

THE FUTURE HOUSE

Introducing the award winning bespoke
Mantle Building System

Mantle
Building System

DESIGNS FOR THE FUTURE
BUILDINGS FOR NOW



WHY CHOOSE MANTLE ?

Modern

Adaptable

Strong

Sustainable

Value for money

The award winning **Mantle Building System** is a patented, tested and certified British system-build solution. We use cutting edge technology to provide homes which are attractive, desirable and affordable. Our mission is to build houses which enable people to feel happy to be at home. Our system has a proven track record in supplying buildings across the entire construction spectrum: housing, apartments, schools, care homes, shops, sports complexes, community buildings, and offices.

The System is particularly well suited to flats, houses and multi-storey apartments offering low energy requirements, better sound proofing, more space per building and exceptional fire safety as standard. Mantle Building System is a hybrid solution between Stressed Skin Panels and regular Structural Insulated Panels (SIP) systems.

This allows us to provide to your design and needs. Our system is utterly flexible. Our system is easily adaptable to your specific housing designs and needs. Whether you require flats, homes for families or residential care apartments, it can be configured to suit all internal designs. It can also be used with any external design, so can 'look' very modern or traditional or simply reflect local vernacular.



DOESN'T COST THE EARTH

Less than £100
expected annual
heating cost for 300
square metres, 3
storey detached
house

Fast installation is a
fundamental benefit of
the Mantle Building
System. On-site wall run
speeds in excess of 185
square metre per 8 hours
shift have been attained
easily by installation
teams

Mantle is cost effective to buy and to live in. Depending upon final design, typical project build costs are 20% and 33% lower than traditional and timber SIPs, respectively. Components are machine made and assembled on site saving on time and labour costs and timescales are less affected by the weather. Compared to traditional build solutions, the Mantle Building System is very cost effective.

There is minimal waste and because our houses are super strength and light, weighing less than 7% of a traditional house, groundworks are quick and inexpensive. Yet the most dramatic cost saving is for the occupant - heating costs alone are just 10% of a standard semi!



LIVING IN COMFORT

Typically, a heated towel rail provides sufficient heating for an entire 80 square metres standard UK semi-detached house

The high levels of thermal insulation provided offer a warm and cosy environment. Our U value is a remarkable $0.10\text{W}/\text{m}^2/\text{K}$ with an air-tightness of $1\text{m}^3/\text{m}^2@50\text{pa}$. Equally outstanding is the acoustic insulation, which starts at 60db for party walls - a school music room is a minimum of 50dB. This means that external noise related stress impact is largely removed and results in better sleeping conditions, even in the busiest urban surroundings. Separate Mechanical Ventilation and Heat Recovery (MVHR) with integral filters provide the cleanest of air consumption. Because our wall and roof fabric is so well insulated, your designers can build in larger windows giving more light than a standard house. And because the walls are thinner, we have more room-space for the same footprint. Our houses do not need wall mounted radiators so there is more flexibility in use as well. All of this combines for a better quality of life and, according to health specialists, better mental health for the occupants.



SAFE AND SOUND

Full testing and assessment of the Mantle Building System was conducted by the Buildings Research Establishment (BRE), the TRADA Technology Ltd and Chiltern International Fire and Sound Research Laboratories (SRL). In every test, the Mantle Building System exceeded by at least 4 times the results achieved by even engineered timber. The System has also achieved the standard 60 years durability certification. It is considered 'Future-Proof' in that System performance standards far exceed current and anticipated changes to building regulations.

Such is the proven strength of Mantle that post-construction changes in design and use are easily adopted. A recent trend has seen the system used to add additional storeys and extensions onto existing buildings without the need to strengthen the original structural engineering support.

Structural warranty cover is readily provided by a wide range of companies; including BLP (the co-founder of BOPAS), Premier Guarantee and Local Authority Building Control (LABC) Warranty. Indeed, the System has been awarded the prestigious LABC Registered Details status, which provides fast track approval by all Building Control offices nationwide. The cover provided by any and all of the structural warranty companies ensures that the owners of Mantle houses can easily and readily obtain a mortgage on their property.

The standard Mantle Building System components achieve the required minimum one hour fire rating. Indeed, for a recent 7 storey apartment block, the 90 minutes fire rating minimum requirement was easily achieved. Such safety measures are incorporated in the project architect's fire design strategy. With an included fire retardant, the in-construction, exposed fire risk of the Mantle Building System components is assessed as considerably lower than timber based build alternatives.



DESIGNER HOUSES DESIGNED FOR YOUR NEEDS

Flexibility in design,
inside and out

Adaptable

Strength of materials
gives architect huge
flexibility.

Making buildings and
homes which fit
aesthetically into their
surrounding becomes so
much easier to achieve.

Its simplicity and flexibility make it accessible across the entire construction industry spectrum. In addition to domestic houses of all Codes for Sustainable Homes (including the highest Code 6 and the anticipated Code changes), it is equally well suited to multi-storey apartments, commercial and public sector buildings both within the UK and worldwide.

Starting with basic planning details, our design and engineering team produce detailed, technical drawings. In collaboration with our project supply partners a complete system-build, structural solution can be provided to satisfy project developers, contractors and, of course, end-user clients and building occupants. Whether the need is a new estate or building a spacious house in a narrow gap between existing homes, there is a solution that works.

Loads are carried throughout the entire structure. There are no point loads and lintels are not necessary for most designs. This gives you freedom to design to your needs.



Mantle buildings can be of almost any design and finish. Indeed, a recent project for town houses of 3 storeys, including one below ground level, called for 4 external finishes per unit (zinc, brick, slate and render). The system is well suited for use to meet regional and cultural design requirements. External finish can include directly applied render, brick and brick slips, tiles, timber cladding and others to suit the vernacular. This means that the external design of the houses has incredible flexibility in design options for you. All of these provide levels of thermal and acoustic performance and air-tightness and are achieved by a total render-to-wallpaper wall thickness of just 275mm. When compared to over 500mm for a similar performance in traditional build, Mantle offers approximately 10% more accommodation space for any given footprint. This is another major advantage when only tight, brownfield sites are available in urban districts.



LOOKING GOOD

With effectively nil seasonal expansion and contraction, a Mantle house does not suffer from the usual cracking associated with traditional and especially timber or steel build alternatives. Mantle houses do not suffer from interstitial condensation. Consequently, maintenance costs are reduced, again releasing greater savings.

ANY DESIGN

From houses, schools,
care homes and multi-
storey apartments

CLIMATE CONTROL

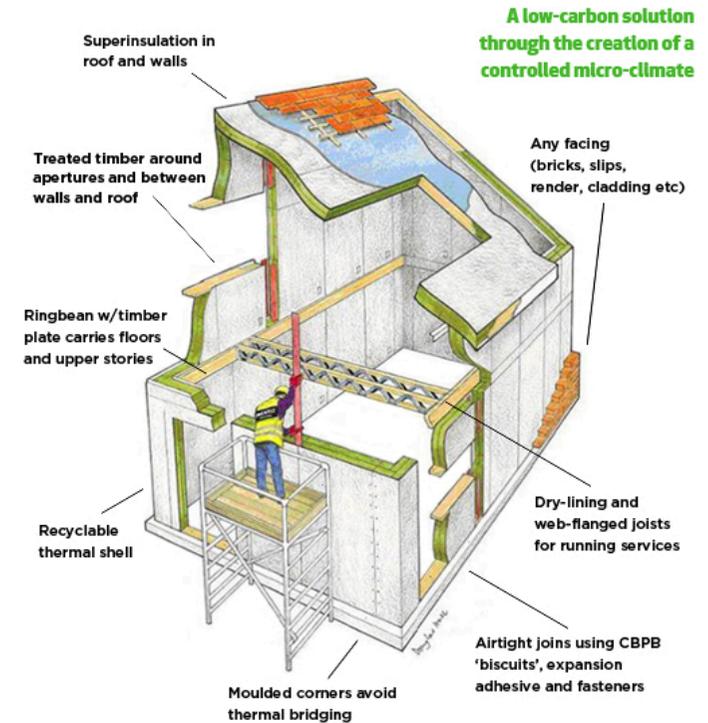
Hot, cold, humid and
dry- its all taken care
of with 'super
insulation'

FUTURE PROOF

Mantle is ahead of the game with the prestigious LABC (Local Authority Building Control) Registered Details status, which provides fast track approval by all Building Control offices nationwide, saving time.

There is no need for vertical down-stands. Apertures and Service penetrations can be inserted anywhere in a panel, even after the initial build completion. This means that Mantle buildings can be adapted to provide extensions, wall removals, rooms in roofs or whatever your need. A downstairs room can be converted to a walk in shower or toilet with ease. Vertical high-rise storeys added without additional structural support.

The system is 'Future Proof'. By the way, Mantle houses do not suffer from damp in the walls, so they don't deteriorate.



Our goal is to create value for our customers, while also providing housing which improves quality of life. We are committed to operating sustainably and addressing social and ethical responsibilities.



SAVING THE PLANET

Recyclable, careful pre-construction design has minimal waste and does not have harmful toxic substances when compared to alternative build solutions. Less than 30% of the embedded CO2 in structural timber, 12% of that embedded in brick and 0.7% of that embedded in steel. Heating energy requirements reduced by 90%! At 1/15th the weight of traditional and 1/10th the weight of timber build solutions, foundation costs and resources are significantly reduced.

For large scale developments, Carbon Credit Trading opportunities arise making significant savings and contributing towards the net zero carbon goal.

In manufacture, transportation to site, assembly and in use, Mantle is amongst the most sustainable building solutions available. Mantle houses do not degrade and give off no toxic gases.

When we started on our journey, our early customers thought they were too good to be true: now, they are reaping the benefit.

WANT
TO
KNOW
MORE?

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AWARDS



Winner Shell Springboard
UK Regional Awards
UK National Awards Runner-Up



Winner Jersey Construction Council
Best Use of Innovation Award
Environment Award



Dell Business Excellence Award
National Finalist



Business Commitment to the
Environment (BCE) Award
Major Commendation



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