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**Agrément Certificate**

**22/6081**

Product Sheet 1

## BUDMAT MODULAR STEEL ROOF TILES

### VENECJA

This Agrément Certificate Product Sheet<sup>(1)</sup> relates to Venecja, zinc-coated steel tile finished with a polyester coating, for use on conventional steel or timber pitched roofs with a minimum roof pitch of 9°.

(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

**Weathertightness** — the product, when used with a suitable roof tile underlay, has satisfactory resistance to the passage of rain and snow into the interior of a building (see section 6).

**Strength and stability** — the product has adequate resistance to the effects of wind loading likely to be met in service (see section 7).

**Performance in relation to fire** — the product, used in isolation, is unrestricted in terms of proximity to a boundary; however, restrictions may apply to completed roof assemblies, depending on the other components used and the overall construction (see section 8).

**Durability** — under normal service conditions, the product coated in D-MATT will have a life in excess of 20 years and the product coated in X-MATT will have a life in excess of 15 years (see section 10).

The BBA has awarded this Certificate to the company named above for the product described herein. This product has been assessed by the BBA as being fit for its intended use provided it is installed, used and maintained as set out in this Certificate.

On behalf of the British Board of Agrément

Date of First issue: 1 June 2022

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](http://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, Venecja, 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)

<b>Requirement:</b>	<b>B4(1)</b>	<b>External fire spread</b>
Comment:		The product may be restricted by this Requirement. See sections 8.3 and 8.4 of this Certificate.
<b>Requirement:</b>	<b>B4(2)</b>	<b>External fire spread</b>
Comment:		The product may be restricted by this Requirement. See sections 8.1 and 8.2 of this Certificate.
<b>Requirement:</b>	<b>C2(b)</b>	<b>Resistance to moisture</b>
Comment:		The product can contribute to satisfying this Requirement. See section 6 of this Certificate.
<b>Regulation:</b>	<b>7(1)</b>	<b>Materials and workmanship</b>
Comment:		The product is acceptable. See section 10.1 and the <i>Installation</i> part of this Certificate.
<b>Regulation:</b>	<b>7(2)</b>	<b>Materials and workmanship</b>
Comment:		The product is restricted by this Regulation. See sections 8.3 and 8.4 of this Certificate.



### The Building (Scotland) Regulations 2004 (as amended)

<b>Regulation:</b>	<b>8(1)(2)</b>	<b>Durability, workmanship and fitness of materials</b>
Comment:		The use of the product can contribute to a construction satisfying this Regulation. See sections 9 and 10.1 and the <i>Installation</i> part of this Certificate.
<b>Regulation:</b>	<b>9</b>	<b>Building standards applicable to construction</b>
Standard:	2.6	Spread to neighbouring buildings
Comment:		The product may be restricted by this Standard, with reference to clauses 2.6.4 <sup>(1)(2)</sup> , 2.6.5 <sup>(1)</sup> and 2.6.6 <sup>(2)</sup> . See sections 8.3, 8.5 and 8.6 of this Certificate.
Standard:	2.7	Spread on external walls
Comment:		The product may be restricted by this Standard with reference to clause 2.7.1 <sup>(1)(2)</sup> . See sections 8.3, 8.5 and 8.6 of this Certificate.
Standard:	2.8	Spread from neighbouring buildings
Comment:		The product may be restricted by this Standard with reference to clause 2.8.1 <sup>(1)(2)</sup> . See sections 8.1 and 8.2 of this Certificate.
Standard:	3.10	Precipitation
Comment:		The product can contribute to satisfying this Standard, with reference to clauses 3.10.1 <sup>(1)(2)</sup> and 3.10.8 <sup>(1)(2)</sup> . See section 6 of this Certificate.
Standard:	7.1(a)	Statement of sustainability
Comment:		The product can contribute to satisfying the relevant requirements of Regulation 9, Standards 1 to 6, and therefore will contribute to a construction meeting a bronze level of sustainability as defined in this Standard.

<b>Regulation:</b>	<b>12</b>	<b>Building standards applicable to conversions</b>
<b>Comment:</b>		Comments in relation to the product under Regulation 9, Standards 1 to 6, also apply to this Regulation, with reference to clause 0.12.1 <sup>(1)(2)</sup> and Schedule 6 <sup>(1)(2)</sup> .
		(1) Technical Handbook (Domestic). (2) Technical Handbook (Non-Domestic).



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

<b>Regulation:</b>	<b>23(a)(i)</b>	<b>Fitness of materials and workmanship</b>
<b>Comment:</b>	<b>(iii)(b)(i)</b>	The product is acceptable. See section 10.1 and the <i>Installation</i> part of this Certificate.
<b>Regulation:</b>	<b>28(b)</b>	<b>Resistance to moisture and weather</b>
<b>Comment:</b>		The product can contribute to satisfying the requirements of this Regulation. See section 6 of this Certificate.
<b>Regulation:</b>	<b>36(a)</b>	<b>External fire spread</b>
<b>Comment:</b>		The product may be restricted by this Regulation. See sections 8.3 and 8.4 of this Certificate.
<b>Regulation:</b>	<b>36(b)</b>	<b>External fire spread</b>
<b>Comment:</b>		The product may be restricted by this Regulation. See sections 8.1 and 8.2 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 9 *Maintenance* of this Certificate.

## Additional Information

### NHBC Standards 2022

In the opinion of the BBA, Venecja, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements in relation to *NHBC Standards*, Chapter 7.2 *Pitched roofs*.

### CE marking

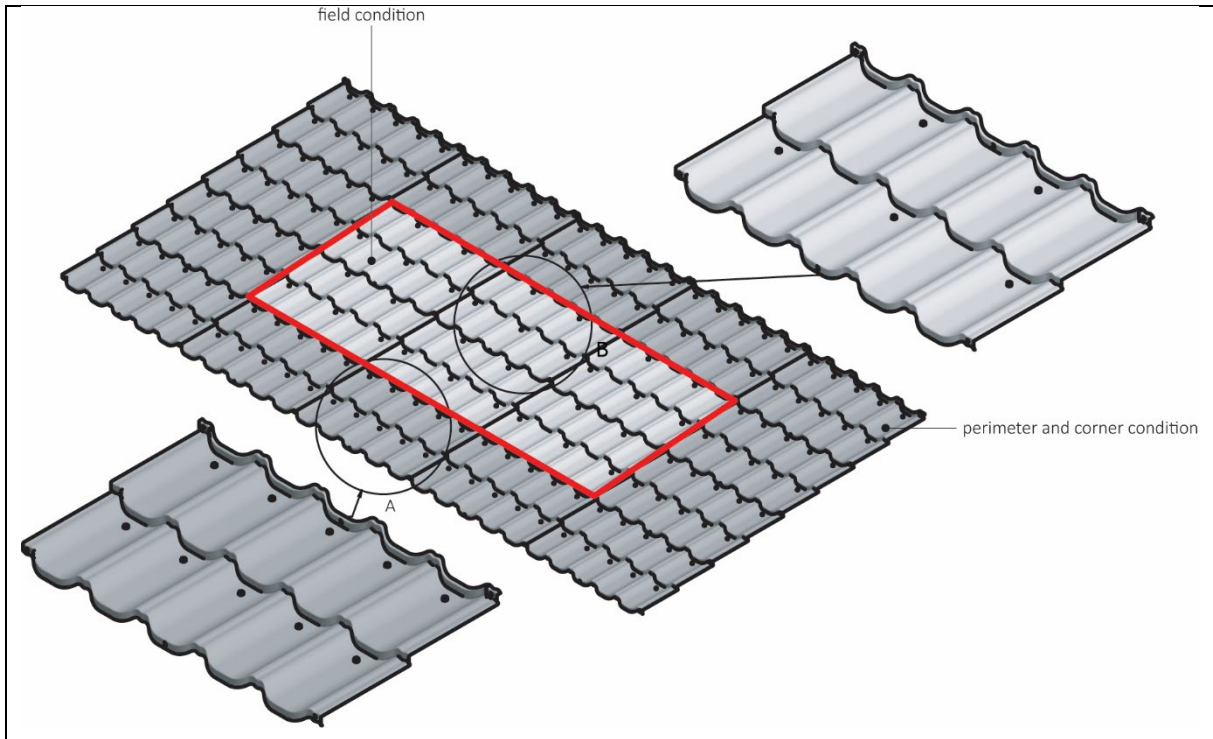
The Certificate holder has taken the responsibility of CE marking the product in accordance with harmonised European Standard EN 14782 : 2006.

## Technical Specification

### 1 Description

1.1 Venecja is pressed from 0.5 mm thick polyester coated galvanized steel grade S (220 GD + Z275) or grade SUB (280GD + Z275) sheets, in accordance with EN 10346 : 2015, for the D-MATT and X-MATT variations, respectively. Venecja is formed to a shape simulating ten conventional tiles, with profiled interlocking upper and lower edges (see Figure 1). The D-MATT version has a 35 µm polyester coating in the following colours: Graphite, Brick-red, Black, Brown and Anthracite and the X-MATT version has a 30 µm polyester coating in the following colours: Graphite, Black and Brown.

Figure 1 Venecja tiles and nailing points



1.2 The tile has the nominal dimensions given in Table 1.

Table 1 Dimensions

Total width [mm]	1190
Effective width [mm]	1150
Height of the step [mm]	35
Deep [mm]	26
Overall height [mm]	61
Total length [mm]	736
Effective length [mm]	700
Module length [mm]	350
Width between wave peaks [mm]	230
Covering area of the sheet [m <sup>2</sup> ]	0.805
Sheet weight [kg]	3.7
Sheet thickness [mm]	0.5
Zinc coating [g/m <sup>2</sup> ]	275

1.3 Ancillary items available to the same coating specification as the main product, and which are included in this Certificate, are:

- Ridge Caps GSV-30, GSM-30, GSB-30, GSR-30 and GSF-30
- Ridge Cap Lux
- Ridge Cap End for Lux
- Hip Cap End for Lux
- Modular Dry Verge for Venecja Tile – left and right sides
- Barge Flashings WZN-150, WZR-150, WB-140 and WB-125.
- Eaves Flashings PN-15 and PN-17
- Valley gutter RK-23

## 2 Manufacture

2.1 The tiles are manufactured from pre-coated galvanized steel sheets in D-MATT and X-MATT versions by de-coiling and profiling to the correct specification.

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 Budmat Bogdan Więcek has been assessed and registered as meeting the requirements of EN ISO 9001 : 2015 by the TÜV SÜD Management Service GmbH (Certificate 12 100 32266 TMS).

## 3 Delivery and site handling

3.1 The product is delivered to site on wooden pallets 1200 mm x 800 mm containing 350 tiles and labelled with the name and address of the Certificate holder, despatch number, batch number, colour and quantity. The weight of the pallet is 1320 kg.

3.2 During transport, the edges and corners of tiles must be protected to prevent damage.

3.3 On site, the pallets should be stored on a firm, dry base away from the possibility of damage, covered to prevent water ingress, and located as close as possible to the building where they are to be installed.

## Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Venecja.

### Design Considerations

## 4 General

4.1 Venecja is satisfactory for use, in conjunction with a suitable roof tile underlay, as a weatherproof and decorative roof covering on conventional timber or steel structures at a minimum pitch of 9°. It is essential that such roofs are designed and constructed to incorporate the normal precautions to prevent moisture penetration and the formation of condensation (eg by adequate ventilation).

4.2 Roofs incorporating the product and subject to the national Building Regulations must be designed and constructed in accordance with the relevant recommendations of BS 5250 : 2021, BS 5534 : 2014, BS 8000-0 : 2014 and BS 8000-6 : 2013. The designer must select a construction appropriate to its location, paying due attention to design detailing, workmanship and materials to be used.

4.3 Care should be taken when designing and installing features such as hips, valleys, rooflights and skew roofs, particularly at low pitch roofs.

4.4 To prevent electro-chemical corrosion, direct contact with copper or its alloys should be avoided and copper roofs should not drain onto the installation.

## 5 Practicability of installation

The tiles should only be installed by roofers/tilers trained and approved by the Certificate holder.

## 6 Weathertightness



The product, when used in conjunction with a suitable tile underlay, has adequate resistance to the ingress of wind-driven rain when installed on a roof with a minimum rafter pitch of 9°.

## 7 Strength and stability

7.1 The product has adequate resistance to damage during site handling and installation using conventional roofing methods.

7.2 The product has satisfactory resistance to the wind and snow loads likely to be met in service. In situations where high local loads may occur, the designer must seek the advice of the Certificate holder. Consideration must also be given to the guidance contained in BRE Digest 439.

7.3 The product weighs considerably less than conventional roofing materials, and must be securely attached to the structure to prevent wind uplift under adverse conditions.

7.4 The tile may be deformed by impact. Damaged product can be replaced but care should be taken to prevent damage to adjacent tiles.

## 8 Performance in relation to fire

### Roof pitches ≤ 70 degrees



8.1 All colours of the product will achieve a PCS value of less than  $4.0 \text{ MJ}\cdot\text{m}^{-2}$ . The product, in isolation, fulfils the requirements for external fire performance without the need for further testing by Commission Decision 2000/553/EC and so is unrestricted by the documents supporting the national Building Regulations in terms of proximity to a boundary.

8.2 The external fire performance may be affected by other components of the roof, eg insulation materials, substrates/decking and membranes. Any specific constructions should therefore be evaluated by reference to the requirements of the documents supporting the relevant national Building Regulations and any consequent restrictions imposed by those documents, on a case by case basis. In the absence of a classification, a construction should not be used within 20 metres of a boundary in England, Wales and Northern Ireland, and 24 metres in Scotland.

### Roof pitches >70°



8.3 When tested, the products achieved the classifications shown in Table 2 and are therefore unrestricted in isolation, by the documents supporting the national Building Regulations in terms of height and proximity to a boundary. See also sections 8.4 to 8.6 of this Certificate.

Table 2 Reaction to fire test

Classification <sup>(1)</sup>	Method	Construction	Report reference
A1	EN 13501-1 : 2013	Graphite D-MATT products (all colours covered)	CSTB: RA15-0220
A2-s2, d0	EN 13501-1 : 2007	X-MATT products (all colours covered)	SP Report P704907A/Rev 1

(1) The classification is valid for the products as described, for the field of application shown in Table 3 of this Certificate.

**Table 3 Field of application**

Properties	D – Matt products	X – Matt products
Thickness of steel sheets (mm)	≥ 0.50	≥ 0.40
Gross heat of combustion/area (MJ/m <sup>2</sup> )	≤ 1.7 <sup>(1)</sup> and ≤ 0.3 <sup>(2)</sup>	≤ 1.7 <sup>(1)</sup>
Air gap (mm)	≥ 80	Air gap required
Substrate	Without substrate or with any A1 or A2-s1, d0 substrate with a density ≥ 652 kg/m <sup>3</sup>	Without insulation, or with mineral wool insulation with at least an A2-s1, d0 classification and a thermal resistance ≤ 5.4 m <sup>2</sup> K/W

(1) On the face side

(2) On the reverse side



8.4 In England, Wales and Northern Ireland, other constructions incorporating the product may be used on buildings with a roof pitch in excess of 70° with no storey 18 m or more above the ground and 1 metre or more from a boundary; additional limitations apply on assembly and recreation buildings. With minor exceptions, the product should be included in the calculations of unprotected area.



8.5 In Scotland, other constructions incorporating the product may be used on buildings with a roof pitch in excess of 70° more than 1 m from a boundary. With minor exceptions, the product should be included in calculations of unprotected area.

8.6 In Scotland, other constructions incorporating the product should not be used on a building with a roof pitch in excess of 70° and a storey more than 11 m above the ground, or on any entertainment or assembly building with a total storey area more than 500 m<sup>2</sup>, or on any hospital or residential care building with a total storey area more than 200 m<sup>2</sup>.

### All roofs

8.7 Where the products are to be carried over compartment walls, designers must ensure that the roof/wall junction detail provides sufficient resistance to fire penetrating into the neighbouring compartment.

8.8 Designers should refer to the relevant national Building Regulations and guidance for detailed conditions of use, particularly in respect of requirements for substrate fire performance, cavity barriers, service penetrations and combustibility limitations for other materials and components used in the overall construction.

## 9 Maintenance



9.1 For maintenance work, roof ladders or crawling boards should be used, but care is still required to prevent damage. It is recommended that soft-soled shoes are worn.

9.2 Care is required when carrying out maintenance work on slate roofs, and the recommendations contained in BS 5534 : 2014, BS 8000-0 : 2014 and BS 8000-6 : 2013 must be followed.

## 10 Durability



10.1 The finish coat and the zinc-coated steel will protect the steel substrate against corrosion and will give the product a life in excess of 20 years.

10.2 The D-Matt finish will give the product an aesthetic life of 20 years and the X-MATT finish will give the product an aesthetic life of 15 years.

10.3 There may be some fading of colour over long exposure periods, but such fading will be consistent across any one elevation.

## 11 Reuse and recyclability

The product contains steel, which can be recycled.

## Installation

### 12 General

12.1 The installation of Venecja should comply with the requirements of BS 5534 : 2014, BS 8000-0 : 2014, BS 8000-6 : 2013 and this Certificate, using conventional tiling techniques.

12.2 The product can be installed at all temperatures likely to be met in roofing works. However, at temperatures below -10°C, extra care is required, particularly when driving nails and cutting and bending tiles.

12.3 The roof construction must be adequate to resist the loadings detailed in BS EN 1991-1-1 : 2002 and BS EN 1991-1-4 : 2005, and their UK National Annexes. The roof construction should be in accordance with the relevant requirements of BS 5534 : 2014.

12.4 The minimum batten sizes permitted depend on the rafter spacing, as detailed in Table 4.

*Table 4 Batten sizes and rafter or roof truss centres*

Minimum batten size (mm)	Rafter spacing (mm)
50 x 25	450
50 x 40	600
50 x 40	900
50 x 50	1200

12.5 The roof space and batten space must be adequately ventilated in accordance with BS 5250 : 2021.

12.6 Where timber boarding is laid on the rafters, a timber counter batten should be installed in accordance with BS 5534 : 2014.

12.7 The underlay must be to BS 8747 : 2007, Annex B, Type 1F or 5U, or covered by a BBA Certificate and installed in accordance with that Certificate.

### 13 Procedure

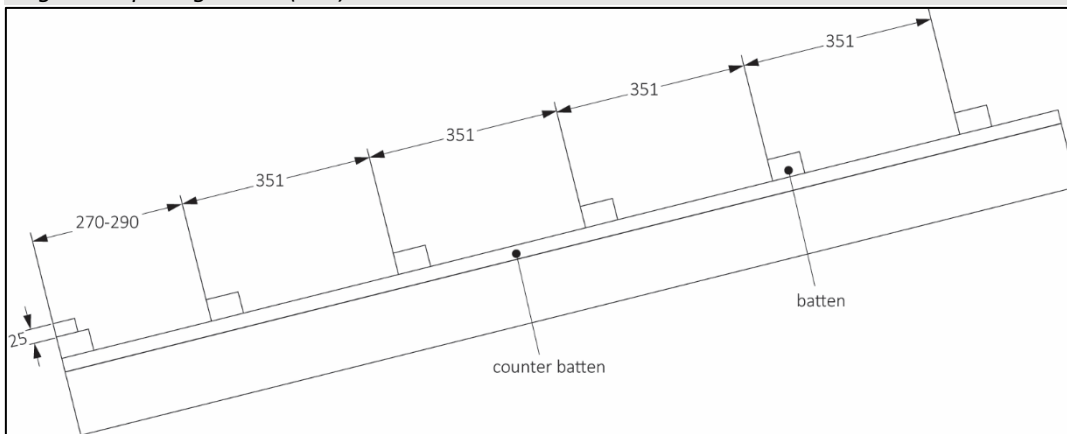
13.1 Rafters must be securely tied to the building structure, for example, with galvanized steel straps complying with BS EN 1996-1-1 : 2005, BS EN 1996-2 : 2006 or PD 6697 : 2018.

13.2 Where the rafters/trusses are spaced at 900 or 1200 mm centres, polypropylene or nylon tape is nailed across the rafters to support the underlay, unless an approved self-supporting underlay is used.

13.3 Battens are secured over the underlay and roof trusses and fixed at the spacings given in Figure 2. The fixings used to secure the battens to the rafters must be adequate to resist the predicted wind loads.

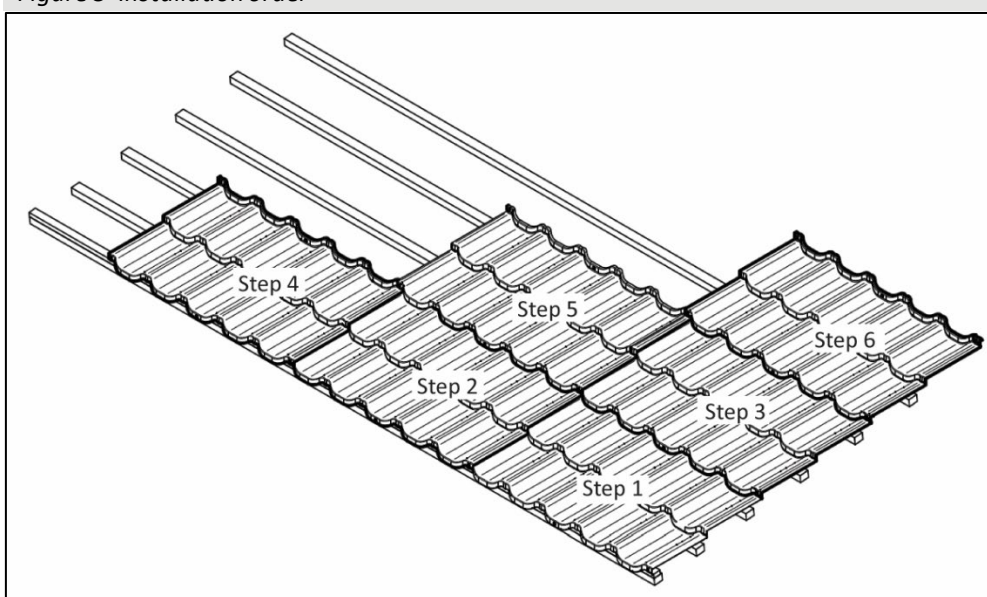


Figure 2 Spacing details (mm)



13.4 The installation order of tiles is shown in Figure 3. Assembly should be started from the bottom-right corner of the roof.

Figure 3 Installation order



13.5 Adjacent tiles are overlapped with side laps as shown in Figure 4. The tile is laid onto the battens with the front flange of the upper tilesheet overlapping the rear upstand of the lower, with a step height of 35 mm as shown in Figure 5.

Figure 4 Side lap details

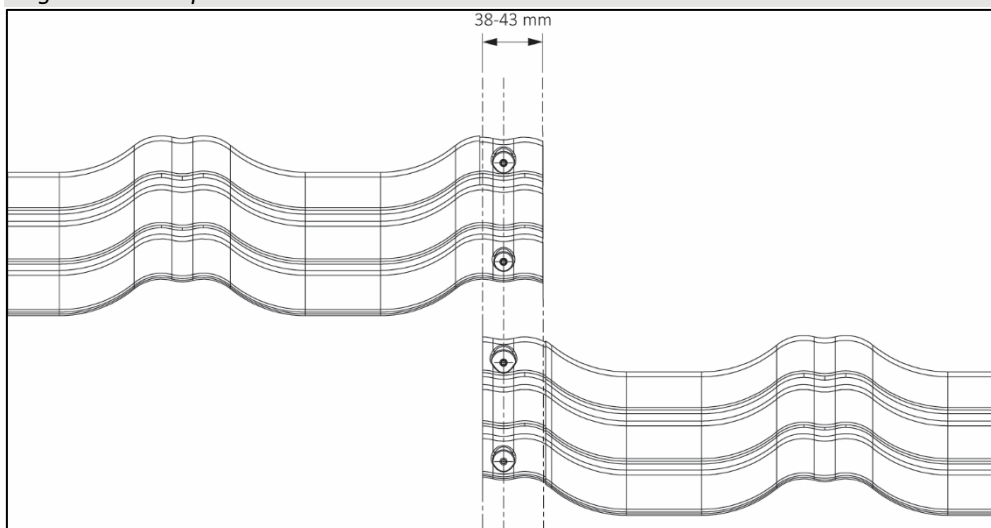
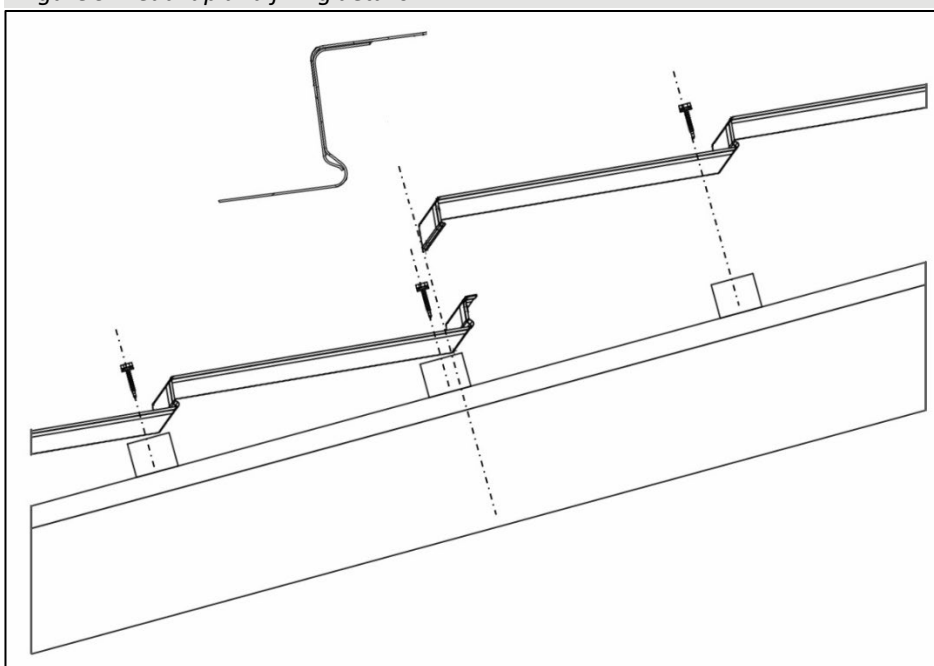


Figure 5 Head lap and fixing details



13.6 Fixing is achieved by fastening the tile into the batten using 4.8 x 38 mm TORX LP or 4.8 x 35 mm farmer screws (as shown in Figure 5). Tiles around the perimeter and corners of the roof require 10 fasteners per sheet, and tiles at the centre of the roof require 5 fasteners per sheet (see Figures 1). Tilesheets are fastened together using 4.8 x 23 mm TORX LP or 4.8 x 19 mm farmer screws using the holes pre-made in the tiles.

13.7 If necessary, the tile can be cut with electric hammer shears or tin snips and bent by hand.

13.8 The accessories are cut, formed and installed as necessary to complete the installation.

## 14 Repair

Damaged products can be replaced by following the Certificate holder's instructions and the relevant sections of BS 5534 : 2014, BS 8000-0 : 2014 and BS 8000-6 : 2013.

## Technical Investigations

## 15 Tests

Tests were carried out and the results assessed to determine:

- resistance to chipping
- ease of forming
- resistance to artificial weathering
- resistance to wind uplift
- corrosion resistance.

## 16 Investigations

16.1 An assessment was made of data in relation to:

- appearance and sheet thickness
- adhesion of coating
- resistance to humidity
- resistance to salt spray
- resistance to liquids
- resistance to wind-driven rain
- fire performance.

16.2 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.

## Bibliography

BS 5250 : 2021 *Code of practice for control of condensation in buildings*

BS 5534 : 2014 + A1 : 2018 *Slating and tiling for pitched roofs and vertical cladding — Code of practice*

BS 8000-0 : 2014 *Workmanship on construction sites- Introduction and general principles*

BS 8000-6 : 2013 *Workmanship on building sites — Code of practice for slating and tiling of roofs and walls*

BS 8747 : 2007 *Reinforced bitumen membranes (RBMs) for roofing — Guide to selection and specification*

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

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

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

BS EN 1996-1-1 : 2005 + A1 : 2012 *Eurocode 6 — Design of masonry structures — General rules for reinforced and unreinforced masonry structures*

BS EN 1996-2 : 2006 *Eurocode 6 — Design of masonry structures — Design considerations, selection of materials and execution of masonry*

EN 10346 : 2015 *Continuously hot-dip coated steel flat products for cold forming — Technical delivery conditions*

EN 13501-1 : 2007 *Fire classification of construction products and building elements - Classification using data from reaction to fire tests*

EN 13501-1 : 2013 *Fire classification of construction products and building elements - Classification using data from reaction to fire tests*

EN 14782 : 2006 *Self-supporting metal sheet for roofing, external cladding and internal lining — Product specification and requirements*

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

PD 6697 : 2018 *Recommendations for the design of masonry structures to BS EN 1991-1-1 and BS EN 1996-2*

BRE Digest 439 *Roof loads due to local drifting of snow*

### 17 Conditions

17.1 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 or 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.

17.2 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.

17.3 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.

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

17.5 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.

17.6 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.