



British Steel Strip Products

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**Agrément
Certificate
No 91/2717**
Third issue*

Designated by Government
to issue
European Technical
Approvals

BRITISH STEEL COIL-COATED STEEL COIL AND SHEET

Plaque en acier
Legierungsblech auf Stahl

Product



- THIS CERTIFICATE RELATES TO THE BRITISH STEEL COIL-COATED STEEL PRODUCTS DESCRIBED IN THE ACCOMPANYING DETAIL SHEETS. THE PRODUCTS HAVE A COIL-COATED FINISH ON GALVANIZED STEEL, ZINC/ALUMINIUM ALLOY COATED STEEL OR STAINLESS STEEL.

- The products may be:
profiled by roll-forming for use as external roofing, cladding or internal lining in accordance with the documents listed in section 11 of these Front Sheets
brake-pressed into the associated flashings and fittings, or used as flat sheet.

These Front Sheets must be read in conjunction with the accompanying Detail Sheets, which provide information specific to the products.

Regulations

1 The Building Regulations 1991 (as amended 1994 and 1997) (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 profiled sheets for roofing and cladding with the Building Regulations. In the opinion of the BBA, British Steel Coil-Coated Steel Coil and Sheet, if used in accordance with the provisions of this Certificate, will meet the relevant requirements.

Requirement: B2

Internal fire spread (linings)

Comment:

The products meet this Requirement. See section 3.2 of the appropriate Detail Sheet.

Requirement: B3(4)

Internal fire spread (structure)

Comment:

The roofspace and concealed cavities should be subdivided in accordance with this Requirement. See section 3.3 of the appropriate Detail Sheet.

Requirement: B4

External fire spread


Comment:

The products, installed in accordance with section 11 of these Front Sheets, meet this Requirement. See sections 3.1 and 3.2 of the appropriate Detail Sheet.

continued


Requirement:	C4	Resistance to weather and ground moisture
Comment:		The products, installed in accordance with section 11 of these Front Sheets, meet this Requirement.
Requirement:	Regulation 7	Materials and workmanship
Comment:		The products are acceptable. See section 4 of the appropriate Detail Sheets.

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

 In the opinion of the BBA, British Steel Coil-Coated Steel Coil and Sheet, 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
Standards:	B2.1 and B2.2	Selection and use of materials, fittings, components and other manufactured products
Comment:		The products comply with this Standard.
Regulation:	12	Structural fire precautions
Standard:	D3.5	Junctions between separating or compartment walls and roofs
Comment:		The products can satisfy this Standard. See section 3.1 of the appropriate Detail Sheet.
Standard:	D4.1	Concealed spaces (cavities)
Comment:		The roofspace and concealed cavities should be subdivided in accordance with this Standard. See section 3.3 of the appropriate Detail Sheets.
Standard:	D6.7	Roofs and rooflights
Comment:		The products are unrestricted by this Standard. See section 3.1 of the appropriate Detail Sheet.
Regulation:	13	Means of escape from fire and facilities for fire-fighting
Standard:	E6.1	Internal fire spread — General
Comment:		The products are unrestricted by this Standard. See section 3.2 of the appropriate Detail Sheet.
Regulation:	17	Preparation of sites and resistance to moisture
Standard:	G3.1	Resistance to precipitation
Comment:		The products satisfy this Standard when installed in accordance with section 11 of these Front Sheets.

3 The Building Regulations (Northern Ireland) 1994 (as amended 1995 and 1997)

 In the opinion of the BBA, British Steel Coil-Coated Steel Coil and Sheet, if used in accordance with the provisions of this Certificate, will satisfy the various Building Regulations as listed below.

Regulation:	B2	Fitness of materials and workmanship
Comment:		The products are acceptable. See section 4 of the appropriate Detail Sheet.
Regulation:	C5	Resistance to ground moisture and weather
Comment:		When installed in accordance with section 11 of these Front Sheets the products can be used to satisfy this Regulation.
Regulation:	E4	Internal fire spread — Linings
Comment:		The products have a Class 0 surface as defined in DoE(NI) Technical Booklet E : 1994 : Section 2.4, and are unrestricted under this Regulation. See section 3.2 of the appropriate Detail Sheet.
Regulation:	E6	Internal fire spread — Structure
Comment:		The roof space and concealed cavities should be subdivided in accordance with this Regulation. See section 3.3 of the appropriate Detail Sheet.
Regulation:	E8	External fire spread
Comment:		The products are unrestricted under this Regulation. See sections 3.1 and 3.2 of the appropriate Detail Sheet.

4 Construction (Design and Management) Regulations 1994

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

See section: *7 Delivery and site handling (7.4) of these Front Sheets.*

Technical Specification

5 Description

5.1 British Steel Coil-Coated Steel Coil and Sheet are coated on one⁽¹⁾ or both sides with the coating described in the appropriate Detail Sheet.

(1) The reverse side is coated to one of the specifications described in the appropriate Detail Sheet.

5.2 Each paint finish is available in a range of standard colours detailed in the appropriate Detail Sheet.

5.3 Coils are available in standard sizes of:

thickness (mm)	0.4 to 1.6
width (m)	1.65 maximum

6 Manufacture

6.1 In a coil-coating process, austenitic stainless steel grade 304 to BS 1449 : Part 2 : 1983, galvanized steel coil Z275 to BS EN 10147 : 1992 or zinc/aluminium alloy coated steel to BS EN 101214 : 1995 is degreased, chemically pre-treated and coated to the specification described in the appropriate Detail Sheet.

6.2 Quality control tests are carried out on incoming paint. Tests on the finished products are carried out to determine:

paint film thickness
 impact resistance
 gloss
 colour and adhesion
 bend/flexibility
 pencil hardness
 solvent resistance
 resistance to boiling water.

6.3 Reference tests are carried out regularly to determine the resistance to salt spray, humidity and artificial weathering.

7 Delivery and site handling

7.1 The products are not usually delivered to site in coil form, but are formed into profiled sheets and flashings by specialist forming companies.

7.2 The profiled sheet is usually delivered to site on trailers and unloaded by crane. The site must have adequate access and a suitable surface for this traffic.

7.3 During transport, the edges and corners of the sheets must be protected against damage and the sheets should be restrained to prevent abrasion.

7.4 On site, sheets should be stored on a firm, dry base, on bearers at a maximum spacing of 900 mm, away from the possibility of damage, and covered to prevent the ingress of water. They should be stored as close as possible to the building where they are to be installed, and should

be handled in accordance with the Manual Handling Operations Regulations 1992.

7.5 When required for installation the sheets should be lifted from the stack rather than dragged across it.

Design Data

8 General

8.1 British Steel Coil-Coated Steel Coil and Sheet, after roll-forming or brake-pressing, is suitable for external use as roofing or cladding, or for internal use as a lining.

8.2 It may be used as plain sheet for such purposes as small infill panels (provided these are sufficiently robust and properly secured).

8.3 British Steel Coil-Coated Steel Coil and Sheet is suitable for use in areas where there is little possibility of impact or abrasion damage, ie at low levels in areas with restricted access, or at higher levels in public areas. These are as described in categories C to F of BS 8200 : 1985, Table 2, and as categories E₂ to E₅ of MOAT No 43 : 1987, Table 3.1, which are reproduced (in part) in Table 1.

Table 1 Categories — BS 8200 and MOAT No 43

Category BS 8200	Description	Examples	Category MOAT 43
C	Accessible mainly to those with some incentive to exercise care. Some chance of accident occurring and of misuse	Walls adjacent to private open gardens. Back walls of balconies	Zone of wall up to 1.5 m above pedestrian or floor level
D	Only accessible, but not near a common route, to those with high incentive to exercise care. Small chance of accident occurring or of misuse	Walls adjacent to small fenced decorative gardens with no through paths or floor	
E	Above zone of normal impacts from people but liable to impacts from thrown or kicked objects	1.5 m to 6 m above pedestrian or floor level in public areas	E ₂
F	Above zone of normal impacts from people and not liable to impacts from thrown or kicked objects	Wall surfaces at higher positions than those defined in E above	E ₅

9 Maintenance

9.1 A planned maintenance cycle should be introduced if an extended design life is required.

9.2 In some areas (eg marine and industrial areas, and where cladding is sheltered directly beneath a soffit), it may be necessary to clean the installation periodically, both to restore its appearance and to remove potentially corrosive deposits. This can be done by hosing with water, using a neutral detergent.

9.3 Damaged panels may be replaced using normal installation techniques.

10 Durability

10.1 The products are resistant to all normal atmospheric corrosive agencies (including marine and industrial) and will withstand considerable distortion of the metal without the coating losing adhesion.

10.2 The coatings are colour-fast and have the durability described in the accompanying Detail Sheets.

Installation

11 Procedure

11.1 The installation is designed and carried out in accordance with European Convention for the Construction of Steelwork (ECCS) *European Recommendations for Steel Construction: Publication No 40 The Design of Profiled Sheeting Publication No 41 Good Practice in Steel Cladding and Roofing*

or with the relevant parts of:

BS 5427 : Part 1 : 1996

BS 8200 : 1985

National Federation of Roofing Contractors *Profiled sheet metal roofing and cladding — A guide to good practice.*

11.2 Fixings should be selected in accordance with ECCS Publication No 35 *Mechanical Fasteners for Use in Steel Sheeting and Sections* and should be corrosion-resistant (ie sherardized or galvanized steel, aluminium or stainless steel). Primary fixings should have a durable plastic or rubber washer to prevent water ingress. Electroplated carbon steel fixings must have an effective plastic capping; mild steel or copper fixings are unsuitable.

Technical Investigations

The following is a summary of the technical investigations carried out on British Steel Coil-Coated Steel Coil and Sheet.

12 Tests

Tests were carried out to determine:

abrasion resistance

impact resistance

scratch resistance

surface spread of flame

fire propagation

fire roof exposure rating

effect of artificial weathering

effect of salt spray

effect of bending

resistance to sulphur dioxide.

13 Other investigations

Factory visits were made to examine the manufacturing process and obtain details of the raw material specifications and quality control procedures.

Bibliography

BS 1449 *Steel plate, sheet and strip*

Part 2 : 1983 *Specification for stainless and heat-resisting steel plate, sheet and strip*

BS 5427 *Code of practice for the use of profiled sheet for roof and wall cladding on buildings*

Part 1 : 1996 *Design*

BS 8200 : 1985 *Code of practice for design of non-loadbearing external vertical enclosures of buildings*

BS EN 10147 : 1992 *Specification for continuously hot-dip zinc coated structural steel sheet and strip. Technical delivery conditions*

BS EN 10214 : 1995 *Continuously hot-dip zinc-aluminium (ZA) coated steel strip and sheet. Technical delivery conditions*

MOAT No 43 : 1987 *UEAtc Directives for Impact Testing Opaque Vertical Building Components*

Conditions of Certification

14 Conditions

14.1 Where reference is made in this Certificate to any Act of Parliament, Regulation made thereunder, Statutory Instrument, Code of Practice, British Standard, manufacturer's instruction or similar publication, it shall be construed as reference to such publication in the form in which it is in force at the date of this Certificate.

14.2 The quality of materials and the method of manufacture have been examined and found satisfactory by the BBA and must be maintained to this standard during the period of validity of this Certificate. This Certificate will remain valid for an unlimited period provided:

- (a) the specification of the product is unchanged; and
- (b) the manufacturer continues to have the product checked by the BBA.

14.3 This Certificate will apply only to the product that is installed, used and maintained as set out in this Certificate.

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

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

14.5 It should be noted that any recommendations relating to the safe use 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 or Common Law duties of care, or of any duty of care which 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 or Common Law duties 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 use of this product.



In the opinion of the British Board of Agrément, British Steel Coil-Coated Steel Coil and Sheet is fit for its intended use provided it is installed, used and maintained as set out in this Certificate. Certificate No 91/2717 is accordingly awarded to British Steel Strip Products.

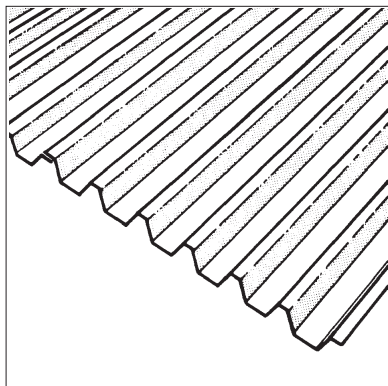
On behalf of the British Board of Agrément

Date of Third issue: 11th March 1998

Director

**Original Certificate issued 12th November 1991. This amended version includes change of product name, reference to the revised Building Regulations and to the CONDAM Regulations.*

Product



• THIS DETAIL SHEET RELATES TO COLORCOAT CELESTIA METALLIC-FINISH ORGANIC COATED GALVANIZED STEEL COIL AND SHEET TO EITHER BS EN 10142 : 1991 OR BS EN 10147 : 1992, COATED ON THE FACE SIDE* WITH A PRIMER AND CELESTIA PLASTISOL TO A TOTAL COATING THICKNESS OF 120 μm .

• The product has a metallic appearance and is available in a range of colours.

*The reverse side is coated with a two-coat primer/polyester system, a 50 μm organosol or a 100 μm plastisol finish.

This Detail Sheet must be read in conjunction with the Front Sheets, which give the product's position regarding the Building Regulations, general information relating to the product, and the Conditions of Certification, respectively.

Design Data

1 General


Colorcoat Celestia Metallic-Finish Organic Coated Steel Coil and Sheet may be profiled by roll-forming or brake-pressing, and is suitable for external use as plain sheet or in profiled form in accordance with the documents listed in section 11 of the Front Sheets. The product is available in a range of standard colours, details of which are available from British Steel Strip Products.

2 Workability

2.1 The product may be worked by conventional techniques including brake-pressing, roll-forming, bending, drilling and punching. It is essential that the correct tools, in good condition, are used to prevent any damage to the coating, and that any swarf is removed.

2.2 The coating can withstand a 2T bend through 180° without damage at 16°C and above.

3 Properties in relation to fire


 3.1 The coated steel coil and sheet has been given a notional designation of AA to BS 476 : Part 3 : 1958 by Appendix A, Table A5 of Approved Document B to the Building Regulations 1991 (as amended 1994) (England and Wales) and by Technical Booklet E, Table 4.6

of the Building Regulations (Northern Ireland) 1994 (as amended 1995) and may be used as a roof covering within 6 metres of any boundary.

3.2 When tested to BS 476 : Part 6 : 1989 the product has an index of performance (I) of 6.4 with sub-index (i_1) of 4.8 and when tested to BS 476 : Part 7 : 1997 it has a Class 1 surface. Therefore it has a Class 0 surface as defined in the various national Building Regulations.

3.3 The reverse side specifications are also Class 0 surfaces.

4 Durability

 4.1 The product is resistant to all normal atmospheric corrosive agencies and will withstand considerable distortion of the metal without losing adhesion between the paint and coating and the substrate.

4.2 The performance of the coating will depend on its environment, location, aspect faced and use (ie roofing or cladding). The product will retain a good appearance (defined as no more than 5% of the paint surface to be affected by flaking) for the intervals shown in Table 1. Maintenance painting should be considered at these intervals or earlier if a high aesthetic standard is required. British Steel Strip Products can recommend a suitable paint and maintenance system.

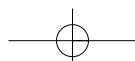


Table 1 Period to repaint decision (years)

Inland					Coastal			
Walls facing		Roofs facing			All walls	Roofs facing		
		P>10°	P=1·10°			P>10°	P=1·10°	
S	Other	S	Other	Any	S	Other	Any	
17	21	12	14	12	15	10	11	10

4.3 The Colorcoat Celestia coating and metal treatment will protect the steel substrate against corrosion for a period in excess of 20 years in normal industrial, urban, suburban and rural environments.

4.4 If the building has an exposed eaves detail, and is in an aggressive environment, or if there are corrosive conditions inside it, the reverse side should be coated with 100 µm plastisol, 50 µm organosol or should be overpainted.

Bibliography

BS 476 *Fire tests on building materials and structures*

Part 3 : 1958 *External fire exposure roof tests*
Part 6 : 1989 *Method of test for fire propagation for products*

Part 7 : 1997 *Method of test to determine the classification of the surface spread of flame of products.*

BS EN 10142 : 1991 *Specification for continuously hot-dip zinc coated low carbon steel sheet and strip for cold forming : technical delivery conditions*

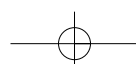
BS EN 10147 : 1992 *Continuously hot-dip zinc coated structural steel sheet and strip — Technical delivery conditions*



On behalf of the British Board of Agrément

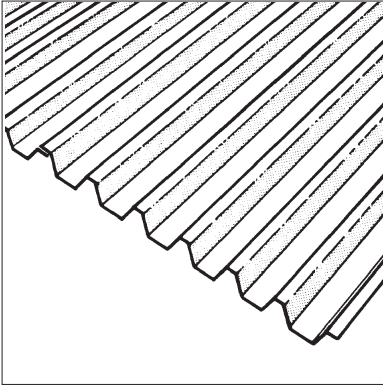
Date of issue: 6th November 1997

Director



British Steel Strip Products⁽¹⁾COLORCOAT HPS200 COATED
STEEL COIL AND SHEET

Product



• THIS DETAIL SHEET RELATES TO COLORCOAT HPS200 COATED GALVALLOY* COIL AND SHEET, COATED ON THE FACE SIDE† WITH A PRIMER AND HPS200 PLASTISOL TO A TOTAL COATING THICKNESS OF 200 µm.

• The product features a micro-textured finish and is available in a range of colours.

*Galvalloy is strip steel with a hot-dipped 95:5% zinc/aluminium alloy coating to BS EN 10214 : 1995, with a coating mass of 255 gm⁻².

†The reverse side is coated with a two-coat primer/polyester system, a 100 µm plastisol finish, or the same finish as the face side.

This Detail Sheet must be read in conjunction with the Front Sheets, which give the product's position regarding the Building Regulations, general information relating to the product, and the Conditions of Certification, respectively.

(1) Technical enquiries to: Tel: 01633 464646 Fax: 01633 464175
Email: colorcoat.connection@bssp.britishsteel.co.uk

Design Data

1 General

Colorcoat HPS200 Coated Steel Coil and Sheet may be profiled by roll-forming or brake-pressing, and is suitable for external use as plain sheet or in profiled form in accordance with the documents listed in section 11 of the Front Sheets. The product is available in a range of standard colours (see Table 1).

2 Workability

2.1 The product may be worked by conventional techniques including brake-pressing, roll-forming, bending, drilling and punching. It is essential that the correct tools, in good condition, are used to prevent any damage to the coating, and that any swarf is removed.

2.2 The coating can withstand an OT bend through 180° without damage at 16°C and above.

3 Properties in relation to fire

3.1 The coated steel coil and sheet has been given a notional designation of AA to BS 476 : Part 3 : 1958 by Appendix A, Table A5 of Approved Document B to the Building Regulations 1991 (as amended) (England and Wales) and by Technical Booklet E, Table 4.6 of the Building Regulations (Northern Ireland) 1994 (as amended) and may be used as a roof covering within 6 metres of any boundary.

Table 1 Colour range

Colour	Compass durability code*	Nearest BS or RAL finish
Albatross SC†	CD1	18 B 17
Aztec Yellow SC	CD2	10 E 55
Bamboo SC	CD1	08 C 35
Black SC	CD1	00 E 53
Burano SC	CD2	RAL 3004
Goosewing Grey SC	CD1	10 A 05
Hamlet SC	CD1	RAL 9002
Heritage Green SC	CD2	RAL 6002
Honesty SC	CD1	10 C 31
Jade SC	CD2	14 C 37
Meadowland SC	CD1	12 B 17
Merlin Grey SC	CD1	18 B 25
Moorland Green SC	CD1	12 B 21
Mushroom SC	CD1	10 B 19
Ocean Blue SC	CD2	18 C 39
Olive Green SC	CD1	12 B 27
Petra SC	CD2	04 D 44
Poppy Red SC	CD2	04 E 53
Saffron SC	CD2	08 E 53
Sargasso SC	CD2	RAL 5003
Solent Blue SC	CD2	18 E 53
Svelte Grey SC	CD1	10 B 23
Tangerine Orange SC	CD2	06 E 53
Terracotta SC	CD2	04 C 39
Vandyke Brown SC	CD2	08 B 29
Wedgwood Blue SC	CD1	18 C 37
White SC	CD1	00 E 55

*See Table 2.

†SC indicates the Scintilla textured finish.

3.2 When tested to BS 476 : Part 6 : 1989 the product has an index of performance (I) of 3.0 with sub-index (i_1) of 2.4 and when tested to BS 476 : Part 7 : 1997 it has a Class 1Y surface. Therefore it has a Class 0 surface as defined in the various national Building Regulations.

3.3 The reverse side specifications are also Class 0 surfaces.

4 Durability

4.1 The product is resistant to all normal atmospheric corrosive agencies (including marine and industrial) and will withstand considerable distortion of the metal without losing adhesion between the paint and coating and the substrate.

4.2 The performance of the coating will depend on its environment, location and use (ie roofing or cladding). The product will retain a good appearance (defined as no more than 5% of the paint surface to be affected by flaking) for the intervals shown in Table 2. Maintenance painting should be considered at these intervals or earlier if a high aesthetic standard is required. British Steel Strip Products can recommend a suitable paint and maintenance system.

Table 2 *Period-to-repaint decision (years)*

Compass durability code*	Inland			Coastal†		
	Walls	Roofs P >10°	Roofs P 1-10°	Walls	Roofs P >10°	Roofs P 1-10°
CD1	30	27	25	25	23	21
CD2	25	19	18	18	16	15

*See Table 1.

†Figures for coastal are for buildings within 1 km of any coast.

4.3 Colorcoat HPS200 coating and metal treatment will protect the steel substrate against corrosion for a period in excess of 25 years in normal industrial, urban, suburban and rural environments.

Bibliography

BS 476 *Fire tests on building materials and structures*
Part 3 : 1958 *External fire exposure roof tests*
Part 6 : 1989 *Method of test for fire propagation for products*

Part 7 : 1997 *Method of test to determine the classification of the surface spread of flame of products*

BS EN 10214 : 1995 *Continuously hot-dip zinc-aluminium (ZA) coated steel strip and sheet. Technical delivery conditions*



On behalf of the British Board of Agrément

Date of issue: 29th October 1998

Director