

## Onduline Building Products Ltd

Eardley House  
182-184 Campden Hill Road  
Kensington  
London W8 7AS

Tel: 020 7727 0533 Fax: 020 7792 1390  
e-mail: enquiries@onduline.net  
website: www.onduline.net



Agrément Certificate  
**87/1823**  
Product Sheet 1

### ONDULINE BITUMINOUS CORRUGATED ROOFING SYSTEM

### ONDULINE CLASSIC ROOFING AND CLADDING SHEETS

#### PRODUCT SCOPE AND SUMMARY OF CERTIFICATE

This Certificate relates to Onduline Classic Roofing and Cladding Sheets, for use as pitched roofing (of minimum slope 12° and maximum slope length of 15 m) or cladding on agricultural buildings and structures.

#### AGRÉMENT 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 formed product has adequate resistance to the passage of moisture (see section 5).

**Strength** — the product has adequate strength to resist the loads associated with installation of the roof or as an external wall cladding (see section 6).

**Durability** — under normal service conditions the product will provide a durable covering with an expected service life of 15 years (see section 8).

The BBA has awarded this Agrément 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

Simon Wroe  
Head of Approvals — Materials

Greg Cooper  
Chief Executive

Date of First issue: 15 September 2011

Originally certificated on 13 March 1987

*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 are advised to check the validity and latest issue number of this Agrément Certificate by either referring to the BBA website or contacting the BBA direct.*

British Board of Agrément  
Bucknalls Lane  
Garston, Watford  
Herts WD25 9BA

tel: 01923 665300  
fax: 01923 665301  
e-mail: [mail@bba.star.co.uk](mailto:mail@bba.star.co.uk)  
website: [www.bbacerts.co.uk](http://www.bbacerts.co.uk)

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## Regulations

In the opinion of the BBA, Onduline Classic Roofing and Cladding Sheets, if used in accordance with the provisions of this Certificate, are exempt from the requirements of the following national Building Regulations:



### The Building Regulations 2010 (England and Wales)



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



### The Building Regulations (Northern Ireland) 2000 (as amended)

### Construction (Design and Management) Regulations 2007

### Construction (Design and Management) Regulations (Northern Ireland) 2007

Information in this Certificate may assist the client, CDM co-ordinator, designer and contractors to address their obligations under these Regulations.

See sections: *Description (1.3) and 2 Delivery and site handling (2.1)* of this Certificate.

## Non-regulatory Information

### NHBC Standards 2011

In the opinion of the BBA, the use of Onduline Classic Roofing and Cladding Sheets, in relation to this Certificate, is not subject to the requirements of these Standards.

## General

This Certificate is a Confirmation of French Avis Technique Certificate 5/04-1779 issued by CSTB to Société Onduline, Zone Industrielle, BP 15, F-76480, Yainville, France. The product is marketed in the UK by Onduline Building Products Ltd.

## Technical Specification

### 1 Description

1.1 Onduline Classic Roofing and Cladding Sheets are corrugated sheets manufactured from cellulose fibre and impregnated with bitumen. They have a pigmented surface, coated with a thermosetting resin.

1.2 The sheets are supplied in black, brown, field green and brick red finishes.

1.3 The sheets have 10 corrugations and are produced to the following specifications:

Length (mm)	2000 (-0.15 to +0.5)
Width (mm)	950 (±1)
Cover width (mm)	855 (±5)
Thickness (mm)	3.0 (±0.2)
Corrugation pitch (mm)	95(±2)
Corrugation depth (mm)	38(±2)
Weight of material (kg·m <sup>-2</sup> )	3.3 (±0.2)
Weight per sheet (kg)	6.4 (±0.3)

1.4 Onduline ridge and verge units are manufactured from the same material as the roofing sheet with the following dimensions:

Length (mm)	1000
Width (mm)	485
Thickness (mm)	3.0
Weight (kg)	1.2

1.5 Galvanized steel or stainless steel nails, 78.5 mm by 3 mm diameter, with an annular shank and moulded head, are supplied with the sheets.

1.6 Onduline Classic sheets are also used in the Onduline Roof Tile Underlay System, subject of BBA Certificate 94/3055.

1.7 Quality control checks are carried out on incoming materials, during production and on the final product.

## 2 Delivery and site handling

2.1 The sheets are supplied in crated pallets of 300 or 150 and should be stored flat on timber cross bearers on a concrete base or firm, level ground under a plastic cover to protect from dirt and dust. The pallets must not be stacked and must be stored away from the possibility of damage.

2.2 To avoid surface damage during handling the products should be lifted clear of the stack and not dragged across it. Otherwise the products are handled using conventional techniques for corrugated sheeting.

2.3 The products may be stored in freezing conditions, but installation should not be attempted in these conditions.

2.4 Provided care is taken to avoid surface damage, the products can be drilled and sawn by hand.

2.5 Each roof sheet carries a factory reference mark and each pallet the BBA identification mark incorporating the number of this Certificate.

## Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Onduline Classic Roofing and Cladding Sheets.

## Design Considerations

### 3 Use

3.1 Onduline Classic Roofing and Cladding Sheets installed on a timber frame with the associated flashings and fixings, are satisfactory for use on agricultural buildings and structures in accordance with the relevant parts of BS 5502 and BS 5427-1 : 1996.

3.2 Roofs must have a minimum pitch of 12° and a maximum slope length of 15 m.

3.3 Purlins should be spaced at 450 mm for pitches below 15°, and 610 mm for pitches >15°. They should have the cross-sectional areas indicated in Table 1.

Table 1 Design of purlin sizes for standard spacing

Span (m)	Section sizes Softwood purlins (mm)	Section sizes Hardwood purlins (mm)
	2.4	38 x 75
3.0	38 x 100	38 x 100
3.6	38 x 125	38 x 100
4.2	44 x 150	38 x 125
4.5	50 x 150	44 x 125
4.8	50 x 150	44 x 125
5.4	63 x 175	50 x 150
6.0	63 x 200	63 x 175
6.6	75 x 200	63 x 175

3.4 The sheets are suitable for use in areas where there is little possibility of impact or abrasion damage, ie at low levels in areas of restricted access, or at higher levels in other locations.

### 4 Practicability of installation

4.1 The product is designed to be installed by competent general building contractors experienced with this type of product.

4.2 The covering of new and existing roofs with this product should be carried out with due regard to *Health and safety in roof work* guidelines detailed in HSG33, Third Edition, 2008.

### 5 Weathertightness

The sheets have satisfactory resistance to the passage of rain and snow

## 6 Strength

6.1 The sheets have adequate resistance to the effects of wind suction likely to occur in service.

6.2 Onduline Classic sheets weigh  $6.4 \text{ kg}\cdot\text{m}^{-2}$ , which is considerably less than conventional roofing materials, therefore the roof must be securely attached to the structure to prevent wind uplift under adverse conditions.

## 7 Maintenance

7.1 Maintenance work and installation should be conducted using roof ladders and/or crawling boards. These should be positioned with reasonable care, to avoid damaging the sheets' surface.

7.2 Provided the product is installed in accordance with the spacing defined in Table 1, it will not be distorted by this maintenance work.

7.3 If access to the roof is required for some purpose other than routine maintenance of sheets a catwalk should be provided.

7.4 The roof should be cleared of leaves and any other organic matter at regular intervals.

## 8 Durability

8.1 The product will remain effective as a roof covering/cladding in excess of 15 years provided periodic maintenance is carried out.

8.2 A uniform colour difference may develop on exposed areas, along with the appearance of lichen and algae.

8.3 Normal precautions in design are necessary to shed water clear of the surface and thus avoid forming drain marks.

# Installation

## 9 Procedure

9.1 Installation of Onduline Classic Roofing and Cladding Sheets should be carried out in accordance with the manufacturer's instructions and the conditions set out in this Certificate.

9.2 A water vapour control layer is laid over the purlins and securely fixed to the timber structure.

9.3 Sheets are preferably cut to size with an oiled handsaw to prevent binding, but small cuts may be made with a sharp knife.

### Roofing

9.4 The sheets are preferably laid onto the purlins, staggered, and overlapped by 200 mm for pitches below  $15^\circ$  and 170 mm for pitches  $>15^\circ$ . The sides are lapped by one corrugation for normal conditions, or two corrugations for exposed sites. Fixing is by nailing at every corrugation at the end purlins and at alternative corrugations for intermediate purlins, using on average 20 nails per sheet.

9.5 An overlap of 125 mm is necessary between the roofing sheet and ridge.

### Cladding

9.6 When used as cladding the sheets are overlapped by 170 mm and a side lap of one corrugation.

9.7 The side laps are laid in the opposite direction to the prevailing wind.

## 10 Repair

Any damaged sheet can be replaced using normal installation techniques.

# Technical Investigations

The following is a summary of the technical investigations carried out on the Onduline Classic Roofing and Cladding Sheets.

## 11 Tests

11.1 Independent tests were carried out by CSTB and the results evaluated by the BBA to determine:

- durability of sheets
- strength of sheets
- resistance to rain penetration
- resistance to impact damage
- watertightness
- resistance to ageing.

11.2 Tests were carried out by the BBA and the results evaluated to determine:

- resistance to artificial weathering
- water vapour permeability
- ash content.

## 12 Investigations

12.1 The technical data contained in CSTB Certificate was evaluated in the context of UK roofing practice.

12.2 A visit was made to a site in progress to assess the practicability of installation.

12.3 Visits were made to established sites to assess the performance in use.

## Bibliography

BS 5427-1 : 1996 *Code of practice for the use of profiled sheet for roof and wall claddings on buildings — Design*

BS 5502-0 : 1992 *Buildings and structures for agriculture — Introduction*

BS 5502-11 : 2005 *Buildings and structures for agriculture — Guide to regulations and sources of information*

BS 5502-20 : 1990 *Buildings and structures for agriculture — Code of practice for general design considerations*

BS 5502-21 : 1990 *Buildings and structures for agriculture — Code of practice for selection and use of construction materials*

BS 5502-22 : 2003 *Buildings and structures for agriculture — Code of practice for design, construction and loading*

BS 5502-23 : 2004 *Buildings and structures for agriculture — Fire precautions — Code of practice*

## 13 Conditions

13.1 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.

13.2 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.

13.3 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
- remain covered by a valid French Agrément; and
- are reviewed by the BBA as and when it considers appropriate.

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

13.5 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
- individual 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.

13.6 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.