

This certificate is valid for Building Regulations & associated technical guidance in force on the date of registration and for the regulations in the countries indicated

Prefix WARMroof System

Description of Product

This is an assessment of the WARMroof system from Prefix Systems. It is a multi-configurable and structurally robust insulated tiled roof that is an off-site constructed 'warm roof' that has been designed and engineered to be structurally sound, energy efficient and aesthetically pleasing, it is available for home extensions and conservatory renovation projects.

This Registered Detail Certificate is designed to fast-track, not remove, the requirement to obtain Building Regulation Approval through LABC. This can only be demonstrated through a Completion Certificate issued following satisfactory inspections made as part of a valid Building Regulation application by Local Authority Building Control teams.

This Registered Detail Certificate is designed to fast-track, not remove, the requirement to obtain a building warrant and an accepted completion certificate through the local authority building standards service providers in Scotland.



Key Factors Assessed

- Mechanical Resistance & Stability
- Safety in case of Fire
- Safety in Use
- Energy Economy and heat retention
- Durability serviceability and identification

Validity

This certificate was first issued on 6th December 2016 and is valid until 6th February 2019

Issue Dated 15th February 2018

Scope of Registration

This Registered Detail is related to the WARMroof system which has been designed for use in conservatory reroofing and new extension work.

The system uses a "Warm Roof" construction and is constructed from 'A' frames for quicker installation. The structural eaves beam features an optional steel reinforcement for wider spans over openings for doors and bi-folds.

There are robust fixed joints at the apex to resist movement which would be important when applying a plastered finish internally.

No ridge section is required as seen on traditional roof design which adds to the configurability of the system.

It is structurally proven to BS6399 – so it's structurally proven in all UK exposure zones and tested to take the weight of lightweight tiles or traditional clay or slate tiles.

Adding to the point on configurable designs there is a hub assembly with hub locks for quick and accurate installation. Any roof design, pitch or angles can be achieved so is ideal for conservatory replacement projects.

Velux rooflights can be prefixed into the panel to speed up installation and can be glazed into hipped ends.

The hip and ridge capping are supplied in one continuous length for the WARMroof system which makes for quick installation, with built in gaskets for better weather performance.

Regarding CE marking, the system uses Aluminium and Steel components for the main frame structure designed using ISO 9002 approved software; however ancillary goods such as Tiles, Breather Membrane, OSB Sarking Board, plastic guttering are all produced by third party companies who should have their own DoP.

Refer to Technical Guidance Note MG0010411 Application of Part L to Conservatories attached to existing dwellings

https://www.labc.co.uk/sites/default/files/labc_4893_techg_conservatories.pdf and LABC guidance on solid roofs to

conservatories and porches attached to dwellings https://www.labc.co.uk/sites/default/files/Solid-roof-conservatories-guide-labc_0.pdf

The roof specification designed to achieve 0.18 W/m²K comprises; Tiles (spacers built into bottom of tile) fixed to Breathable membrane that is fixed to 9mm of Orientated Strand Board (OSB). This is bonded to 50mm Polyurethane insulation which is sat on (fixed) 18mm OSB with timber battens bonded to 100mm Graphite Expanded Polystyrene (GEPS) between Aluminium 'A' Frames 20mm Phenolic insulation bonded onto 12.5mm foil backed plasterboard.

For Scotland purposes:

This Registered Detail covers only the "replacement roof element" which comprises:

- a series of aluminium ring beams, ring beam angles, box gutters, victorian / Edwardian ridge, lean-to ridge, victorian hip, georgian hip, rafter/gable and cleat and screw fixings, (depending upon the replacement roof configuration)
- a roof make up of: tiles (spacers built into bottom of tile) fixed to Breathable membrane that is fixed to 9mm of Orientated Strand Board (OSB). This is bonded to 50mm Polyurethane insulation which is sat on (fixed) 18mm OSB with timber battens bonded to 100mm Graphite Expanded Polystyrene (GEPS) between Aluminium 'A' Frames 20mm Phenolic insulation bonded onto 12.5mm foil backed plasterboard.

Site specific elements not included in those elements specified here and as shown and specified in the supporting drawings, specifications and supporting literature are out with the scope of this Registered Detail.

The Registered Detail does not cover the installation of rooflights within the new roof structure although it is recognised that such installations can be accommodated within prescribed roof zones identified by the structural engineer's guide. The specification and installation details will be the subject of the site-specific building warrant application.

Energy - Design guidance and parameters – Thermal divide retained – Stand-alone building - Site specific information:

This Registered Detail has been assessed and accepted with a U-value of 0.18 W/m²K which satisfies Guidance Clause 6.2.9, Table, Column (b) for insulation which is installed at rafter level. In meeting this criterion, compliance with Guidance Clauses 6.2.6, 6.2.7, 6.2.11, 6.2.12 and 6.2.13 will be achieved.

This Registered Detail takes cognisance of the guidance for compliance with Energy use as defined by

- Clause 6.2.0 Conversions.

Where the building as converted shall meet the requirements of this standard in so far as is reasonably practicable

- Clause 6.2.9 U-values

Where the insulation envelope of a dwelling or a building of dwellings is extended, the new building fabric should be designed in accordance with one of two levels of elemental U-values for walls, floors, roof, windows, doors and rooflights, as shown in the table to Clause 6.2.9

- Clause 6.2.11 Infill of large openings

The infill of an existing opening of greater area (than approximately 4 m²) in the building fabric should have a U-value which achieves those in Column (b) of the table to clause 6.2.9

- Clause 6.2.11 Reconstruction of Elements

Where the build-up of an element forming part of the insulation envelope is to be altered or dismantled and rebuilt, the opportunity should be taken to improve the level of thermal insulation. Column (b) of the table to clause 6.2.9 gives benchmark U-values and in many cases these can be achieved without technical risk, within the constraints of the existing construction.

- Clause 6.2.13 Stand-alone Buildings

For heated stand-alone buildings of less than 50m², the fabric values identified in columns (b) and (c) of the table to clause 6.2.9 and clause 6.2.10 should be followed. U-value recommendations should be met, though it should be noted that the area of glazing is not limited. This allows, for example, a dwelling to be extended to create a highly-glazed standalone building such as a sunroom, with glazing in excess of the limits identified in clause 6.2.9.

Energy - Design guidance and parameters – thermal divide removed – extension to dwelling

- Clause 6.2.9 U-values

Where the insulation envelope of a dwelling or a building of dwellings is extended, the new building fabric should be designed in accordance with one of two levels of elemental U-values for walls, floors, roof, windows, doors and rooflights, as shown in the table to Clause 6.2.9.

Where both external wall and roof elements already meet or, as part of the works, will be upgraded to meet or improve upon U values of 0.7 or 0.25 respectively, the U-values in column (b) can be applied to the extension.

Where a building has external wall or roof element with a U-value poorer than 0.7 or 0.25 respectively, then the more demanding U-values in column (a) apply to the extension.

Alternatively, column (b) U-values may be applied where improvements to the existing building are shown to deliver a reduction in heat loss greater than or equal to the difference between the calculated overall heat loss performance of a notional extension built to column (a) U-values and one built to column (b) U-values (see compensatory approach below).

In situations where the U-values of the existing dwelling means the extension is to be built to column (a) U-values, the compensatory approach can be extended to give applicants greater flexibility, by allowing the extension to be built to column (b) U-values providing that the further reduction in heat loss is achieved through fabric improvements to the existing dwelling.

Testing and Accreditation

The replacement roof shall be manufactured and installed strictly in accordance with the manufacturer's instructions, in accordance with the registered detail holder's instructions and fully in accordance with the accredited certification and supporting test reports.

This Registered Detail is issued in the knowledge that the materials specified shall contribute to compliance with Mandatory Standards 1.1, 2.5, 2.8, 3.10, 3.15 and 6.2 of the Building (Scotland) Regulations 2004.

Conditions of Certificate

The WARMroof system is designed using ISO 9002 approved software used to design individual roofs and to BS6399 for all exposure zones.

Any requirement for a roof design falling outside the scope of the approved design data will require supplementary calculations to prove compliance with Approved Document A.

Checks should be made for the roof covering material for surface spread of flame performance, this is down to third party selection and not specific to Prefix roof systems. The roof structure can carry most slate, tile and steel lightweight systems therefore checks with these tile suppliers if there was any doubt.

At installation stage a plastic eaves protector fixed to the bottom of the sarking board, it must have an overhang of at least 50mm with mitred and noted joints where required. A 200mm overlap is also required on straight joints.

Roof Pitch	Breather Membrane Overlap
Greater than 25 deg	100mm
20 to 25 deg	200mm
Less than 20 deg	300mm

The breathable membrane lips up onto the host wall in order to sit behind the soaker trim. The soaker is held in place by the tiles. The soaker trim has a gasket that seals against the underside of tile / slate, this gasket should also point towards the edge of the tile.

Soakers are required over the covered hip spine and mitred at the top where the soaker meets either a wall plate or where hips converge at a ridge end. The roof can then receive the slate or tiled covering, some tiles such as "Envirotile" and can be fixed direct to the sarking board using a 38mm stainless steel screw. Whatever roof covering is provided a capping system is required over the ridge and hips to ensure water tightness. A dry verge system is also required to ensure water tightness where gables are provided. These can be secured in place by screwing into a timber batten using a 38mm stainless steel screw and clip.

Velux roof lights can be installed to the roofing system provided the flashing kit is installed as per manufacturer's instructions. Details of box gutters are also provided by Prefix for water disposal whilst preventing thermal cold bridging and the risk of condensation formation.

Roof cross venting is not required as it is a "warm" roof construction and calculations are provided for condensation risk analysis.

For Scotland purposes:

That the products used as components of the system shall be manufactured and installed strictly in accordance with the manufacturer's instructions, in accordance with the certificate holder's instructions and fully in accordance with the accredited certification and supporting test reports.

The specifications and materials referred to have been assessed and approved in accordance with the Building (Scotland) Regulations 2004 and in accordance with the supporting guidance in the Domestic Technical Handbooks which came into force with effect from 1 June 2016.

Where reference is made on a plan or specification document to any Code of Practice, British or European Standard or manufacturer's instruction it shall be construed as a reference to such publication in the form in which it is in force at the date of this registered detail.

The materials specified shall not be changed without first gaining approval so to do. Failure to do so will invalidate the registered detail.

This Registered Detail should not be regarded as a formal approval under the building warrant process prescribed by the Building (Scotland) Act 2003 enacted from 1 May 2005. It supports the site-specific building warrant submission required in every case.

Site Specific Assessment

Confirmation of a holistic approach to structural adequacy of the entire completed building shall be provided by a registered engineer to the verifier within whose area the site-specific building is to be built should the verifier so request.

Further site specific information WILL BE made available when a building warrant is sought and should take cognisance of Procedural Guidance on Certification dated April 2010 Version 2 including information to be submitted with a Building Warrant Application should a verifier request such information.

Climatic conditions

The design may be built in areas where the climatic conditions are equal to or less than those detailed in the Statement of Structural Adequacy 1170803 dated 25 March 2014 and referenced here under the Supporting Information section.

LABC and LABSS consider that, WARMroof will meet the functional requirements of the Building Regulations (listed below) if the criteria detailed in this certificate are met;



The Building Regulations 2010 (as amended) England & Wales

Regulation 7	Materials and workmanship
Note:	The system is acceptable.
AD A	Structure
Note:	The system is acceptable subject to calculations.
AD B	Fire Safety
Note:	The system is acceptable.
AD C	Site preparation and resistance to contaminants and moisture
Note:	The system is acceptable.
AD F	Ventilation
Note:	The system is acceptable.
AD L1A	Conservation of fuel and power
Note:	The system is acceptable.
AD L1B	Conservation of fuel and power
Note:	The system is acceptable.



The Building Regulations 2010 (as amended) England

AD B	Fire Safety
Note:	The system is acceptable.
AD L1A	Conservation of fuel and power
Note:	The system is acceptable.



The Building Regulations 2010 (as amended) Wales

AD B	Fire Safety
Note:	The system is acceptable.
AD L1A	Conservation of fuel and power
Note:	The system is acceptable.



The Building (Scotland) Regulations 2004 (as amended)

Technical Handbooks - Domestic

Regulation 8 Durability, workmanship and fitness of materials
0.8.5: Ways of establishing the fitness of materials

Regulation 9 Building Standards applicable to construction
Note: Construction shall be carried out so that the work complies with the applicable requirements of schedule 5.

Mandatory

Standard 1.1 Structure

Note: The system is acceptable, subject to a structural assessment in relation to the existing building and the provision of structural certification of the holistic building comprising the conservatory and new roof.

Mandatory

Standard 2.5 Internal linings

Note: The system is acceptable provided it is constructed in accordance with the manufacturer's details.

Mandatory

Standard 2.8 Spread from neighbouring buildings

Note: The system is acceptable provided it is constructed in accordance with the manufacturer's details.

Mandatory

Standard 3.10 Precipitation

Note: The system is acceptable provided it is constructed in accordance with the manufacturer's details and by an accredited contractor.

Mandatory

Standard 3.15 Condensation

Note: The system is acceptable provided it is constructed in accordance with the manufacturer's details and by an accredited contractor.

Mandatory

Standard 6.2 Building insulation envelope

Note: The system will achieve the required U-value provided it is constructed in accordance with the manufacturer's details and by an accredited contractor.

Non-Regulatory Information



LABC Warranty

The use of WARMroof has not been assessed to meet the requirements of the LABC Warranty Technical Manual. If you would like to discuss a specific use please make an enquiry to technical.services@labcwarranty.co.uk

Supporting Documentation

Structural calculations prepared by Prefix Systems and calculations from Booth King Partnership Limited, Consulting and Structural Engineers

Condensation risk analysis to BS EN ISO 13788 dated 20th March 2014 on a BuildDesk U 3.4 data sheet

U – Value calculations dated 20th March 2014

Installation manual

WARMroof public brochure

WARMroof trade brochure

System information and Technical details document

BRE Client Report Thermal modelling of Warm Roof replacement conservatory roofing system Report Number: P105980_1000
Issue: 1

BRE Hygrothermal performance of Prefix roof system Report P104699-1008

For LABSS assessment:

1170803 - STATEMENT OF STRUCTURAL ADEQUACY.pdf

Easy trim pro122.pdf

EcoTherm_Eco-Versal_Datasheet_Jul_2015.pdf

Envirotile BBA CERTIFICATE.pdf

eps.jpg

Kooltherm-K118-2nd-Issue-Nov-16.pdf

LABC Approved WARMroof Section Through.pdf

OSB_24PP_A4_2012 CROPPED EDIT LowRes.pdf

SPI-declaration of Performance 2016 CE.pdf

Stylite_Flooring_Insulation_BBA_Certification_2013.pdf

Stylite_PlusTherm_Flooring_Insulation_Datasheet.pdf

Thermal modelling results report for issue.pdf

UBBINK-UBIFLEX-A4-BROCHURE-0815.pdf

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