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Flat-to-Pitch Roof Conversion System

BritFrame

BRITMET
LIGHTWEIGHT ROOFING

RAISING THE STANDARDS IN LIGHTWEIGHT ROOFING



BritFrame Flat-to-Pitch Roof Conversion System

BritFrame



Welcome to

Britmet Lightweight Roofing

Britmet Lightweight Roofing is the UK's largest manufacturer of lightweight products and solutions for the roofing and cladding industry. Since our inception in 1976, we have been supplying the marketplace with an increasing number of products, from lightweight metal roofing profiles to composite slate tiles.

Britmet has developed into a highly valued service for the UK construction industry, working with architects and specifiers from concept to completion, including project assist, site surveys, and technical drawings. Our wide range of products are

advantageously located in our 70,000 sqft warehouse in Tipton, West Midlands, allowing economical transport solutions.

With over 40 years of experience partnering on countless projects with councils, housing associations, surveyors, and contractors all over the UK, we are proud to provide an unparalleled, bespoke service to our clients. Our Specification team have the expertise and resources to deliver an exceptional cost-effective and enduring solution for your Flat-to-Pitch project.

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Flat-to-Pitch Roof Conversion System



The BritFrame system is a structural steel frame that converts a flat roof to a pitched roof.

A range of systems are available which are tailored to suit the specific structural and design requirements of the existing roof, offering a permanent solution to resolve common issues associated with flat roofing. The lightweight structural metal frame system has an excellent strength-to-weight ratio.

Constructed using a bespoke lightweight steel frame, BritFrame was specifically designed to produce a roof pitch with the ability to support both traditional tiles and the newer, innovative lightweight solutions available today, without compromising the strength of the structure.

This system has been specified and used on a multitude of fundamental projects including schools, MOD, and social housing.

It is widely acknowledged that flat roof structures are an ongoing issue within the UK.



Dating back to ancient civilisations, flat roofs were a primitive and low-cost solution for the simplest of dwellings in hot, arid climates with little to no rainfall. In the 19th century, flat roofs gained popularity in America and Europe with the emergence of water-proof materials, such as bitumen felt and concrete. Flat roofs constructed during this period were comprised mostly of lead, tin, and copper; metals which are now commonly associated with rusting.

At the point of installation, a flat roof offered a short-term budget-friendly advantage,

widely installed in public and private sectors in the UK. However, they do come with common problems. Here is a selection of the typical issues associated with flat roofs:

Water Ponding:

Most flat roofs experience water ponding. Water accumulates in low points of the roof, resulting in leaks, premature deterioration, and the growth of algae or moss.

High Levels of Maintenance:

Flat roofs require regular maintenance to address small issues before they become major problems. Neglecting

maintenance can result in more significant and costly repairs.

Leakage:

One of the most common problems is leaks. Flat roofs are more susceptible to leaks due to their design, and if not properly sealed or maintained, water can penetrate the roofing material, causing damage to the interior of the building.

Poor Drainage:

Inadequate drainage is a significant concern for flat roofs. Without proper slope or drainage systems, water can accumulate, increasing the risk of leaks and premature deterioration of the roofing material.

Roof Material Deterioration:

Flat roof materials, such as built-up roofing, modified bitumen, or single-ply membranes, can deteriorate over time due to exposure to weather elements, UV radiation, and temperature fluctuations.

Vegetation Growth:

Due to water ponding and accumulated debris, flat roofs can become a breeding ground for vegetation, including moss and algae. This can contribute to the deterioration of the roofing material.

By constructing a lightweight, steel 'A' frame over the existing roof deck, a new roof pitch is created to facilitate rainwater run-off by channelling drainage to the outside of the building.



Features and Benefits



The installation of the BritFrame solution rectifies the key failings of a flat roof while enhancing the overall aesthetic.

Furthermore, BritFrame provides a wide range of features and benefits such as:

- Protection of the existing flat roof by complementing the BritFrame solution with a durable and cost-effective new roof covering.
- A monetary reduction in continual costs of repair and/or replacement of the existing flat roof.
- Minimisation of the disruption during maintenance, repairs and replacement to occupants and workforce.
- Opportunity to greatly enhance the thermal performance of the existing building, reducing heating costs.
- Extended building life with excellent payback on the full life-cycle costing.
- Full audited design and installation service, supported with a full independent insurance-backed warranty on both products and installation.
- Enhanced appearance, for an aesthetically pleasing finish.



BritFrame Roof Coverings

Roof Covering Options:



LiteSlate

Recycled Composite
Slate



Shingle

Granulated Metal Roof
Tile



Slate 2000

Granulated Metal Roof
Tile



Ultratile

Granulated Metal Roof
Tile



Villatile

Recycled Composite
Slate



Profile 49

Granulated Metal Roof
Tile



Plaintile

Granulated Metal Roof
Tile



Pantile 2000

Lightweight Tile Effect
Sheet

Also Compatible With:



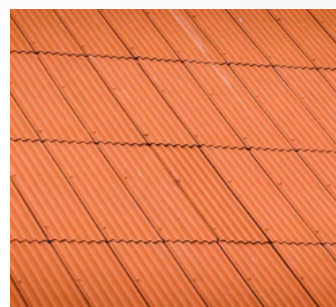
Traditional Slate



Clay + Concrete Tiles



Standing Seam



Zinc, Copper + Lead

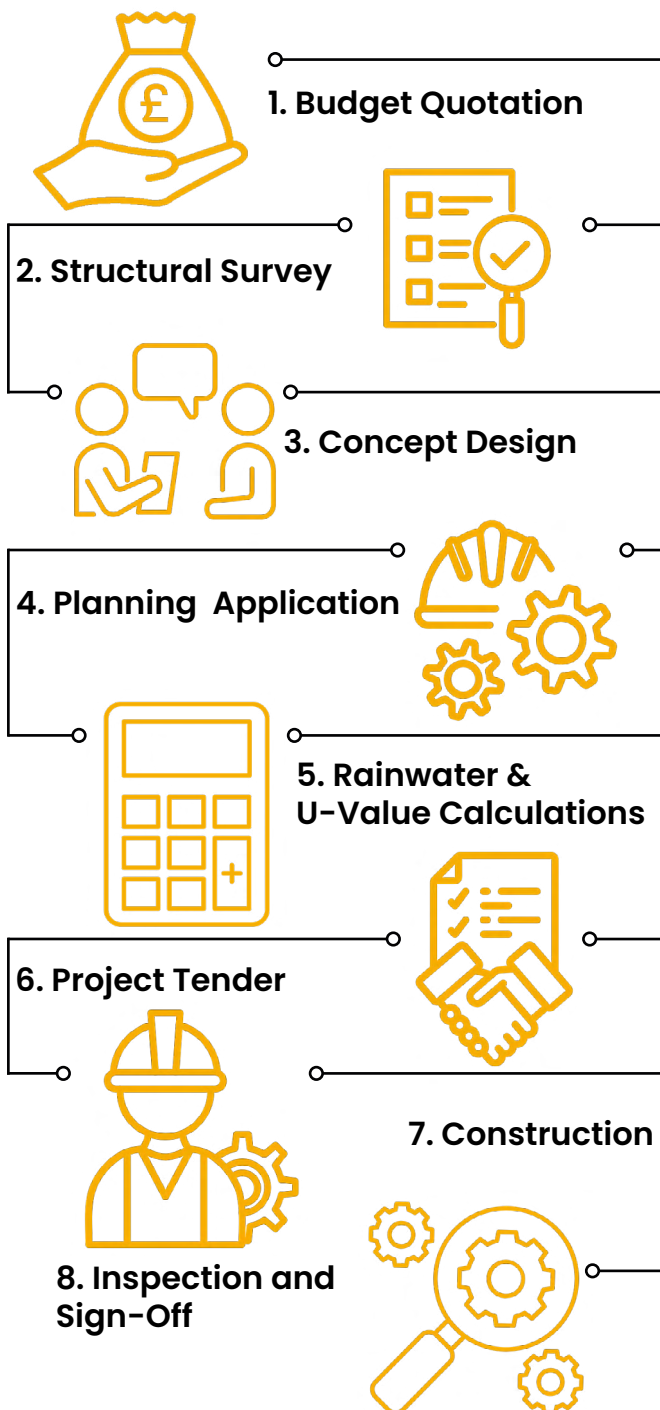


Flat-to-Pitch Roof Conversion System

Project Assist

Projects Made Easy

Britmet is proud to provide our clients with a 'project assist' service. This allows our team to undertake some, or even all, of the project on your behalf. We can reduce your workload and even speed up the project process by taking care of any technical, planning, or structural requirements you may need.



1. A preliminary budget is prepared based on the indicative roof sketch and measurements of the building perimeter.

2. This phase develops the initial project brief and any related feasibility studies previously carried out. Our Structural Engineer will conduct a survey and carry out pull-out tests to ensure our lightweight system is suitable.

3. The concept design is created in accordance with the design brief established in Phase 1 and presented to the client. A digital survey of the existing building will also be conducted to create an accurate proposal.

4. The concept design will be further developed from phase 2. Once approved, planning drawings and statements will be submitted to the local authority with the expectation that the planning application will be validated within 10 working days, and to be determined within an additional 8-13 weeks.

5. Once the application is determined and is favoured for approval, the structural engineer's design will be developed with structural calculations to establish an equal or reduced load condition. Building services will also look at rainwater flow and U-Value calculations and provide a draft of our specifications.

6. Phase 4 refines the design in preparation for tender documents and drawings. Projects are traditionally released for tendering to contractors after this phase.*

7. This phase signifies to start of construction. Our specification team will be on hand to assist with any technical queries and to conduct inspections to sign off the system warranty.

8. Our specification team will assist with any inspection reports, warranties, and maintenance for the system.



Flat-to-Pitch Roof Conversion System

Case Studies



Case Study: Housing Association



Project Details

The client is a housing association responsible for managing and maintaining a portfolio of social housing properties. They were seeking an effective solution to address various issues with one of their buildings, including an ageing roof with multiple repairs, inadequate insulation, and inefficient rainwater management.

The objective was to enhance the building's aesthetics, improve water tightness, increase energy efficiency, and minimise future maintenance requirements. The client became acquainted with BritFrame, a lightweight and versatile structural solution, after meeting the Britmet team at an exhibition.

During the initial site visit, Britmet's team evaluated the existing roof condition, rainwater management system, and insulation levels. After careful assessment, they provided the client with a budget price estimate for the proposed project. The estimate included the cost of materials, labour, and necessary ancillary items. To streamline the project, the client signed a Project Assist agreement with Britmet. This allowed Britmet to obtain planning drawings and submit the necessary applications on behalf of the client. Additionally, Britmet provided structural calculations, design drawings, and rainwater calculations to ensure compliance with regulatory standards and best practices.

Product Used:
BritFrame and Slate
2000

Project Size:
500sqm

Sector:
Housing Association

Main Contractor:
Jennings Roofing

Project Value:
£250,000

The main objective of the project was to convert the existing flat roof to a pitched roof using BritFrame and install Britmet's Slate 2000 roofing system. This conversion offered numerous advantages, including improved water tightness, increased insulation, and resolved rainwater management issues. Notably, the internal gutters, which had caused maintenance problems, were relocated externally as part of the new design.

The new roofing system and structural solution significantly enhanced the building's aesthetic appeal. The modern design of BritFrame, combined with the stylish appearance of Slate 2000, seamlessly integrated the property with its surroundings. The improved visual aesthetics added value to the social housing development. One of the key benefits of choosing Britmet's Slate 2000 and BritFrame was the assurance of minimal maintenance requirements. Unlike the previous roof covering, which had undergone numerous repairs and reached the end of its life, the new system was designed to be durable and long-lasting. This eliminated the need for ongoing maintenance and reduced future costs for the housing association.

Through the adoption of Britmet's Slate 2000 roofing system and BritFrame structural solution, the social housing project achieved its objectives of enhanced aesthetics, improved watertightness, increased insulation, and efficient rainwater management. The collaboration between the client and Britmet, from the initial meeting at UKCW to the successful implementation of the project, demonstrated the value of innovative roofing and structural solutions in the social housing sector.

Before



BritFrame



After



Case Study: Residential



Project Details

This case study focuses on the successful implementation of BritFrame, and LiteSlate, in a residential flat roof renovation project near Llangollen. The existing roof had been plagued by ponding and water ingress, necessitating repeated repairs and replacements over 20 years.

BritFrame is a versatile and innovative solution designed to convert flat roofs into pitched roofs, providing improved water runoff. LiteSlate, a lightweight composite slate tile, was specified due to its excellent weather resistance, durability, and aesthetically appealing finish. As Llangollen is part of the UNESCO World Heritage Site along eleven miles of canal from Gledrid to the Horseshoe Falls and required a durable yet authentic roofing solution.

BritFrame converted the existing flat roofs into pitched roofs, preventing ponding, thereby eliminating the risk of water ingress, and reducing the need for yearly inspections and maintenance. LiteSlate offered an attractive finish replicating the appearance of natural slate.

Product Used:
BritFrame and LiteSlate

Project Size:
1200sqm

Sector:
Residential

Main Contractor:
ART Contracts Ltd

Completed:
2023

Conducting a thorough structural assessment of the existing flat roof to ensure compatibility and feasibility of the BritFrame required careful analysis and engineering expertise.

The implementation of BritFrame has effectively addressed the issue of ponding, providing efficient water runoff and preventing water ingress into the residential property. The utilisation of LiteSlate offered exceptional durability, weather resistance, and longevity, significantly reducing the need for future repairs and replacements, and thereby providing long-term cost savings. LiteSlate also improved the overall aesthetic appeal of the residential property, replicating the natural beauty of slate roofing while offering the advantages of lightweight construction.

The integration of the Britmet Lightweight BritFrame System and LiteSlate successfully addressed the challenges the building was facing. The project resulted in improved water runoff, enhanced durability, a more aesthetically pleasing roofing solution, along with a new 60 plus year life expectancy. This case study emphasizes the importance of selecting innovative and reliable roofing systems to overcome recurring roofing issues and deliver long-lasting and visually appealing outcomes.

Before



After





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To Find Out More

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