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**Agrément
Certificate
No 02/3897**

Designated by Government
to issue
European Technical
Approvals

UNILIN UNIPUR INSULATED ROOF PANELS

French: Panneaux de toiture isolant et autoportants
German: Selbsttragende, Wärmegeämmnrite Steildachelemente

Product




• THIS CERTIFICATE OF CONFIRMATION RELATES TO UNILIN UNIPUR INSULATED ROOF PANELS.

- The roof panels are used to provide insulation and structural support to slate or tiled roofs with pitches of between 15° and 60°, in domestic or commercial buildings.
- The basic roof elements comprise three or four rafters fixed to an inner facing with polyurethane foam insulation in the void.

Confirmation of UBAtc (Belgian Agrément) Certificate No 98/1545.

Regulations

1 The Building Regulations 2000 (England and Wales)

 The Secretary of State has agreed with the British Board of Agrément the aspects of performance to be used by the BBA in assessing the compliance of roof insulation and structural support with the Building Regulations. In the opinion of the BBA, Unilin Unipur Insulated Roof Panels, if used in accordance with the provisions of this Certificate, will meet or contribute to meeting the relevant requirements.

Requirement: A1	Loading
Comment:	The product has sufficient strength and stiffness in accordance with sections 9.1 to 9.5 of this Certificate.
Requirement: B2(1)	Internal fire spread (linings)
Comment:	The surface spread of flame characteristics are dependent on product type. Restriction on use apply to some product types. See section 12.2 of this Certificate.
Requirement: B3(4)	Internal fire spread (structure)
Comment:	The product contains a concealed cavity therefore cavity barriers are required under certain situations. See section 12.4 of this Certificate.
Requirement: B4(2)	External fire spread
Comment:	The designation of the roof with respect to external fire spread will depend on the roof covering used.

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Requirement: C4	Resistance to weather and ground moisture
Comment:	The system, when used with a conventional slate or tile roof, will resist the passage of moisture to the inside of the building. See sections 13.1 and 13.2 of this Certificate.
Requirement: F2	Condensation in roofs
Comment:	Provided the product is used in a suitable design and specification, the formation of condensation will be negligible. See sections 10.1 to 10.4 of this Certificate.
Requirement: L1	Conservation of fuel and power
Comment:	The roof elements will enable, or contribute to enabling, a roof to meet the requirements of the Elemental Approach for maximum U values given in Tables 1 and 5 of the Approved Document. See sections 11.2 to 11.6 of this Certificate.
Requirement: Regulation 7	Materials and workmanship
Comment:	The product is acceptable. The rafters are treated with an effective preservative against House Longhorn beetle <i>Hylotrupes bajulus</i> L. See sections 15.1 to 15.4 of this Certificate.

2 The Building Standards (Scotland) Regulations 1990 (as amended)



In the opinion of the BBA, Unilin Unipur Insulated Roof Panels, if used in accordance with the provisions of this Certificate, will satisfy or contribute to satisfying the various Regulations and related Technical Standards as listed below.

Regulation: 10	Fitness of materials
Standard: B2.1	Selection and use of materials, fittings, components and other manufactured products
Comment:	This product is acceptable. See sections 15.1 to 15.3 of this Certificate.
Regulation: 11	Structure
Standard: C2.1	Construction
Comment:	The product has sufficient strength and stiffness in accordance with sections 9.1 to 9.5 of this Certificate.
Regulation: 12	Structural fire precautions
Standard: D4.1	Concealed spaces (cavities)
Comment:	The product contains a concealed cavity therefore cavity barriers are required under certain situations. See section 12.4 of this Certificate.
Standard: D6.7	Roofs and rooflights
Comment:	The designation of the roof with respect to external fire spread will depend on the roof covering used.
Regulation: 13	Means of escape from fire, facilities for fire-fighting and means of warning of fire in dwellings and enclosed shopping centres
Standard: E6.1	Internal fire spread — General
Comment:	The surface spread of flame characteristics are dependent on the product type. See section 12.2.
Regulation: 16	Preparation of sites
Regulation: 17	Resistance to moisture
Regulation: 18	Resistance to condensation
Standard: G3.1	Resistance to precipitation
Comment:	When used with a conventional tile or slate roof the system will resist the passage of moisture to the inside of the building. See sections 13.1 and 13.2 of this Certificate.
Standard: G4	Condensation
Comment:	Provided the product is used in a suitable design and specification, the formation of condensation will be negligible. See sections 10.1 to 10.4 of this Certificate.
Regulation: 22	Conservation of fuel and power
Standard: J2.1	Standards for buildings in purpose group 1
Standard: J3.1	Standards for buildings in purpose groups 2 to 7
Comment:	The roof elements will enable, or contribute to enabling, a roof to satisfy the requirements of the Elemental Approach for maximum U values given in the table to Standard J3. See sections 11.2, 11.3, 11.5 and 11.6 of this Certificate.

3 The Building Regulations (Northern Ireland) 2000



In the opinion of the BBA, Unilin Unipur Insulated Roof Panels, if used in accordance with the provisions of this Certificate, will satisfy or contribute to satisfying the various Building Regulations as listed below.

Regulation: B2	Fitness of materials and workmanship
Comment:	The product is acceptable. See sections 15.1 to 15.3 of this Certificate.

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Regulation:	C4	Resistance to ground moisture and weather
Comment:		When used with a conventional tile or slate roof the system will resist the passage of moisture to the inside of the building. See sections 13.1 and 13.2 of this Certificate.
Regulation:	C5	Condensation
Comment:		Provided the product is used in a suitable design and specification, the formation of condensation will be negligible. See sections 10.1 to 10.4 of this Certificate.
Regulation:	D1	Stability
Comment:		The product has sufficient strength and stiffness in accordance with sections 9.1 to 9.5 of this Certificate.
Regulation:	E3	Internal fire spread — Linings
Comment:		The surface spread of flame characteristics are dependent on product type. Restrictions on use apply to some products. See section 12.2.
Regulation:	E4	Internal fire spread — Structure
Comment:		The product contains a concealed cavity therefore cavity barriers are required under certain situations. See section 12.4 of this Certificate.
Regulation:	E5	External fire spread
Comment:		The designation of the roof with respect to external fire spread will depend on the roof covering.
Regulation:	F2	Conservation of fuel and power — Building fabric
Comment:		The roof elements will enable, or contribute to enabling, a roof to satisfy the requirements of the Elemental Approach for maximum U values given in Technical Booklet F. See sections 11.2, 11.3, 11.5 and 11.6 of this Certificate.

4 Construction (Design and Management) Regulations 1994 (as amended) Construction (Design and Management) Regulations (Northern Ireland) 1995 (as amended)

Information in this Certificate may assist the client, planning supervisor, designer and contractors to address their obligations under these Regulations.

See sections: *5 Description (5.1), 6 Delivery and site storage, 7 General and 16 General.*

Technical Specification

5 Description

5.1 Unilin Unipur Insulated Roof Panels comprise three or four solid timber rafters with a variety of interior soffit board finishes and polyurethane foam (PUR) insulation. Soffit finishes are:

Unipur CB — 16 mm moisture-resistant, particle board

Unipur WCB — 12 mm white painted, moisture-resistant, particle board

Unipur PLY — 12 mm moisture-resistant, plywood

Unipur OSB — 12 mm moisture-resistant, oriented strand board

Unipur PB — 13 mm moisture-resistant, tapered edge plasterboard

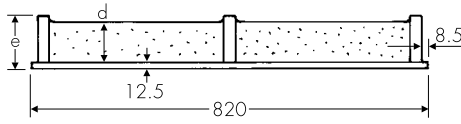
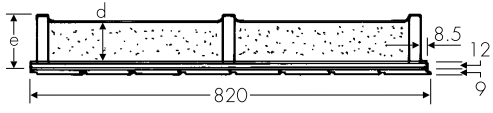
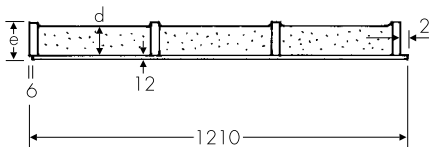
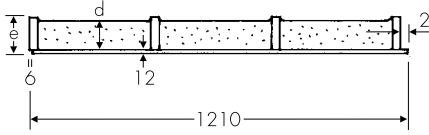
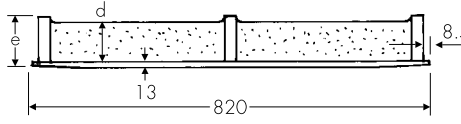
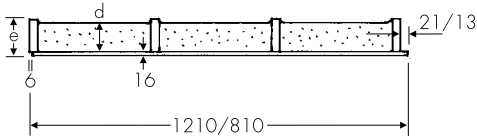
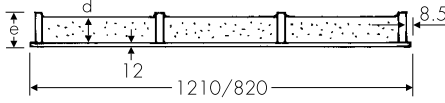
Unipur RPB — 12.5 mm moisture-resistant, fibre-reinforced plasterboard

Unipur T&G — 9 mm pine tongue-and-groove boards with a backing of 12 mm particle board.

5.2 The product is available with the widths, depths and insulation thicknesses shown in Table 1 and lengths from 2 m to 8 m excluding Unipur WCB which is available from 2 m to 6.65 m. Tolerances are:

length (%)	1
width (%)	1
height (thickness of element) (mm)	±3

Table 1 Unipur panel specifications

Type	Code	Insulation thickness 'd' (mm)	Rafters		Panel	
			number	depth x width (mm)	thickness 'e' (mm)	weight (kgm ⁻²)
	80/100	80	3	98 x 24	110.5	19.6
	80/120	80	3	120 x 24	132.5	21.1
	100/120	100	3	120 x 24	132.5	21.8
	80/145	80	3	145 x 24	157.5	22.2
	100/145	100	3	145 x 24	157.5	22.8
	120/145	120	3	145 x 24	157.5	23.2
	140/170	140	3	170 x 24	182.5	24.7
	150/170	150	3	170 x 24	182.5	26.0
	80/100	80	3	98 x 24	119	22.2
	80/120	80	3	120 x 24	141	23.6
	100/120	100	3	120 x 24	141	24.1
	80/145	80	3	145 x 24	166	24.0
	100/145	100	3	145 x 24	166	24.6
	120/145	120	3	145 x 24	166	25.1
	140/170	140	3	170 x 24	191	26.6
	150/170	150	3	170 x 24	191	27.9
	80/100	80	4	98 x 24	110	13.0
	80/120	80	4	120 x 24	132	14.2
	100/120	100	4	120 x 24	132	14.8
	80/145	80	4	145 x 24	157	15.1
	100/145	100	4	145 x 24	157	15.7
	120/145	120	4	145 x 24	157	16.3
	140/170	140	4	170 x 24	182	17.8
	150/170	150	4	170 x 24	182	19.1
	80/100	80	4	98 x 24	110	13.0
	80/120	80	4	120 x 24	132	14.2
	100/120	100	4	120 x 24	132	14.8
	80/145	80	4	145 x 24	157	15.1
	100/145	100	4	145 x 24	157	15.7
	120/145	120	4	145 x 24	157	16.3
	140/170	140	4	170 x 24	182	17.8
	150/170	150	4	170 x 24	182	19.1
	80/100	80	3	98 x 24	111	16.8
	80/120	80	3	120 x 24	133	18.3
	100/120	100	3	120 x 24	133	18.8
	80/145	80	3	145 x 24	158	19.2
	100/145	100	3	145 x 24	158	19.8
	120/145	120	3	145 x 24	158	20.4
	140/170	140	3	170 x 24	183	22.0
	150/170	150	3	170 x 24	183	23.3
	80/100	80	3/4	98 x 24	114	16.8
	80/120	80	3/4	120 x 24	136	18.1
	100/120	100	3/4	120 x 24	136	18.6
	80/145	80	3/4	145 x 24	161	19.1
	100/145	100	3/4	145 x 24	161	19.6
	120/145	120	3/4	145 x 24	161	20.1
	140/170	140	3/4	170 x 24	186	21.6
	150/170	150	3/4	170 x 24	186	22.9
	80/100	80	3/4	98 x 24	114	14.0
	80/120	80	3/4	120 x 24	136	15.2
	100/120	100	3/4	120 x 24	136	15.8
	80/145	80	3/4	145 x 24	161	16.2
	100/145	100	3/4	145 x 24	161	16.7
	120/145	120	3/4	145 x 24	161	17.3
	140/170	140	3/4	170 x 24	182	19.1
	150/170	150	3/4	170 x 24	182	20.2

5.3 The soffit board is fixed to the rafters with 2.8 mm diameter, 60 mm long, galvanized steel nails and polyurethane or melamine adhesive WCB panels are only nailed on the outer rafters. Polyurethane insulation is injected between the rafters.

5.4 Various ancillary components are available for use with the roofing system:

galvanized (6 µm) hooked nails — 5 mm or 6 mm square section for fixing the rafters to the roof substructure, ie purlins

galvanized (6 µm) screw nails — 5.6 mm diameter for fixing the rafters to the roof substructure, ie purlins, the length of hook and screw nails is determined by the rafter height, see Table 2

one component polyurethane foam — supplied in containers for filling up the longitudinal joints. For use only if the temperature exceeds 5°C

bitumen mastic — (cold application) for filling up the cross joints, eg Platicol from Deitermann Chemie or Mexcoat from Shell

PVC profiles — for covering of the longitudinal joints of type WCB panels.

Table 2 Installation data

Rafter height (mm)	Screw nails (mm)	Hooked nails (mm)
98	180	180
120	200	200
145	220	230
170	250	250

5.5 Quality control checks are carried out on the incoming material. Appropriate controls are applied throughout the production process, including checks on rafter quality and moisture content, quality of glue spread, thickness and properties of insulation.

6 Delivery and site storage

6.1 Unilin roof panels are protected by a waterproof covering during transportation.

6.2 Panels should be stored flat and dry, and should be supported on timber bearers at 1.5 m centres (maximum). Where temporary storage outside cannot be avoided, the stacks should be covered with polyethylene or tarpaulin sheet and be kept well clear of the ground. It is recommended that the panels are separated to allow free circulation of air.

6.3 The panels can withstand normal site handling and usage. Damaged panels that cannot be repaired easily must not be used.

6.4 Each panel bears the production number and date.

7 General

7.1 Unilin Unipur Insulated Roof Panels are satisfactory for use in buildings in service class 1 and 2 environments to ENV 1995-1-1 : 1993, as an insulating, structural support for conventional roofing of slate or tiles on roofs with a pitch of between 15° and 60° where access is limited to maintenance and repair. The pitch should be determined by the roof waterproofing specification to be used.

7.2 The selection of the Unilin roof panels⁽¹⁾ and detailing must be carried out by, or under direct supervision of suitably-qualified persons, in accordance with UK building practice and Building Regulations.

(1) Based on the information given in sections 9.2 to 9.4 of this Certificate.

8 Practicability of installation

The panels are practicable to install using the methods described in this Certificate and in accordance with the Certificate holder's recommended fixing instructions.

9 Strength and stability



9.1 The panels will have adequate strength and stiffness.

9.2 The lengths the panels can span will depend upon various factors, such as the site location, geometry of the roof, type of roof finish. Therefore it is recommended that the spans are calculated for each individual site using the provisions of ENV 1995-1-1 : 1993 and the data given in Table 3. The design is therefore the responsibility of the engineer responsible for the stability of the building.

Table 3 Rafter specification

timber species	:	pine or spruce
strength class	:	C24
dimensions (mm)	:	24 x 98/120/145/170 and 30 x 98/120/145/170
moisture content (%)	:	maximum 18
timber treatment	:	boron-based wood preservative
finger joints	:	for rafters longer than 6 m

9.3 Dead loads for roof tiles or slates should be calculated from the unit weights given in BS 648 : 1964 or from the actual weights of the roofing materials used, if known.

9.4 Wind loads must be evaluated in accordance with the recommendations of BS 6399-2 : 1997.

9.5 Imposed snow loads must be checked in accordance with the recommendations of BS 6399-3 : 1988.

9.6 The typical spans given in Table 4 are in accordance with ENV 1995-1-1 : 1993 and are based on:

roof pitch (°)	45
permanent actions (Nm ⁻²)	600
variable actions (Nm ⁻²)	
— snow	800
— wind pressure	128
— wind suction	217
long-term deflection	span/300

Table 4 Typical spans

Span (mm)	Rafter size (mm)			
	24 x 98	24 x 120	24 x 145	24 x 170
single	1850	2250	2700	3200
multiple	2000	2550	3100	3600

9.7 The number of fixings required to secure the panels to the roof structure will depend upon various factors such as the site location and geometry of the roof. Therefore, it is recommended that the fixings are calculated for each site using the provisions of ENV 1995-1-1 : 1993 and the data given in Tables 5 and 6 to account for shear and wind suction and pressure. The specifications and design calculations must be determined by the engineer responsible for the stability of the building.

Table 5 Fixings calculations

Force (N)	hooked nails (mm section)		screw nails (mm diameter)
	5	6	5.5 ⁽¹⁾
parallel	750	1100	260
perpendicular	750	950	800

(1) anchor length = 12 diameters.

Table 6 Nail dimensions

Rafter depth (mm)	Helically threaded nails (mm)	Hooked nails (mm)
85	160	160
100	180	180
120	200	200
145	220	230
170	250	250

9.8 The fixing of components including the timber battens, slates or tiles, should be carried out in accordance with BS 5534-1 : 1997.

9.9 All transverse joints between the roof elements should be minimised and must be supported on a minimum bearing width of 30 mm.

9.10 For projections greater than 300 mm advice from the Certificate holder must be sought.

10 Condensation risk



10.1 Provided the panels are sealed to each other and the surrounding structure as detailed in section 17 the risk of interstitial

condensation under normal domestic or commercial use will be minimal for tiled roofs with or without underlay which, if used, should have a low vapour resistance viz 0.2 GNskg^{-1} including low vapour resistance roof tile underlay (~0.2 GNskg⁻¹).

10.2 Where high humidities may be expected, or where traditional, high vapour resistance roof tile underlay felt is used, a suitably-positioned vapour controlling layer should be used unless a condensation risk assessment in accordance with ISO 13788 : 2001 shows it not to be necessary. Nominal water vapour resistance of this underlay is 4.5 GNskg⁻¹.

10.3 The timber rafters will constitute thermal bridging with a consequent increase in risk of condensation. This may result in some pattern staining of the integral ceiling in certain circumstances.

10.4 The risk of interstitial condensation is greatest when the building is drying out after construction. Guidance on preventing condensation from this and other sources is given in the BRE Digest 369 *Interstitial Condensation and Fabric Degradation* and BR 262 *Thermal Insulation: Avoiding Risks*.

11 Thermal insulation

11.1 For the purpose of U value calculations to determine if the requirements of the Building (or other statutory) Regulations are met, the thermal conductivity (λ value) of the insulation component of the roof panels may be taken as 0.025 Wm⁻¹K⁻¹.



11.2 The requirement for limiting the heat loss through the building fabric will be satisfied if the U values of the building elements do not exceed the maximum values in the relevant Elemental Method given in:

England and Wales

Approved Document L (1995 Edition)

Scotland

Technical Standards, Part J

Northern Ireland

Technical Booklet F.

11.3 Guidance is also given in these documents on selecting the thickness of insulation required to enable a roof to achieve the desired U value.



11.4 For constructions subject to the Building Regulations (England and Wales) the effect of thermal bridging should be taken into account in any U value calculations.



11.5 The U values given in Table 7 may be achieved with typical roof construction comprising tile/slate, two air spaces

(0.35 m²KW⁻¹ thermal resistance contribution) and Unilin roof panel.

11.6 The thermal resistance of the panels is given in Table 8.

Table 7 U values (Wm⁻¹K⁻¹)


Board type	thickness of insulation (mm)				
	80	100	120	140	150
CB, WCB, PLY, T&G	0.31	0.26	0.23	0.21	0.20
PB, RPB	0.31	0.27	0.24	0.21	0.20
OSB	0.31	0.26	0.23	0.21	0.20

Table 8 Thermal resistance (m²KW⁻¹)


Board type	thickness of insulation (mm)			
	80	100	120	150
CB, WCB, PLY, T&G	2.91	3.46	3.95	4.63
PB, RPB	2.87	3.40	3.88	4.53
OSB	2.90	3.45	3.93	4.60

12 Behaviour in relation to fire

12.1 The external fire rating of any roof incorporating the panels will depend on the specification of the roof covering used.

 12.2 The plasterboard and fibre-reinforced plasterboard can be regarded as having a Class 1 surface spread of flame.


12.3 The particle board, white-painted particle board, plywood, OSB or pine tongue-and-groove boards surface of the panels can be regarded as having a Class 3 surface spread of flame. Hence, compliance with the Building Regulations limits its use in residential buildings to an area of 4 m² without additional protection. In such circumstances, the application of a suitable treatment to provide a Class 1 surface will be required to satisfy the regulations.

 12.4 Where necessary cavity barriers should be incorporated as required by the relevant building regulations. Where the roof panels carry over between dwellings any cavity must be provided with a suitable cavity barrier.

12.5 Where other forms of construction are used, an appropriate assessment or test must be undertaken. Testing must be carried out by a UKAS-approved⁽¹⁾ fire testing laboratory.

(1) United Kingdom Accreditation Service.

13 Weathertightness


 13.1 The long-term weathertightness of a roof constructed using the panels will depend upon the performance of the slating or tiling. A conventional assembly to BS 5534-1 : 1997 would be considered suitable. When used with interlocking tiles and within the categories of exposure to driving rain less than 56.5 litres per m² per spell as defined in BS 5534-1 : 1997, a tile underlay is not necessary. However, an underlay is required in all cases when the panels are not continuous from ridge to eaves, examples are given in Figure 1.

13.2 It is important to ensure that the joints between the elements are adequately sealed. The roof covering must be installed as soon as possible after installation of the panels.

14 Maintenance

Maintenance of the roof panels will not be required provided the weathertightness of the slating or tiling system is kept in good repair.

15 Durability

 15.1 The particle board panels are either particle board type P5 to BS EN 312-5 : 1997 or oriented strand board OSB/3 to BS EN 300 : 1997. Therefore they will have adequate durability provided they are not exposed to repeated condensation and the roof covering is kept in good repair. The underside of the panels must be protected against dampness at the eaves gable projections and at wall cavities. Protection measures include painting, boarding or panelling.

15.2 To ensure these conditions are maintained the roof covering must be in accordance with the requirements of BS 5534-1 : 1997.

15.3 The other soffit finishes are conventional facings for ceilings.


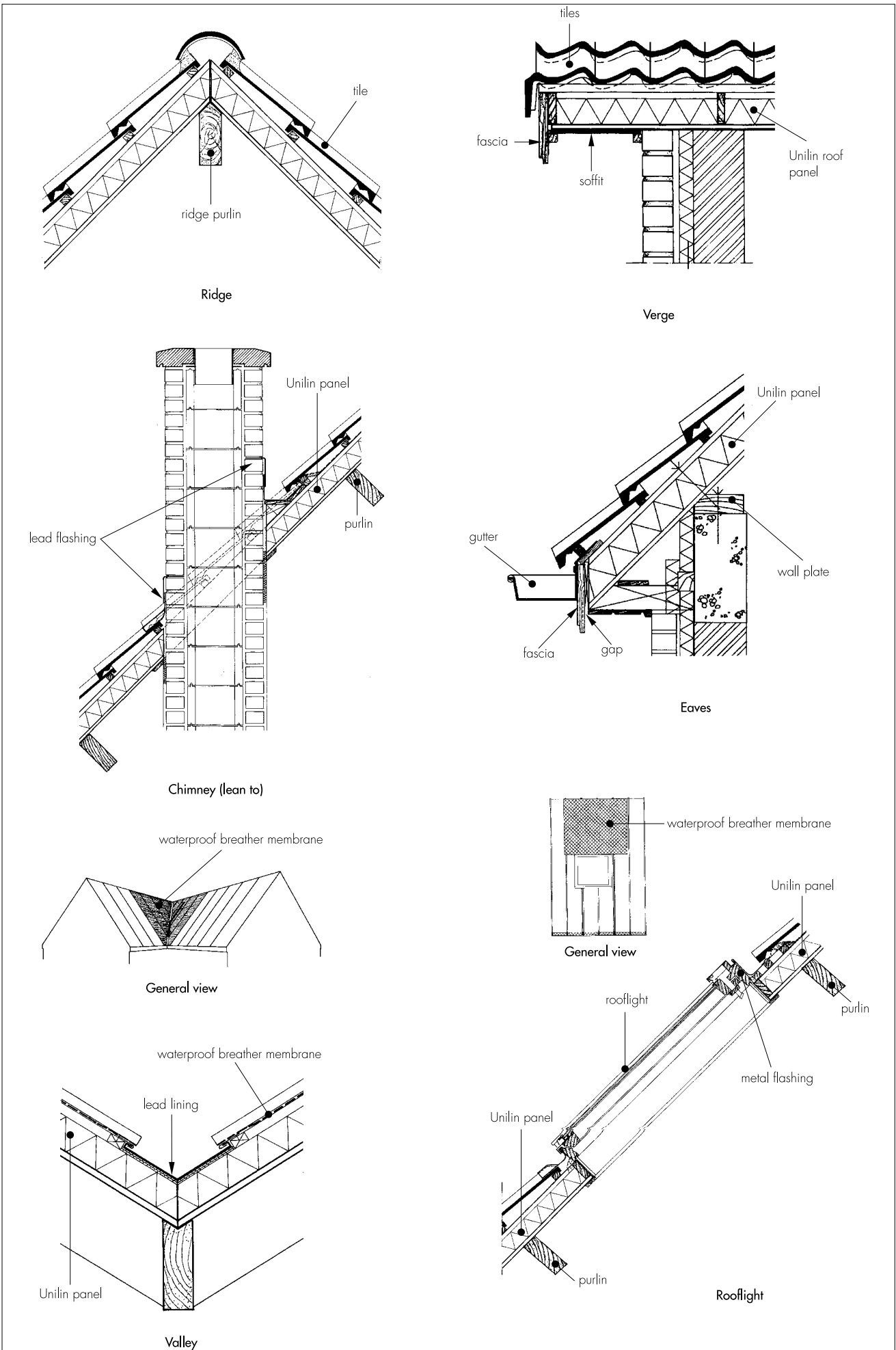
 15.4 The timber rafters are treated with a boron-based wood preservative to meet hazard class 2 of EN 335-1 : 1992 and are therefore suitable for use in roof spaces in the House Longhorn beetle (*Hylotrupes bajulus L*) areas defined in the Approved Document to Regulation 7: 1992 of the Building Regulations (England and Wales) 1991. Proposals for House Longhorn beetle areas to be covered by a revision to Approved Document A are under consideration. Therefore in the interim, Table 1 of Approved Document to Regulation 7 : 1992 remains valid.

Figure 1 Typical installations



Installation

16 General

16.1 Typical installation details for Unilin Unipur Insulated Roof Panels are shown in Figure 1. The Certificate holder's technical literature contains recommendations for the installation of the roof panels.

16.2 The fixings used for the installation will depend upon the type of element framework and roof pitch. Fixings are supplied with the panels and details of these can be found in the Certificate holder's fixing instructions. The number and centres for these fixings are determined by calculation (see section 9.6 of this Certificate). Screw nails must be driven into pre-drilled holes.

16.3 Each roof panel must have a minimum bearing of 30 mm at each support, with intermediate supports at least 59 mm wide.

16.4 Small cut-outs in the roof panels may be accommodated provided they are carried out without damaging the rafters. For large cut-outs the Certificate holder's advice must be sought. Appropriate steps should be taken to weatherproof any through-penetration.

17 Procedure

17.1 The panels are secured at each purlin or rafter position by the appropriate number and type of fixing.

17.2 When the installation is complete, the joints should be sealed using PUR foam. Excess amounts of PUR must be trimmed. Horizontal joints between two panels must also have a cold-applied bitumen filler, smoothed over the top surface of the panel.

17.3 Joints to the surrounding structure, eg walls, are sealed with PUR foam.

17.4 The roof structure must be protected from precipitation by making the joints, recesses and ridge waterproof, with the roof covering applied as soon as possible after installation.

17.5 Adequate ventilation must be provided to the roof space formed, particularly if the building

operations create a more humid environment than would be expected from normal occupation.

17.6 The underside of roof projections at the eaves gables, and at open wall cavities, must be protected against dampness by such measures as painting, boarding or panelling.

17.7 Battens, counter battens, underlay (where appropriate), tiles or slates are laid in the traditional manner to provide the final roof finish and the primary weatherproofing.

17.8 For Unipur WCB, internal joints are covered with a white PVC profile.

17.9 Where Unipur PLY panels are used with a transparent finish, it is recommended that the plywood at the soffit be treated with a suitable wood preservative followed by a final finish. This protection is also advised for interior applications where high humidity is present during construction.

Technical Investigations

The following is a summary of the technical investigations carried out on Unilin Unipur Insulated Roof Panels.

18 Investigations

18.1 Based on UBAtc Certificate No 98/1545 an assessment was made on the product's durability, behaviour in relation to moisture, behaviour in relation to fire, thermal properties and practicability of installation.

18.2 The product's ability to comply with the requirements of ENV 1995-1-1 : 1993 was assessed.

18.3 The manufacturer's installation instructions were evaluated and the installation procedures outlined and found to be practicable.

18.4 Independent examination of the manufacturing process was made on behalf of UBAtc, including methods adopted for quality control.

Bibliography

BS 648 : 1964 *Schedule of weights of building materials*

BS 5534 *Code of practice for slating and tiling*
BS 5534-1 : 1997 *Design*

BS 5669 *Particleboard*
BS 5669-2 : 1989 *Specification for wood chipboard*

BS 6399 *Loading for buildings*
BS 6399-2 : 1997 *Code of practice for wind loads*
BS 6399-3 : 1988 *Code of practice for imposed roof loads*

BS EN 300 : 1997 *Oriented Strand Boards (OSB)*
— *Definitions, classification and specifications*

BS EN 312 *Particleboards. Specifications*
BS EN 312-5 : 1997 *Requirements for load-bearing boards for use in humid conditions*

ISO 13788 : 2001 *Hygrothermal performance of building components and building elements — Internal surface temperature to avoid critical surface humidity and interstitial condensation — Calculation methods*

EN 335 *Durability of wood and wood-based products*
EN 335-1 : 1992 *Definition of hazard classes of biological attack — General*

ENV 1995 *Eurocode 5 : Design of timber structures*
ENV 1995-1-1 : 1993 *General rules and rules for buildings*

Conditions of Certification

19 Conditions

19.1 This Certificate:

- (a) relates only to the product that is described, installed, used and maintained as set out in this Certificate;
- (b) is granted only to the company, firm or person identified on the front cover — no other company, firm or person may hold or claim any entitlement to this Certificate;
- (c) has to be read, considered and used as a whole document — it may be misleading and will be incomplete to be selective;
- (d) is copyright of the BBA.

19.2 References in this Certificate to any Act of Parliament, Regulation made thereunder, Directive or Regulation of the European Union, Statutory Instrument, Code of Practice, British Standard, manufacturers' instructions or similar publication, shall be construed as references to such publication in the form in which it was current at the date of this Certificate.

19.3 This Certificate will remain valid for an unlimited period provided that the product and the manufacture and/or fabricating process(es) thereof:

- (a) are maintained at or above the levels which have been assessed and found to be satisfactory by the BBA;

(b) remain covered by a valid Belgian Agrément; and

(c) are reviewed by the BBA as and when it considers appropriate.

19.4 In granting this Certificate, the BBA makes no representation as to:

- (a) the presence or absence of any patent or similar rights subsisting in the product or any other product;
- (b) the right of the Certificate holder to market, supply, install or maintain the product; and
- (c) the nature of individual installations of the product, including methods and workmanship.

19.5 Any recommendations relating to the use or installation of this product which are contained or referred to in this Certificate are the minimum standards required to be met when the product is used. They do not purport in any way to restate the requirements of the Health & Safety at Work etc Act 1974, or of any other statutory, common law or other duty which may exist at the date of this Certificate or in the future; nor is conformity with such recommendations to be taken as satisfying the requirements of the 1974 Act or of any present or future statutory, common law or other duty of care. In granting this Certificate, the BBA does not accept responsibility to any person or body for any loss or damage, including personal injury, arising as a direct or indirect result of the installation and use of this product.



In the opinion of the British Board of Agrément, Unilin Unipur Insulated Roof Panels are fit for their intended use provided they are installed, used and maintained as set out in this Certificate. Certificate No 02/3897 is accordingly awarded to Unilin Systems NV.

On behalf of the British Board of Agrément

Date of issue: 27th February 2002

Chief Executive

Electronic Copy

