

BEATTIE PASSIVE FROM THE GROUND UP



BEATTIE PASSIVE'S GOAL IS NOTHING LESS THAN TO REVOLUTIONISE THE CONSTRUCTION SECTOR.

FROM THE GROUND UP MODULAR AT SCALE

PROJECT MANAGED BY: GLEN NEWTON

It has been a decade since Beattie Passive was founded with the ambition of lifting the standard of building across all sectors. From the beginning, founder Ron Beattie was adamant he wanted to develop something new.

“We didn't want to just repeat what had happened before, with small increments to building regulations,” he says. “We wanted to look at the whole building process and how we build while keeping in mind the longevity of buildings, materials, climate change and skills. We came up with a new building system that would lift the quality of a building, allow it to meet high standards of energy performance and which could be built anywhere. It doesn't matter what kind of building, whether it's a house, a block of flats, or a school, they're all delivered with the same system.”

This ambition was born out of a desire to solve

existing problems in housing development, and in order to do this, Beattie believed that what was needed was one complete build system.

“I designed a whole build system (from the floor, to walls, to roof) that delivers Passivhaus as standard and far exceeds Building Regulation requirements for structural, thermal, airtightness, fire, acoustics and radon gas,” he tells us. “We fully test every single building to guarantee its performance. The system was the first complete build system to be certified by the Passivhaus Institute in Germany and we now have 96 patents in 42 countries. Over the years we have expanded from stick-built to panel built, and fully modular building.” >>





TECKWOOD WORKING WITH BEATTIE PASSIVE

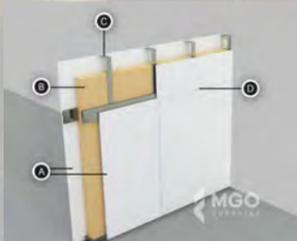
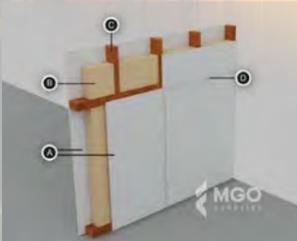
-  Class B Fire Rated
-  Eco Friendly
-  Low Maintenance
-  Long Lasting
-  UV Stable
-  Easy Clean
-  Low Life Cycle Cost
-  Will Not Rot

A Modern Eco-Friendly design with ease of fitting, safety and durability in mind to finish off your building

Teckwood's European Class B Fire rated composite cladding is an extremely versatile eco-friendly cladding solution with low life cycle costs. Designed to provide a durable, weather resistant rain screen and available in four contemporary colours. Easy to use and install, developed to withstand the most challenging of conditions.

FIRE RATED CONSTRUCTION BOARDS

Steel Stud	Timber Stud	Ceiling
A - 9mm MgO board	A - 9mm MgO Board	A - 9mm MgO Board
B - 50 mm Rock wool (or equiv)	B - 50mm Rockwool (or equiv)	B - 50mm Rockwool (or equiv)
C - Steel Stud Work	C - Timber Stud Work	C - Hard Floor (above joist)
D - Fireproof Intumescent Mastic	D - Fireproof Intumescent Mastic	D - Timber Joist


MAGNESIUM OXIDE BOARDS

A construction board with inherent strength and immense impact resistance

A revolution in construction, our product is purpose built from Magnesium Oxide & reinforced 100% Platinum Mesh Fiber. Manufactured to ISO9001 and EN12267 Standards and Certified against Class A1 non-combustible Fire resistance, our boards produce ZERO smoke and ZERO spread of flame. In addition, they also retain Class 0 Building product classification and deliver superior value and durability when compared against Gypsum, Cement and Ply. In all cases the board also becomes a direct substitute for Plasterboard eliminating the requirement or need for cosmetic plastering.

For more information on our range of Fire Rated composite products, email us: - info@teckwood.co.uk

TECKWOOD

In 2013, a group of likeminded business people had seen the development of composite building products in America, Europe and Asia and could see the potential market coverage in the UK. They spent 2 years looking for potential partners that could supply fire rated composite building products. They placed a great emphasis on ensuring the consistency and reliability of the man made product, the design and of course the safety aspect. It was clear that there had been an emerging emphasis in the construction industry on safety and they set about developing a fire rated, long life, low maintenance range of building products.

The end game has always been on producing products that have adhered to British and European safety regulations and in 2016, Teckwood released one of the first Class B European/Class 0 British Fire regulated cladding ranges in the UK. The boards are manufactured with a matt appearance natural wood grain effect. The composition is 40% recycled HDPE plastic, mixed with 60% FSC certified Eucalyptus flour timber and various bonding agents including a UV anti fade agent, colour stabiliser and anti fungal agent to reduce deterioration from moisture, termites etc. They are an extremely versatile eco-friendly cladding solution with low life cycle costs. Designed to be a durable weather resistant rain screen cladding it can withstand the most challenging of weather conditions.

Originally designed with a clip system, now the boards use a starter clip on the first board only to hold the bottom in position and then screw a concealed channel to hold the top in position. Originally produced in four contemporary colours:- Black, Grey, Cedar and Nut Brown they have sold in excess of several hundred thousand m2. The cladding has been installed on many small garden rooms, individual house projects, communal developments and commercial housing developments.

Teckwood have now added a further 3 colours to their range, predominantly aimed at the coastal property market. The colours are:- White, Blue and light Oak.

In 2018, Teckwood began to supply Beattie Passive with their Nut Brown cladding on a development in Graven Hill, Bicester which has been very successful. Subsequently, the cladding has been used on other projects with Beattie Passive in various other colours. The cladding comes with a 25 year domestic warranty and has achieved NHBC approval on other projects. The cladding has also been approved for use on other projects where conservation approval has been required.

Teckwood also offer a range of semi-solid decking in the same 4 colours to complement and work alongside the cladding if needed. The boards again had emphasis on design, quality and consistency and have all the same characteristics of the cladding to give a low maintenance, low life cycle cost. They are traditionally grooved on one side and have wood grain on the other to give the customer the flexibility as to what appearance they prefer. They have also achieved excellent anti slip quality with the pendulum swing test.

Again, many hundreds of thousand m2 of these boards have been installed on various types of projects including small domestic garden

projects, rooftops, balconies, conference leisure areas, school areas and again commercial housing developments.

In the past 2 years, Teckwood have developed these boards to incorporate the Class B fire rating and added another Class B solid board range which is dual colour sided to give reduced stock holding with flexibility still of four colours.

The latest offering is a large 200mm wide board with an enhanced grain appearance available in 2 colours:- Grey and Cedar. These boards are designed to give a natural rustic appearance and although more expensive, the size of them means a wider coverage and quicker and more economical install.

In 2019, Teckwood brought forward a range of balustrade and fencing in 2 colours:- Grey and Cedar to complement the decking and cladding product ranges. The fencing is made up of 11 panels to complete a standard 6ft high panel fence but the panels slot on top of one another to give flexibility of height. Shortly, Teckwood are looking to offer the balustrade with a glass panel infill along with the current spindle range.

Going forward, Teckwood will continue to develop their own unique range of safety construction products and expect to incorporate other material products to complement the composite ranges which they will continue to focus on.

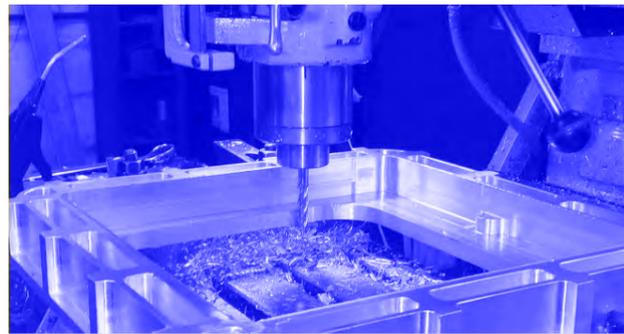
In late 2020 Teckwood will offer an aluminium range of easy install decking which conforms to the latest fire safety regulations in relation to builds above 18m. The decking consists of 2 parts, a base and top section fixing which can also be used as a system for cladding by using a specific cladding top section. This means that Teckwood are able to offer a complete range of fire compliant decking and cladding products to suit any high rise building application.

Teckwood are also looking to offer an extremely durable, Class A fire rated MgO panel board with excellent moisture resistant and sound absorption qualities. Manufactured to ISO9001 and EN12267 Standards and Certified against Class A1 non-combustible Fire resistance, the boards produce ZERO smoke and ZERO spread of flame, withstanding constant exposure to high temperatures without signs of deterioration. In addition, they also retain Class 0 Building product classification and deliver superior value and durability when compared against Gypsum, Cement and Ply. In all cases the board also becomes a direct substitute for plasterboard eliminating the requirement or need for cosmetic plastering.

Teckwood believe that this new board will fit directly into the current trend of modular build homes and will make substantial cost savings for developers and manufacturers.

For more information on any of the Teckwood range of products, contact Lee Spender directly at lee@teckwood.co.uk or telephone 0800 799 9082.

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BEATTIE PASSIVE

The key is accessibility to everyone across the construction industry.

"The system needs to be right for all parties involved in the build, from architects and plumbers, to of course the end-user," Beattie says. "And we've designed the build system to be simple so that anyone can do it. At our Training Academy, we've welcome experienced teams of builders, self-builders and those with no previous construction experience as well as training people in skills development centres, colleagues and HM Prison Service."

The end result is buildings that have truly mind-boggling performance.

"Our sound insulation is six times better than building regulations demand. Every single one is built in a way that if it gets soaking wet, the moisture will dissipate and regain its performance," Beattie tells us. "And all the materials are reusable and recyclable. You can take it all down, reshape it and reuse it to make another home in 10, 50- or 100-years' time."

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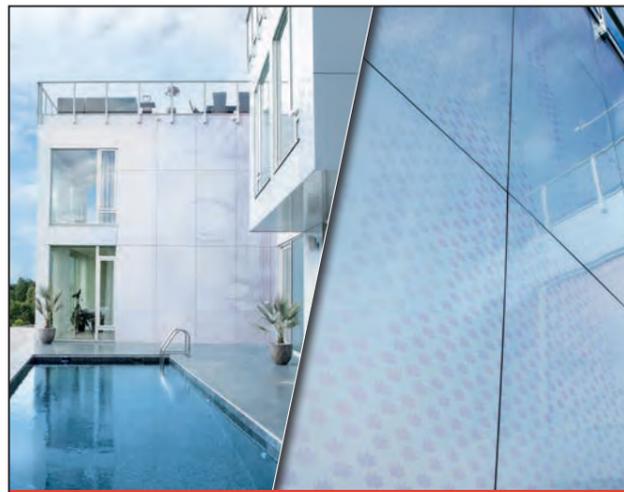
BUILDING FUTURES

This is not the only long-term challenge that Beattie and his business are seeking to address.

"An estimated 320,000 people in the UK are homeless, and without action they expect



Ron Beattie, Founder & Ceo, Beattie Passive.



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LASTING EXPRESSIONS



this to double in the next 20-25

years. I believe that everyone in the UK should have a safe and warm place to call home. The current temporary housing solutions are not fit for purpose, so I developed the Haus4 range of modular homes. The units range in size, from 25 square metres and up, and are built to the same standard as any other Beattie Passive build, from a £3 million family home to a terraced house to temporary accommodation. Why should temporary housing be held to a different standard?" he says.

"These units are built quickly and cost-effectively in our Modular factory, transported to where they are needed most, connected to services and ready to be lived in within a matter of hours - and when you need them somewhere else, you can easily relocate them."

Beattie Passive recently underwent a significant factory expansion and has moved into an 80,000m² factory to ramp up delivery of their full range of modular homes.

Beattie says, "We've recently upscaled our operation into a much bigger factory. We have seen a huge increase in demand for these homes in the face of COVID-19, and as a result, have greatly ramped up production of our Haus4 units. These include studios, one and two-person individual units, as well as blocks of flats. These are built completely off-site and delivered to where they are needed, where they can stay for a day or 100 years. All zero carbon, with energy performance at 110%, built by young people."



and employing local people has significant economic and social benefits for the local economy. An example of a recent development shows that from a £5 million capital investment, £9.2million of social-economic value can be realised. For every £1 spent on locally constructed homes, £2.84 is put back into the local economy. This shows that doing things locally can lead to a massive change. We need to revisit how we build homes, and the zero-carbon agenda is going to be huge for this.”



Talking with Beattie, something that shines through is his commitment to helping young people build a future for themselves.

“I am passionate about skills development and training. With a growing skills crisis in construction, we need to bring people into the industry who have no previous experience in construction and we are training a whole new generation - young people pick it up really quickly. We have currently got over 40 young trainees in our new modular factory alongside experienced carpenters, and



we are teaching them multiple trades so that they have the skills to work on any part of a home. It's a simple system that delivers the highest quality. From day one they are developing vital skills and building the optimum in building performance – Passivhaus!”

To further these goals, Beattie is now seeking to work with more local authorities as his business grows.

“There is a great opportunity to partner with Housing Associations and Councils. Across the UK we have a situation of growing unemployment,

and with Coronavirus and local lockdowns starting to take effect, that's just going to grow. Partnering with Housing Associations and Councils provides the opportunity to not only increase the delivery of high quality, Passivhaus homes but also change the way we build and get these youngsters employed,” he says. “We've just done a piece of work that shows if you build locally and employ young people, you can really make a massive difference to the local economy. Setting up a local factory to the housing site, manufacturing the units using local suppliers

“SETTING UP A LOCAL FACTORY TO THE HOUSING SITE, MANUFACTURING THE UNITS USING LOCAL SUPPLIERS AND EMPLOYING LOCAL PEOPLE HAS SIGNIFICANT ECONOMIC AND SOCIAL BENEFITS FOR THE LOCAL ECONOMY.”

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