



Structerm
Fastbuild | Cladding | Render



External Wall Insulation

Refurbishment Solutions



Reduces Carbon Emissions and Transforms Homes



External Wall Insulation: The Sustainable Solution

There are millions of solid wall and non-traditional properties, in the UK which suffer from poor thermal performance.

The most significant heat loss from these properties is through the external walls. This is estimated to be around 35% of the total heat loss, resulting in high fuel consumption and therefore high CO₂ emissions. The Government's target is to make an 80% reduction in these emissions by 2050. External Wall Insulation (EWI) systems will play an important role in achieving this.

EWI involves externally cladding a building with insulation boards, before applying a layer of basecoat render and then a final decorative finish. The overall result is not only a highly insulated, energy efficient home but one that is visually transformed on the outside.

Funding for EWI is available through two Government initiatives; the Carbon Emissions Reduction Target (CERT) and Community Energy Saving Programme (CESP). These are aimed at helping Housing Associations and Local Authorities improve the energy efficiency of their properties. Structherm can assist with the application for this funding simply call us on **0800 040 7460** or complete our enquiry form online at www.structherm.co.uk

Benefits of EWI:

- Sustainable and cost-effective alternative to demolition
- Makes a real impact on the reduction of CO₂ emissions
- Improved thermal performance to meet or exceed Part L Building Regulations
- Lower fuel bills for residents due to homes requiring less heat to maintain a comfortable temperature. Can also help reduce fuel poverty.
- Eliminates cold bridging and interstitial condensation
- Provides a 'breathable' wall to overcome water vapour permeability problems
- Improved airtightness helping to increase thermal performance and preserving the building fabric
- Improves the acoustic performance of the external wall
- Offers a wide range of textures, colours and finished effects
- All works carried out externally therefore residents remain in their homes
- Backed by full BBA Certification confirming that the product has a minimum design life of 30 years



Housing Construction Types

Homes built between the 1930's and 1970's were constructed for speed, with very little regard for thermal efficiency and airtightness.

These buildings can be grouped into the following categories; Solid Wall, Traditional, Non-Traditional and Prefabricated Reinforced Concrete (PRC). All of these now fail to meet current Building Regulations for thermal efficiency and suffer from damp, condensation and deterioration of the façades.

Solid Wall

Over 30% (7 million) of the UK housing stock is of Solid Wall construction, commonly used in terraced brick houses and flats, which means they are unsuitable for cavity wall insulation. Classed as 'hard-to-treat', heat loss through untreated walls in these types of property can be up to 45%. The photographs below shows a typical solid wall terrace house before and after refurbishment using Structherm EWI.

Photograph of rear elevation before refurbishment shows the construction to be solid wall brickwork renowned for poor thermal performance due to lack of cavity.



Photograph of rear elevation and gable after refurbishment using Structherm External Wall Insulation and through coloured render.



Traditional

These properties were generally constructed with a cavity which is too narrow to be insulated. Heat loss through walls in these types of property can be around 35%.

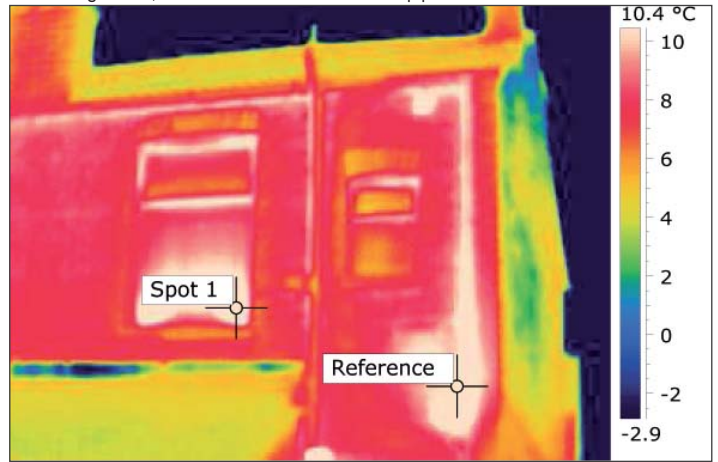
Non-Traditional & Prefabricated Reinforced Concrete

Approximately 3 million properties in the UK were built using non-traditional methods. Subject to engineer approval Structherm External Wall Insulation Systems can provide a solution. For example Wimpey No-Fines properties constructed from concrete have poor thermal performance and all the problems associated with damp and condensation but generally have no significant structural defects.

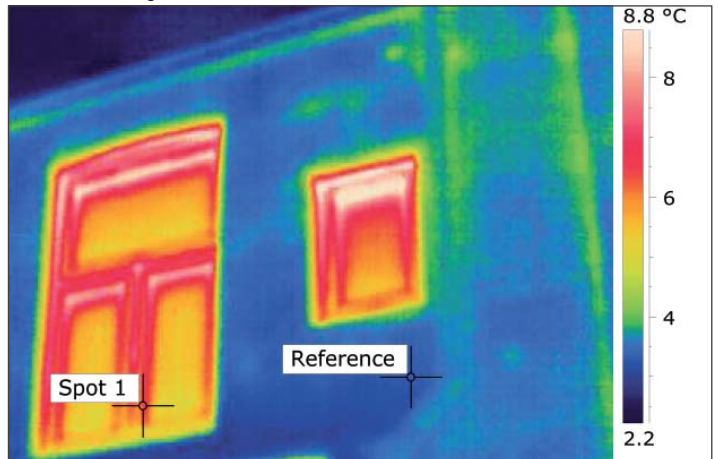
For those non-traditional and PRC properties with serious design and construction defects then Structherm can offer a unique Structural Insulated Cladding system which is the only structural cladding system to carry a BBA Certificate.

Visit www.structherm.co.uk to download the Structural Insulated Cladding brochure or request a hard copy by calling or emailing us.

Thermal image of rear elevation and gable before refurbishment shows excessive heat loss through walls, windows and where the waste pipes exit the house.



Thermal image of rear elevation and gable after refurbishment shows dramatic reduction of heat loss through walls of 5°C and windows of 7°C.



School & Commercial Construction Types

System Built Schools

During the 1970's thousands of schools were built using systems such as CLASP, Hills and SCOLA. Many of these systems are now failing and in urgent need of thermal and aesthetic upgrade. Structherm's External Wall Insulation Systems are ideal for these projects.

Commercial Buildings & Office Blocks

The UK has thousands of commercial buildings and office blocks that generally have poor thermal performance and cost vast amounts of money to heat.

Structherm's External Wall Insulation Systems can dramatically improve the building's thermal performance reducing fuel bills and CO₂ emissions.



System Built School requiring External Wall Insulation

U-Values & Insulation Types

Thermal performance is measured in U-values - the rate of heat loss through a structure.

Structherm's range of high performing insulants ensure that our systems exceed the current Building Regulations.

The lower the U-value, the more thermally efficient the wall construction is. The table below indicates the range of thermal improvements achieved with different types of insulation when applied to a selection of typical construction methods.

Comparison U-values

		Existing Solid Wall 2.08 W/m ² K	Existing Traditional 1.51 W/m ² K	Existing No Fines 1.60 W/m ² K
Insulation	U-value to Achieve or Better	Insulation Thickness (mm)	Insulation Thickness (mm)	Insulation Thickness (mm)
EPS	0.30 W/m ² K	110	110	110
	0.25 W/m ² K	140	130	130
	0.20 W/m ² K	170	170	170
	0.15 W/m ² K	230	230	230
Mineral Fibre	0.30 W/m ² K	110	100	120
	0.25 W/m ² K	130	120	150
	0.20 W/m ² K	160	160	190
	0.15 W/m ² K	220	220	220
Enhanced EPS	0.30 W/m ² K	90	80	90
	0.25 W/m ² K	110	100	100
	0.20 W/m ² K	140	130	130
	0.15 W/m ² K	190	180	180
PIR	0.30 W/m ² K	80	70	80
	0.25 W/m ² K	90	90	90
	0.20 W/m ² K	110	110	110
	0.15 W/m ² K	150	150	150
Phenolic	0.30 W/m ² K	60	60	60
	0.25 W/m ² K	70	70	70
	0.20 W/m ² K	90	90	90
	0.15 W/m ² K	120	120	120

System Characteristics

Structherm's External Wall Insulation Systems are made up of several layers, which provide the thermal performance and aesthetic qualities required when refurbishing a building. For the first layer, choose from our range of high performance insulation panels to meet your thermal requirements. The middle layers are then a combination of basecoats and mesh which give the system strength and impact resistance. To complete the system, you can choose any finish from our Contemporary or Traditional ranges on pages 8 & 9.

High Build System

- Insulation panels fixed to substrate
- First layer of polymer modified basecoat render applied to 3mm thickness
- Glass fibre reinforcing mesh in sheet or roll form embedded into first base coat layer
- Second layer of polymer modified basecoat render applied to 3mm thickness
- Finished layer provides an attractive façade
- Fixings hold the system firmly against the substrate and prevent movement

The High Build System uses a medium build up of cementitious render, with glass fibre mesh embedded within to create a finish ready to receive a variety of decorative finishes. Used predominantly on housing refurbishment in a moderate environment and where usage is minimal.

Heavy Duty System

- Insulation panels fixed to substrate
- Stainless or galvanised steel reinforcing mesh in sheet or roll form fixed to insulation panels
- First layer of polymer modified basecoat render applied to 8mm thickness
- Second layer of polymer modified basecoat render applied to 6mm thickness
- Finished layer provides an attractive façade
- Fixings hold the system firmly against the substrate and prevent movement

The Heavy Duty System uses a thicker build up of cement renders with a steel mesh, through fixed, to provide a more robust build up, ready for the decorative finish. Used generally in more robust areas such as schools where usage levels are high and in more exposed and severe environments.

Structherm has a comprehensive range of systems for all applications, see our New Build Solutions brochure for more details.

System & Finishes Selector

System Type	Finishes						
	Contemporary			Traditional			
	Acrylic	Marble Aggregate	Silicone	Brick Effects	Stone Effects	Ashlar Effect	Dash Receiver & Aggregate
High Build	✓	✓	✓	✓	✓	✓	✓
Heavy Duty	✓	✓	✓	✓	✓	✗	✓

For details about our range of system finishes please see pages 8 and 9.

Improved Thermal Performance and Aesthetics

After



Before



After

Before

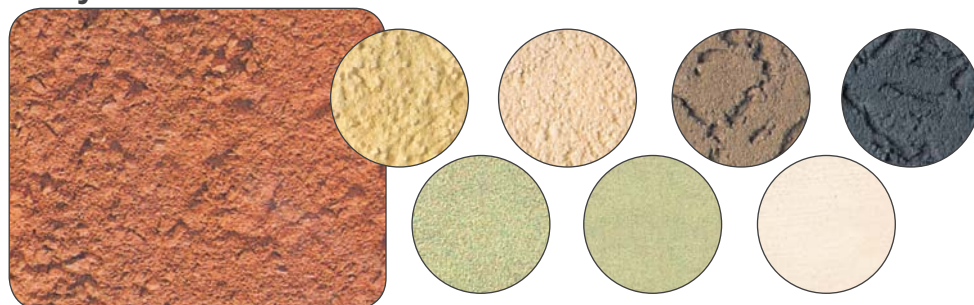
After

Before

Contemporary Finishes

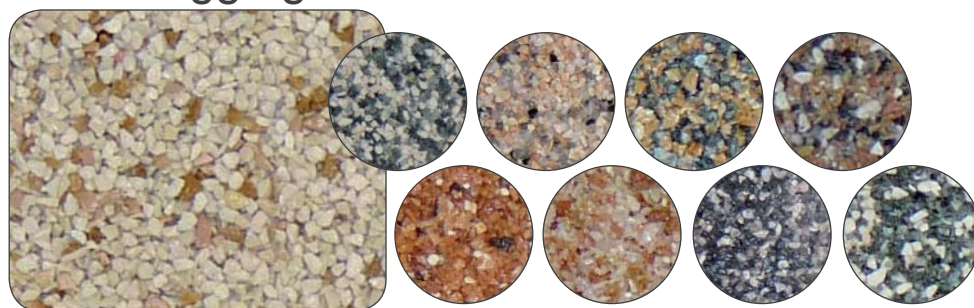
Structherm External Wall Insulation Systems can be finished in a wide range of contemporary textured or smooth finishes and in either bright, bold colours or neutral shades to allow the designer freedom to create functional, yet attractive, façades.

Acrylic



A range of high performance, textured finishes with excellent durability, water vapour permeability and water repellence. Available in a wide range of colours which also offer excellent protection against UV and are crack resistant.

Marble Aggregate



A range of finishes, based on acrylic polymers in an aqueous emulsion, mixed with selected natural marble chips. Available in small or medium chip sizes and 30 standard colour combinations. The marble chips provide a refined aesthetic appearance with grainy finish.

Silicone



A range of high performance, smooth and textured finishes with outstanding repellency towards water and dirt. The silicone resin-based finishes retain their colour and cleanliness for longer providing low maintenance protection. Available in a virtually unlimited range of colours.

Colours



Structherm's standard colours consist of a base range which are available in the Acrylic or Silicone finishes above, giving the designer an excellent selection of colours and textures to choose from.

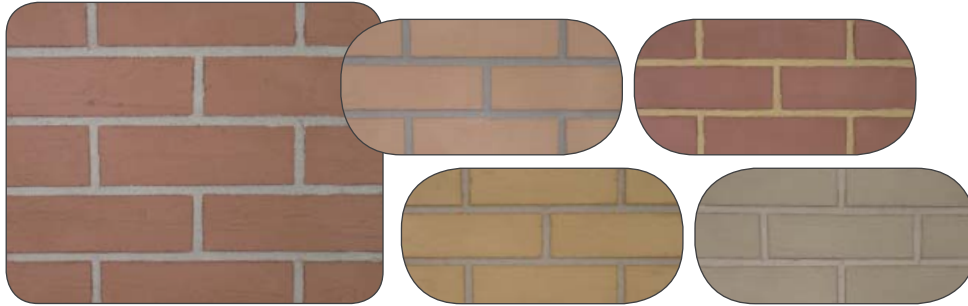
For those more demanding projects requiring complete flexibility in colour choice, we have a state of the art, in-house, tinting system which allows an infinite number of colours to be supplied. The technology used in the machine guarantees consistency of any hue produced.

We can also colour match to samples of material, including bricks.

Traditional Finishes

Structherm External Wall Insulation Systems can also be finished in a wide range of traditional finishes, including brick effects, ashlar stone effect and dash aggregate. A large range of render colours, dash receivers and dash aggregates are available.

Macerend - Brick Effect



Macerend is a two coat specialist render system, providing the effect of real brickwork by using differently coloured, render mortar and face layers. Available in 44 standard colours, for use as the mortar or face layer and in any combination desired. The system can be used for full area coverage or for brick features such as soldier courses.

Multirend - Multistock Brick Effect



Multirend is a multistock brick effect render installed in the same way as Macerend, but with the addition of a dye applied to the face layer to achieve the multistock brick effect. Available in 44 standard colours for use as the mortar or face layer and choice of four standard multistock dyes.

Stone & Ashlar Effect



Stone effect finishes can be achieved by installing two coats of render using differently coloured render mortar and face layers. The face layer is scribed to reveal the mortar layer before fully set. Available in 44 standard colours which can be used for either layer and in any combination desired.

Dash Receiver & Aggregate

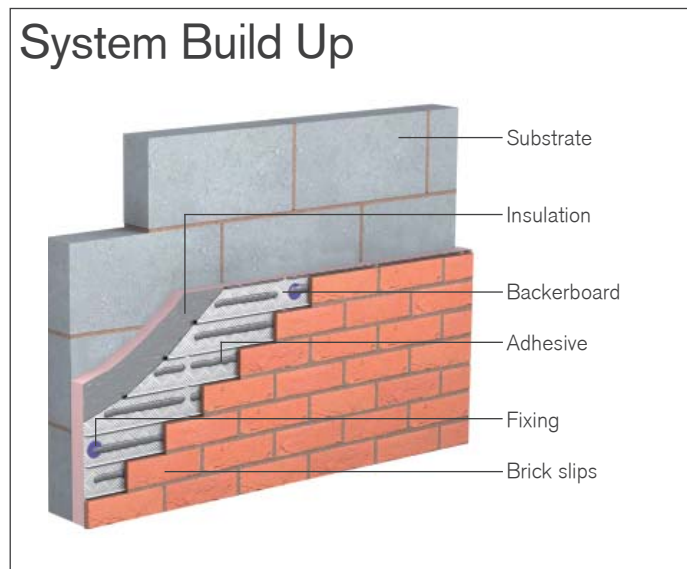


Dash finishes provide a functional and cost effective finish applied in two stages. Firstly a coating of dash receiver is applied, choose from 9 standard colours in our range. Whilst still stiff, but not set, a dash aggregate is thrown onto the surface. Choose from over 20 of the most popular natural mineral aggregates available.

For more details regarding our range of finishes, including application procedures and colour options please see our Renders & Finishes Datasheets or contact Structherm's technical department.

Structherm Fastbrick™

A real brick slip, insulated, cladding system combining the advantages of modern construction techniques with the appeal of traditional brickwork.



For more details about Fastbrick and the installation procedure please refer to our Fastbrick datasheet.

Fastbrick is a durable and decorative External Wall Insulation System that can be installed onto many substrates including masonry, timber and steel. It can also be applied onto the Structherm Fastbuild® system.

System benefits:

- Faster and easier installation than traditional masonry
- Aesthetically pleasing giving a traditional brick finish
- On-site flexibility enables shaping to suit openings and other building details
- High insulation values can be achieved
- Real brick slips are as robust and impact resistant as traditional masonry
- Any variety of brick can be used, including extruded and stock facing slips allowing accurate colour matching



Fastbrick Provides a Durable and Decorative Finish

Design & Technical Service

Structherm has many years of experience in providing a comprehensive, integrated service. From initial concept right through to completion, our aim is to develop a full understanding of your business and operational objectives in order to ensure the smooth and timely delivery of your project.

We offer all our clients the best in design services to cover all aspects of their external refurbishment projects. Design work is carried out by our in-house qualified engineers and CAD Designers and our free feasibility service allows us to present a totally integrated holistic solution.

At every stage of your development, we provide everything necessary to enable us to arrive at the best design solution for your project.



Our service includes:

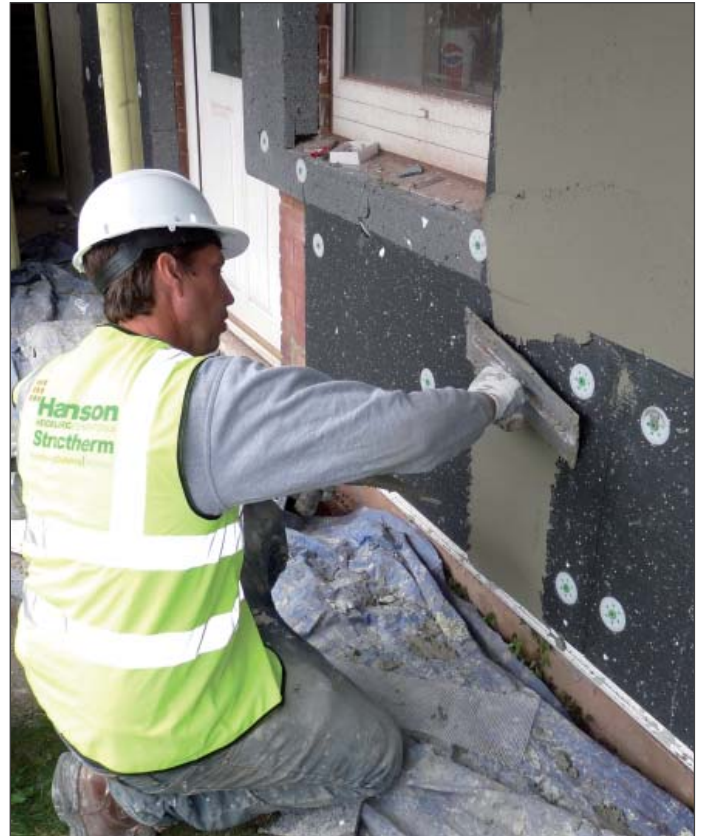
- Feasibility study preparation including cost analysis, works programme and NBS specifications
- U-value calculations to determine insulation type
- Value engineering
- Structural analysis and design including steelwork
- Risk assessments and method statements
- Site support to contractor, approved installer and client
- Street scene, artist impressions
- Product and colour samples

NBS Specifications

Structherm provide specifications in NBS format, the recognised national standard specification system for the UK construction industry.

Approved Installation Contractors

Fully trained Approved Installation Contractors (AIC's), operate nationally and are regularly assessed in the application of our products and systems which ensures that all projects are completed to the highest standards possible and allows us to maintain an extremely high level of quality on every job.



Accreditations & Memberships

- BBA certified
- Energy Saving Trust Recommended & Ofgem Registered
- 20 year standard warranty and product guarantee
- Minimum design life of 30 years
- Design covered by professional indemnity insurance
- INCA and NIA membership
- National Refurbishment Centre partner
- UK Green Building Council member



The Hanson Structherm product range also includes:

- Structural Insulated Cladding
- Renders & Finishes
- Structherm Fastbrick™

Hanson Structherm works in the following sectors:

- Social Housing
- Private Housing
- Education
- Hotels
- Healthcare
- Commercial
- Key Worker & Student Accommodation

Structherm Ltd is part of the Hanson-HeidelbergCement Group

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