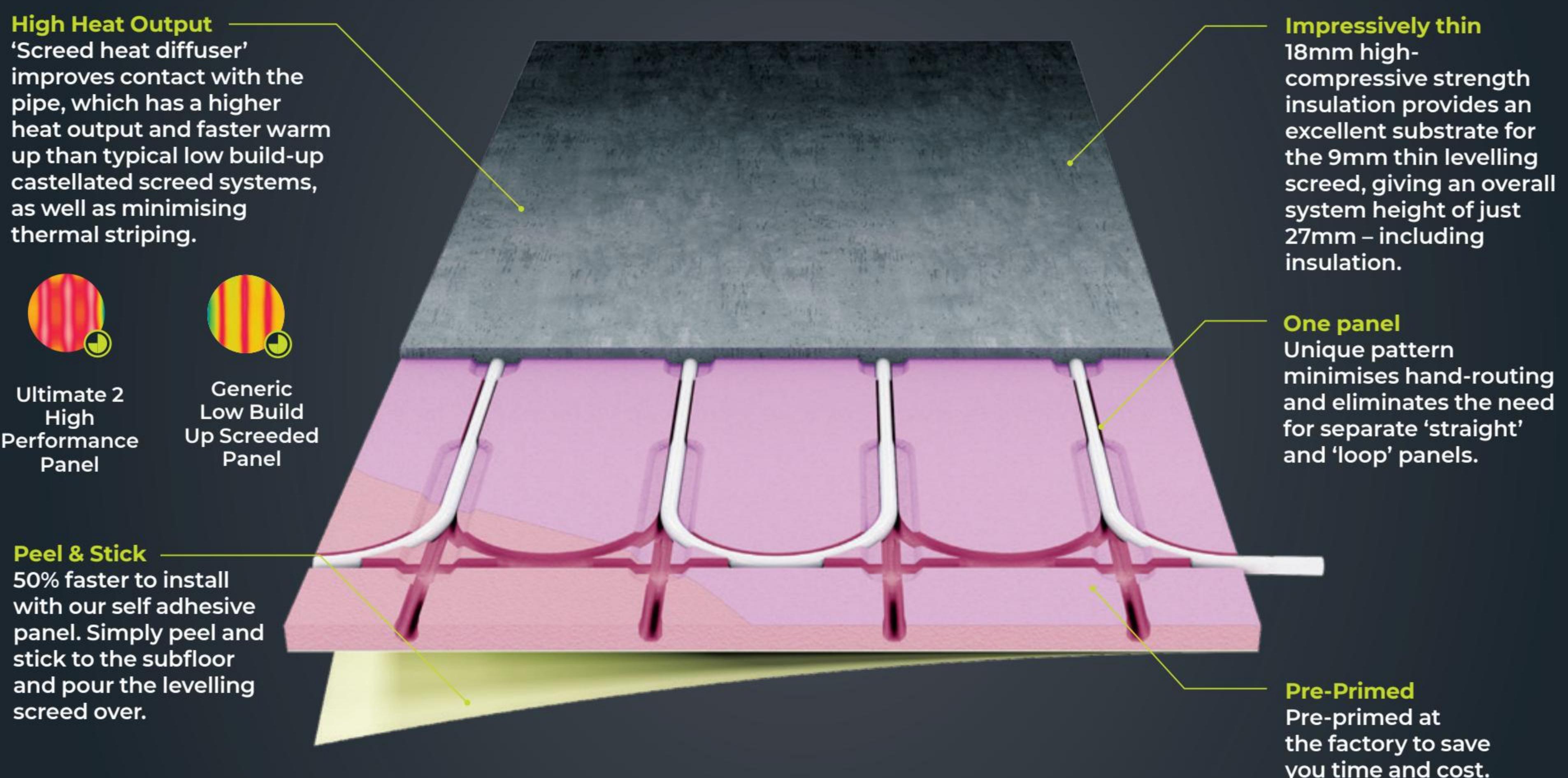
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