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Agrément Certificate

17/5434

Product Sheet 3

STORMKING GRP PREFABRICATED ROOFS

STORMKING WARMA-DORMA

This Agrément Certificate Product Sheet⁽¹⁾ relates to Stormking Warma-Dorma, flat or pitched roof dormers consisting of a GRP outer shell bonded to a timber-frame with polyurethane-insulated walls, for use on roofs of domestic buildings with pitches ranging from 25° to 70°.

(1) Hereinafter referred to as 'Certificate'.

CERTIFICATION INCLUDES:

- factors relating to compliance with Building Regulations where applicable
- factors relating to additional non-regulatory information where applicable
- independently verified technical specification
- assessment criteria and technical investigations
- design considerations
- installation guidance
- regular surveillance of production
- formal three-yearly review.



KEY FACTORS ASSESSED

Structural performance — the dormers can accept the loads associated with roofs where no access is provided, other than that necessary for cleaning and repair (see section 6).

Weathertightness — when installed in accordance with the Certificate holder's instructions, the dormers can provide adequate resistance to the ingress of precipitation (see section 7).

Behaviour in relation to fire — when tested for resistance to external fire exposure, the flat roof achieved Category EXT.F.AC in accordance with BS 476-3 : 2004. The products' proximity to a boundary is restricted in some cases (see section 8).

Thermal properties — the products can contribute to meeting the national Building Regulation requirements. Compensating measures may be required (see section 9).

Condensation risk — the risk of surface condensation is minimal. The risk of interstitial condensation will depend on the integrity of the VCL (see section 10).

Durability — the dormer has a GRP weatherproof outer shell and evidence from material subjected to natural exposure and from accelerated durability tests indicate the service life of the product is in excess of 30 years (see section 13).

The BBA has awarded this Certificate to the company named above for the products described herein. These products have been assessed by the BBA as being fit for their intended use provided they are installed, used and maintained as set out in this Certificate.

On behalf of the British Board of Agrément

Date of Second issue: 16 November 2021

Originally Certificated on 6 June 2017

Hardy Giesler
Chief Executive Officer



The BBA is a UKAS accredited certification body – Number 113.

The schedule of the current scope of accreditation for product certification is available in pdf format via the UKAS link on the BBA website at www.bbacerts.co.uk

Readers MUST check the validity and latest issue number of this Agrément Certificate by either referring to the BBA website or contacting the BBA directly.

Any photographs are for illustrative purposes only, do not constitute advice and should not be relied upon.

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Regulations

In the opinion of the BBA, Stormking Warma-Dorma, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements of the following Building Regulations (the presence of a UK map indicates that the subject is related to the Building Regulations in the region or regions of the UK depicted):



The Building Regulations 2010 (England and Wales) (as amended)

Requirement:	A1	Loading
Comment:		The products will have sufficient strength and stiffness to sustain the design loads. See section 6 of this Certificate.
Requirement:	B4(2)	External fire spread
Comment:		Some products may be restricted by this Requirement. See sections 8.1 to 8.3 of this Certificate.
Requirement:	C2(b)	Resistance to moisture
Comment:		Roofs incorporating the products can adequately resist the ingress of precipitation. See section 7 of this Certificate.
Requirement:	C2(c)	Resistance to moisture
Comment:		The products can adequately limit the risk of surface condensation. See Section 10.1 of this Certificate. The risk of interstitial condensation will depend on the integrity of the VCL. See section 10.2 of this Certificate.
Requirement:	L1(a)(i)	Conservation of fuel and power
Comment:		The products can contribute to satisfying this Requirement. See sections 9.1, 9.3 to 9.5 of this Certificate.
Regulation:	7(1)	Materials and workmanship
Comment:		The products are acceptable. See section 13.1 and the <i>Installation</i> part of this Certificate.
Regulation:	26	CO₂ emission rates for new buildings
Regulation:	26A	Fabric energy efficiency rates for new dwellings (applicable in England only)
Regulation:	26A	Primary energy consumption rates for new buildings (applicable to Wales only)
Regulation:	26B	Fabric performance values for new dwellings (applicable to Wales only)
Comment:		The products can contribute to satisfying these Regulations when appropriate compensating building fabric and/or services measures are adopted. See section 9.4 of this Certificate.



The Building (Scotland) Regulations 2004 (as amended)

Regulation:	8(1)	Durability, workmanship and fitness of materials
Comment:		The products can contribute to a construction satisfying this Regulation. See section 13.1 and the <i>Installation</i> part of this Certificate.
Regulation:	9	Building standards applicable to construction
Standard:	1.1(a)(b)	Structure
Comment:		The products will have sufficient strength and stiffness to sustain the design loads, with reference to clause 1.1.1 ⁽¹⁾ of this Standard. See section 6 of this Certificate.
Standard:	2.8	Spread from neighbouring buildings
Comment:		Some products may be restricted by this Requirement, with reference to clause 2.8.1 ⁽¹⁾ of this Standard. See sections 8.1 to 8.3 of this Certificate.
Standard:	3.10	Precipitation
Comment:		Roofs incorporating the products can adequately resist the ingress of precipitation. See section 7 of this Certificate.

Standard: Comment:	3.15	Condensation The products can adequately limit the risk of surface condensation with reference to clauses 3.15.1 ⁽¹⁾ and 3.15.4 ⁽¹⁾ . See Section 10.1 of this Certificate. The risk of interstitial condensation, with reference to clauses 3.15.1 ⁽¹⁾ , 3.15.3 ⁽¹⁾ , 3.15.5 ⁽¹⁾ to 3.15.7 ⁽¹⁾ , will depend on the integrity of the VCL. See section 10.2 of this Certificate.
Standard: Comment:	6.1(b)	Carbon dioxide emissions The products can contribute to satisfying this Standard when appropriate compensating fabric and/or services measures are adopted, with reference to clauses 6.1.1 ⁽¹⁾ and 6.1.6 ⁽¹⁾ . See sections 9.1, 9.2 and 9.5 of this Certificate.
Standard: Comment:	6.2	Building insulation envelope The products can contribute to satisfying this Standard when compensating fabric measures are adopted, with reference to clauses 6.2.1 ⁽¹⁾ , 6.2.3 ⁽¹⁾ , 6.2.4 ⁽¹⁾ , 6.2.6 ⁽¹⁾ , 6.2.7 ⁽¹⁾ , 6.2.9 ⁽¹⁾ , 6.2.10 ⁽¹⁾ and 6.2.11 ⁽¹⁾ of this Standard. See sections 9.2 and 9.5 of this Certificate.
Standard: Comment:	7.1(a)(b)	Statement of sustainability The products can contribute to meeting the relevant requirements of Regulation 9, Standards 1 to 6 when appropriate compensating building fabric and/or services measures are adopted and therefore will contribute to a construction meeting a bronze level of sustainability as defined in this Standard. See sections 9.2 and 9.5 of this Certificate.
Regulation: Comment:	12	Building standards applicable to conversions All comments given for the products under Regulation 9, Standards 1 to 6 also apply to this Regulation, with reference to clause 0.12.1 ⁽¹⁾ and Schedule 6 ⁽¹⁾ .

(1) Technical Handbook (Domestic).



The Building Regulations (Northern Ireland) 2012 (as amended)

Regulation: Comment:	23(a)(b)	Fitness of materials and workmanship The products are acceptable. See section 13.1 and the <i>Installation</i> part of this Certificate.
Regulation: Comment:	28(b)	Resistance to moisture and weather Roofs incorporating the products can adequately resist the ingress of precipitation. See section 7 of this Certificate.
Regulation: Comment:	29	Condensation The risk of interstitial condensation will depend on the integrity of the VCL. See section 10.2 of this Certificate.
Regulation: Comment:	30	Stability The products will have sufficient strength and stiffness to sustain the design loads. See section 6 of this Certificate.
Regulation: Comment:	36(b)	External fire spread Some products may be restricted by this Requirement. See sections 8.1 to 8.3 of this Certificate.
Regulation: Comment:	39(a)(i)	Conservation measures The products contribute to satisfying this Regulation. See sections 9.1, 9.3 to 9.5 of this Certificate.
Regulation: Comment:	40(2)	Target carbon dioxide emission rate The products can contribute to satisfying this Regulation. See sections 9.3 to 9.5 of this Certificate.

Construction (Design and Management) Regulations 2015 Construction (Design and Management) Regulations (Northern Ireland) 2016

Information in this Certificate may assist the client, designer (including Principal Designer) and contractor (including Principal Contractor) to address their obligations under these Regulations.

See sections: 3 *Delivery and site handling* (3.1 and 3.3) of this Certificate.

Additional Information

NHBC Standards 2021

In the opinion of the BBA, Stormking Warma-Dorma, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements in relation to *NHBC Standards, Part 7 Roofs, Chapter 7.1 Flat roofs* and *Chapter 7.2 Pitched roofs*.

Technical Specification

1 Description

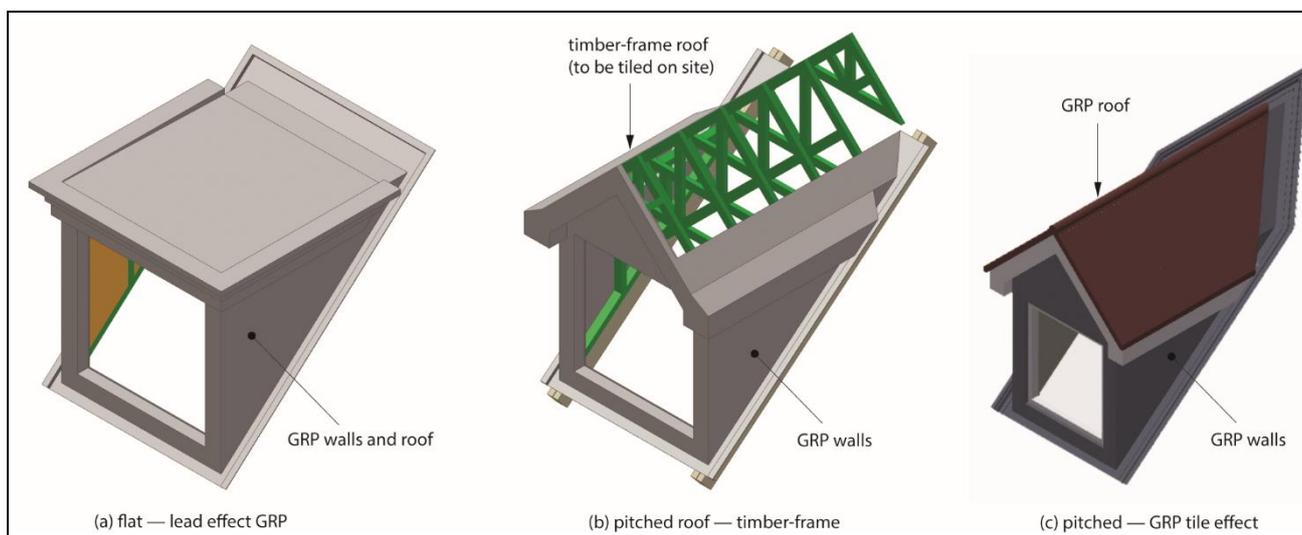
1.1 Stormking Warma-Dorma are prefabricated dormers, consisting of a structural timber framing which is supplied either fully-bonded to a preformed fire-retardant GRP outer shell, or as a trussed roof to be tiled on site.

1.2 The dormers are available in three styles (see Figure 1):

- flat roof lead-effect GRP, incorporating a slight fall towards the outer edge to allow rainwater run-off
- trussed pitched roof to be used in conjunction with conventional tiles, available with falls of between 30° and 70°
- pitched roof GRP tiled-effect, available with falls of between 30° and 70°.

All three styles are manufactured in a wide range of sizes.

Figure 1 Warma-Dorma style details



1.3 The walls of the dormers are spray-filled internally with 110 mm thick polyurethane insulation (PUR) in the factory. In the flat-roof dormer, the roof is spray-filled with 150 mm thickness of polyurethane insulation (PUR) in the factory. In the pitched-roof dormers, a minimum 300 mm thick mineral wool insulation is delivered to site to be laid over the ceiling plasterboard by others. Where the pitched roof is supplied as GRP tile effect, an additional 20 mm foam insulation coat (PUR) is applied to the underside of the GRP roof in the factory. All dormers are lined internally on site with vapour check plasterboard (outside the scope of this Certificate), fixed to the timber framing.

1.4 Items used with the dormers, but outside the scope of this Certificate, include:

- roof tiles — used on the pitched dormer
- internal lining — vapour check plasterboard
- Internal finishes
- vapour control layer (VCL)
- roof tile underlay (it is recommended that the same underlay as the main roof be used)
- lead flashing kit
- windows
- joint sealant (eg high-performance silicone or polysulfide sealant)
- mineral wool loft insulation within the pitched roof – timber-frame, see Figure 1(c)
- screws.

2 Manufacture

2.1 The dormers are built around a timber framework and, with the exception of the pitched roof – timber-frame (see Figure 1 (c)), a preformed GRP moulded outer shell is added and trimmed prior to finishing.

2.2 As part of the assessment and ongoing surveillance of product quality, the BBA has:

- agreed with the manufacturer the quality control procedures and product testing to be undertaken
- assessed and agreed the quality control operated over batches of incoming materials
- monitored the production process and verified that it is in accordance with the documented process
- evaluated the process for management of nonconformities
- checked that equipment has been properly tested and calibrated
- undertaken to carry out the above measures on a regular basis through a surveillance process, to verify that the specifications and quality control operated by the manufacturer are being maintained.

2.3 The management system of the Certificate holder has been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2015 and BS EN ISO 14001 : 2015 by the BBA (Certificate 09/Q015 and 10/E005 respectively).

3 Delivery and site handling

3.1 Instructions for site handling and installation are provided with each delivery.

3.2 The units are delivered to site stretch-wrapped in polythene sheeting. Each unit bears a label with the BBA logo incorporating the number of this Certificate. Remove the protective packaging only when fixing is imminent.

3.3 Units are lifted using the sacrificial lifting beams using forklift type attachments by crane, tele-hoist or forklift truck. Care should be taken not to damage the surface of the GRP.

3.4 If the units are to be stored on site, they should be laid with their fixing edge on a flat, level surface. If stored externally, they should remain covered and raised off the ground.

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Stormking Warma-Dorma.

Design Considerations

4 General

4.1 Stormking Warma-Dorma are satisfactory for use as dormers on the roofs of new and existing domestic buildings.

4.2 The roof to which the dormer is to be fixed must be structurally sound and constructed in accordance with the requirements of the relevant national Building Regulations and national Standards.

4.3 The host roof should be checked for the additional loads, including wind loads, from the dormer. The fixings should be similarly checked.

4.4 All design checks should be carried out by a suitably-qualified individual to the relevant national Codes and Standards.

5 Practicability of installation

The products are designed to be installed by a competent general builder, or a contractor, experienced with these types of products.

6 Structural performance



6.1 The products can accept the loads associated with roofs where no access is provided, other than that necessary for cleaning and repair, as defined in BS EN 1991-1-1 : 2002, its national annex, and BS EN 1991-1-7 : 2006.

6.2 The host roof structure, and any modifications necessary to accommodate the additional dormer loads, should be checked by a suitably qualified engineer in accordance with the relevant national Building Regulations.

6.3 In addition to the requirements specifically referred to in this Certificate, the dormer support, must be designed in accordance with BS EN 1995-1-1 : 2004 and its national annex, constructed to comply with the technical specifications given in the national Building Regulations and Standards.

6.4 When designing the dormer support system and associated details, due consideration should be given to the possibility of ponding in vulnerable areas.

6.5 The design of the fixings should be checked to ensure that the unit is adequately anchored to resist the appropriate combination of dead, imposed and wind loads, in accordance with BS EN 1991-1-1 : 2002, BS EN 1991-1-3 : 2003, BS EN 1991-1-4 : 2005, their national annexes, and BS EN 1991-1-7 : 2006.

7 Weathertightness



When installed in accordance with the Certificate holder's instructions, the products will provide adequate resistance the ingress of precipitation.

8 Behaviour in relation to fire



8.1 When tested for external fire exposure in accordance with BS 476-3 : 2004⁽¹⁾, representative Stormking Warma-Dorma with flat roofs achieved the classification of EXT.F.AC.

(1) Designers should refer to Warringtonfire test report WF 153687, available from the Certificate holder.

8.2 The Certificate holder has not declared a resistance to external fire exposure to BS EN 13501-5 : 2016 for the Stormking Warma-Dorma pitched roofs.

8.3 The dormer cheek external surfaces are not classified for reaction to fire, and calculations for unprotected areas may apply when considering proximity to boundaries.

8.4 For resistance to fire, the performance of the dormer cheek can only be determined by tests or assessments from a suitably accredited laboratory, and are not covered by this Certificate.

8.5 The rating of a pitched roof with site applied tiles/slates will depend on the properties of the tiles/slates.

9 Thermal properties



9.1 Example U values for each element are given in Table 1. The thermal transmittance (U-values) of the dormer elements should be calculated in accordance with BS EN ISO 6946 : 2017 and BRE Report 443 : 2019 using the project specific timber bridging fraction:

- $0.40 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$ — λ of GRP skins (where applicable)
- $0.026 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$ — λD for 110 mm PUR wall insulation
- $0.025 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$ — λD for 150 mm PUR roof insulation
- $0.044 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$ — λD for mineral wool roof insulation.

Table 1 Example dormer element U-values

Element	U-value ($\text{W}\cdot\text{m}^{-2}\cdot\text{K}^{-1}$)
Dormer cheeks (walls) ⁽¹⁾	0.26
Flat roof ⁽²⁾	0.19
Pitched trussed roof ⁽³⁾	0.14
Pitched GRP roof ⁽⁴⁾	0.13

- (1) 4 mm GRP external skin, 110 mm PUR insulation with 11.11% timber bridging (50 mm studs at 450 mm centres), 18 mm plasterboard ($\lambda = 0.25 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$).
- (2) 4 mm GRP external skin, 150 mm PUR insulation with 9.83% timber bridging of the innermost 75 mm and 1.5% of the remaining 75 mm (linked bridges), 18 mm plasterboard ($\lambda=0.25\text{W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$).
- (3) Loft space ($R = 0.20 \text{ W}\cdot\text{m}^{-2}\cdot\text{K}^{-1}$), 300 mm mineral wool roof insulation with 5.83% timber bridging of the innermost 75 mm (35 mm joists at 600 mm centres), 18 mm plasterboard ($\lambda = 0.25 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$).
- (4) 30° pitched portion: 5 mm GRP external skin, 25 mm PUR insulation; horizontal portion: loft space ($R = 0.16 \text{ W}\cdot\text{m}^{-2}\cdot\text{K}^{-1}$), 300 mm mineral wool roof insulation with 5.83% timber bridging of the innermost 75 mm (35 mm joists at 600 mm centres), 18 mm plasterboard ($\lambda = 0.25 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$).



9.2 In Scotland, the dormer cheeks and flat roof elements do not meet the limiting U-values specified in the documents supporting the national Building Regulations in some cases. However, the dwelling will be acceptable when the area weighted U-value for each element type (inclusive of the relevant dormer element) does not exceed these limiting values.



9.3 In England, Wales and Northern Ireland the dormer cheeks and flat roof elements meet the limiting U values specified in the documents supporting the national Building Regulations.

9.4 The notional dwelling U-values are not met in some cases. Proposed dwellings incorporating the products will need to utilise improved fabric and/or building services in order to achieve its Target Emission Rate.

Junction ψ -values



9.5 Care must be taken in the overall design and construction of junctions with other elements and openings to minimise thermal bridges and air infiltration.

9.6 The junction ψ -values given in Table 2 may be used in SAP calculations, or values can be modelled in accordance with BS EN ISO 10211 : 2017, the requirements and guidance in BRE Report BR 497 : 2016, BRE Information Paper IP 1/06 and the provisions in the documents supporting the national Building Regulations relating to competency to perform calculations and determine robustness of design/construction and limiting heat loss by air infiltration.

Table 2 Example dormer junction ψ -values and temperature factors

Junction	ψ -value ($\text{W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$)	Temperature factor, f_{Rsi}
Dormer cheek corner and jamb	0.088	0.81
Flat roof to dormer cheek	0.023	0.93
Dormer cheek head	0.084	0.84
Pitched trussed roof eaves	0.054	0.90
Pitched trussed roof verge	0.11	0.90
Pitched GRP roof eaves	0.049	0.90
Pitched GRP roof verge	0.11	0.85

10 Condensation risk

Surface condensation



10.1 The temperature factors given in Table 2 are above the critical temperature factor of 0.75 for dwellings in BRE Information Paper 1/06. Therefore, the risk of surface condensation on elements and junctions is minimal.

Interstitial condensation



10.2 There is a risk of interstitial condensation forming on the GRP outer shell of the dormer (cheeks and roofs). To reduce the risk, all dormer elements must include a VCL with a minimum vapour resistance of 530 MNsg^{-1} to limit vapour migration to the impermeable GRP skins in the dormer cheeks and roof (where appropriate) which is to be sealed and lapped adequately. Pitched roofs must be appropriately ventilated in accordance with the guidance in BS 5250 : 2021, section 12.

11 Air leakage

11.1 Roofs can achieve adequate resistance to heat loss by air infiltration provided there is effective sealing, and care should be taken to ensure that junctions comply with the relevant guidance for airtightness as referred to in section 9.3.

11.2 A proportion of completed buildings are subject to pre-completion testing for airtightness in accordance with the requirements of the national Building Regulations.

12 Maintenance

12.1 Maintenance of the GRP outer skin will not be required but, when necessary, stains or marks can be removed with a damp cloth and household detergent or, in the case of obstinate stains, mild abrasive cleaner. Where paint, varnish or similar materials are to be cleaned off, the advice of the Certificate holder should be sought.

12.2 If damage to the GRP shell occurs and repair is required, the Certificate holder's instructions must be followed.

13 Durability



13.1 Evidence from the GRP product subjected to natural exposure for a period in excess of 10 years and from accelerated durability tests indicates that there will not be significant change in physical properties of the material due to ageing. A life in excess of 30 years can therefore be expected.

13.2 After natural weathering, slight initial dulling of the surface and slight change in colour shade may occur, particularly on the dark-coloured material. However, this process is not likely to be progressive.

14 Reuse and recyclability

The GRP outer shell material and timber-frame are recyclable.

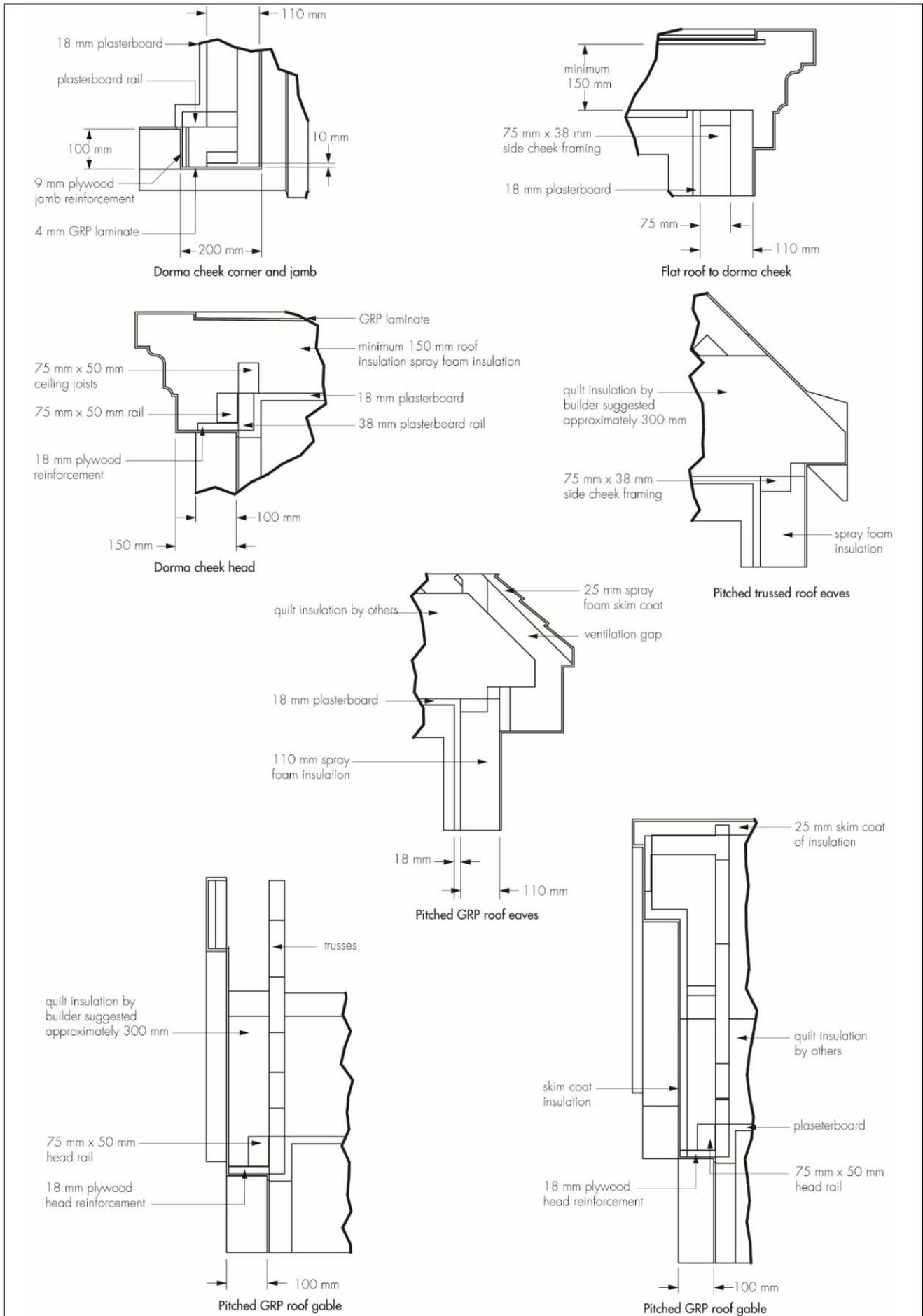
Installation

15 General

15.1 Installation of Stormking Warma-Dorma must be carried out in accordance with the Certificate holder's installation guide.

15.2 Reference should be made to the construction details shown in Figure 2 when reading the procedural details set out in section 16.

Figure 2 Typical construction details



15.3 The host roof must be checked that it is able to support the additional loads, including wind loads from the dormer, and any new trimmer members and fixings must be designed to the relevant Codes and Standards by a suitably-qualified individual.

16 Procedure

16.1 A timber sole plate with an upstand projecting 100 mm above the top of the supporting rafters is first formed.

16.2 An 18 mm thickness external grade plywood on battens is fixed to the rafters to support the lead flashing and felt.

16.3 A lead soaker flashing with 300 mm felt underlay is applied to the upstand.

16.4 The dormer is fixed into position using timber screws whose size and length are defined in accordance with the project specifics by the design engineer.

16.5 Sarking/underlay is applied to the host roof and secured using a timber tilting fillet.

16.6 For the pitched-roof dormer, the roof is tiled up to the dormer sides and a lead flashing is dressed over the tiles, ensuring a continuous fall at all times.

16.7 Tiling of the 'frame-only' roof should be carried out to BS 5534 : 2014.

16.8 An internal lining of plasterboard is applied to the dormer frame as required.

16.9 The window is fixed to the dormer timber-frame and sealed in accordance with normal practice.

Technical Investigations

17 Tests

Tests were carried out and the results assessed to determine:

- resistance to hard and soft body impact performance
- the effect of thermal cycling/thermal shock
- resistance to external fire exposure classification.

18 Investigations

18.1 The manufacturing process was evaluated, including the methods adopted for quality control, and details were obtained of the quality and composition of the materials used.

18.2 An assessment was made of:

- practicability of installation
- structural strength and stability
- weathertightness
- thermal transmittance
- maintenance requirements
- durability.

Bibliography

BS 476-3 : 2004 *Fire tests on building materials and structures — Classification and method of test for external fire exposure to roofs*

BS 5250 : 2021 *Management of moisture in buildings — Code of practice*

BS 5534 : 2014 + A2 : 2018 *Slating and tiling for pitched roofs and vertical cladding — Code of practice*

BS EN 1991-1-1 : 2002 *Eurocode 1: Actions on structures — General actions — Densities, self-weight, imposed loads for buildings*

BS EN 1991-1-3 : 2003 + A1 : 2015 *Eurocode 1: Actions on structures — General actions — Snow loads*

BS EN 1991-1-4: 2005 + A1 : 2010 *Eurocode 1: Actions on structures — General actions — Wind actions*

BS EN 1991-1-7 : 2006 + A1 : 2014 *Eurocode 1: Actions on structures — General actions — Accidental actions*

BS EN 1995-1-1 : 2004 + A2 : 2014 *Eurocode 5: Design of timber structures — General — Common rules and rules for buildings*

NA to BS EN 1991-1-1 : 2002 UK National Annex to Eurocode 1: *Actions on structures — General actions — Densities, self-weight, imposed loads for buildings*

NA +A2 : 18 to BS EN 1991-1-3 : 2003 + A1 : 2015 UK National Annex to Eurocode 1: *Actions on structures — General actions — Snow loads*

NA to BS EN 1991-1-4 : 2005 + A1 : 2010 UK National Annex to Eurocode 1 : *Actions on structures — General actions*

NA to BS EN 1995-1-1 : 2004 + A2 : 2014 UK National Annex to Eurocode 5: *Design of timber structures. General — Common rules and rules for buildings*

BS EN ISO 6946 : 2017 *Building components and building elements — Thermal resistance and thermal transmittance — Calculation method*

BS EN ISO 9001 : 2015 *Quality management systems — Requirements*

BS EN ISO 10211 : 2017 *Thermal bridges in building construction — Heat flows and surface temperatures — Detailed calculations*

BS EN ISO 14001 : 2015 *Environmental management systems — Requirements with guidance for use*

BRE Report BR 443 : 2019 *Conventions for U-value calculations*

BRE Report BR 497 : 2016 *Conventions for Calculating Linear thermal transmittance and Temperature Factors*

BRE Information Paper IP 1/06 *Assessing the effects of thermal bridging at junctions and around openings*

19 Conditions

19.1 This Certificate:

- relates only to the product/system that is named and described on the front page
- is issued only to the company, firm, organisation or person named on the front page – no other company, firm, organisation or person may hold claim that this Certificate has been issued to them
- is valid only within the UK
- has to be read, considered and used as a whole document – it may be misleading and will be incomplete to be selective
- is copyright of the BBA
- is subject to English Law.

19.2 Publications, documents, specifications, legislation, regulations, standards and the like referenced in this Certificate are those that were current and/or deemed relevant by the BBA at the date of issue or reissue of this Certificate.

19.3 This Certificate will remain valid for an unlimited period provided that the product/system and its manufacture and/or fabrication, including all related and relevant parts and processes thereof:

- are maintained at or above the levels which have been assessed and found to be satisfactory by the BBA
- continue to be checked as and when deemed appropriate by the BBA under arrangements that it will determine
- are reviewed by the BBA as and when it considers appropriate.

19.4 The BBA has used due skill, care and diligence in preparing this Certificate, but no warranty is provided.

19.5 In issuing this Certificate the BBA is not responsible and is excluded from any liability to any company, firm, organisation or person, for any matters arising directly or indirectly from:

- the presence or absence of any patent, intellectual property or similar rights subsisting in the product/system or any other product/system
- the right of the Certificate holder to manufacture, supply, install, maintain or market the product/system
- actual installations of the product/system, including their nature, design, methods, performance, workmanship and maintenance
- any works and constructions in which the product/system is installed, including their nature, design, methods, performance, workmanship and maintenance
- any loss or damage, including personal injury, howsoever caused by the product/system, including its manufacture, supply, installation, use, maintenance and removal
- any claims by the manufacturer relating to CE marking.

19.6 Any information relating to the manufacture, supply, installation, use, maintenance and removal of this product/system which is contained or referred to in this Certificate is the minimum required to be met when the product/system is manufactured, supplied, installed, used, maintained and removed. It does not purport in any way to restate the requirements of the Health and Safety at Work etc. Act 1974, or of any other statutory, common law or other duty which may exist at the date of issue or reissue of this Certificate; nor is conformity with such information to be taken as satisfying the requirements of the 1974 Act or of any statutory, common law or other duty of care.