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Agrément Certificate

91/2717

Product Sheet 3

CORUS COLORCOAT PRE-FINISHED STEEL COIL AND SHEET

COLORCOAT LG

PRODUCT SCOPE AND SUMMARY OF CERTIFICATE

This Certificate relates to Colorcoat LG, pre-finished steel coil and sheet for use as external roofing and cladding or internal lining.

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 product has adequate resistance to the passage of moisture (see section 6).

Properties in relation to fire — the product is not classified as non-combustible, but will achieve a Class O/'low risk' classification, as defined in the national Building Regulations (see section 7).

Location — the product is suitable for use in locations where there is little possibility of impact or abrasion damage (see section 8).

Workability — the product can be worked by conventional techniques and is capable of withstanding an OT bend without damage (see section 9).

Durability — under normal conditions, the product will perform effectively with a life expectancy in excess of 25 years. Its anticipated decorative life will vary depending on the area of use (see section 11).



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

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The BBA is a UKAS accredited certification body — Number 113. The schedule of the current scope of accreditation for product certification is available in pdf format via the UKAS link on the BBA website at www.bbacerts.co.uk

Readers 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.

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In the opinion of the BBA, Colorcoat LG, if used in accordance with the provisions of this Certificate, will meet or contribute to meeting the relevant requirements of the following Building Regulations:



The Building Regulations 2000 (as amended) (England and Wales)

Requirement:	B2(1)	Internal fire spread (linings)
Comment:		The product may be unrestricted under this Requirement. See sections 7.2 to 7.4 of this Certificate.
Requirement:	B3(2)(4)	Internal fire spread (structure)
Comment:		The product may be unrestricted under this Requirement. See sections 7.1 to 7.4 of this Certificate.
Requirement:	B4(1)(2)	External fire spread
Comment:		The product may be unrestricted under this Requirement. See sections 7.1, 7.2 and 7.4 of this Certificate.
Requirement:	C2(b)	Resistance to moisture
Comment:		The product can contribute to meeting this Requirement. See section 6 of this Certificate.
Requirement:	Regulation 7	Materials and workmanship
Comment:		The product is acceptable. See sections 11.1 to 11.4 and the <i>Installation</i> part of this Certificate



The Building (Scotland) Regulations 2004 (as amended)

Regulation:	8(1)(2)	Fitness and durability of materials and workmanship
Comment:		The product can contribute to a construction satisfying this Regulation. See sections 10.1 to 10.3 and 11.1 to 11.4 and the <i>Installation</i> part of this Certificate.
Regulation:	9	Building standards — construction
Standard:	2.1	Compartmentation
Comment:		The product can contribute to satisfying this Standard, with reference to clause 2.1.15 ⁽²⁾ . See section 7.1 of this Certificate.
Standard:	2.2	Separation
Comment:		The product can contribute to satisfying this Standard, with reference to clauses 2.2.7 ⁽²⁾ and 2.2.10 ⁽¹⁾ . See section 7.1 of this Certificate.
Standard:	2.4	Cavities
Comment:		The product can contribute to satisfying this Standard, with reference to clauses 2.4.2 ⁽¹⁾⁽²⁾ , 2.4.3 ⁽²⁾ , 2.4.7 ⁽¹⁾ and 2.4.9 ⁽²⁾ . See sections 7.1 to 7.4 of this Certificate.
Standard:	2.5	Internal linings
Comment:		The product can contribute to satisfying this Standard, with reference to clause 2.5.1 ⁽¹⁾⁽²⁾ . See sections 7.2 to 7.4 of this Certificate.
Standard:	2.6	Spread to neighbouring buildings
Comment:		The product is not classified as 'non-combustible' and, therefore, is restricted under this Standard, with reference to clauses 2.6.4 ⁽¹⁾⁽²⁾ , 2.6.5 ⁽¹⁾ and 2.6.6 ⁽²⁾ . See sections 7.2 to 7.4 of this Certificate.
Standard:	2.7	Spread on external walls
Comment:		The product is not classified as 'non-combustible' and is therefore restricted under this Standard, with reference to clause 2.7.1 ⁽¹⁾⁽²⁾ . See sections 7.2 to 7.4 of this Certificate.
Standard:	2.8	Spread from neighbouring buildings
Comment:		The product is not assigned a notional low vulnerability rating by the tables to Annex 2D ⁽¹⁾ or 2F ⁽²⁾ and so is restricted under this Standard, with reference to clause 2.8.1 ⁽¹⁾⁽²⁾ . See section 7.1 of this Certificate.
Standard:	3.10	Precipitation
Comment:		The product can contribute to satisfying this Standard, with reference to clauses 3.10.1 ⁽¹⁾⁽²⁾ , 3.10.5 ⁽¹⁾⁽²⁾ and 3.10.7 ⁽¹⁾⁽²⁾ . See section 6 of this Certificate.
Regulation:	12	Building standards — conversions
Comment:		All comments given for this product under Regulation 9, also apply to this Regulation, with reference to clause 0.12.1 ⁽¹⁾⁽²⁾ and Schedule 6 ⁽¹⁾⁽²⁾ . (1) Technical Handbook (Domestic). (2) Technical Handbook (Non-Domestic).



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

Regulation:	B2	Fitness of materials and workmanship
Comment:		The product is acceptable. See sections 11.1 to 11.4 and the <i>Installation</i> part of this Certificate.
Regulation:	B3(2)	Suitability of certain materials
Comment:		The product is acceptable. See sections 10.1 to 10.3 of this Certificate.
Regulation:	C4	Resistance to ground moisture and weather
Comment:		The product can contribute to satisfying this Regulation. See section 6 of this Certificate.
Regulation:	E3	Internal fire spread — Linings
Comment:		The product may be unrestricted under this Regulation. See sections 7.2 to 7.4 of this Certificate.
Regulation:	E4	Internal fire spread — Structure
Comment:		The product may be unrestricted under this Regulation. See sections 7.1 to 7.4 of this Certificate.
Regulation:	E5	External fire spread
Comment:		The product may be unrestricted under this Regulation. See sections 7.1, 7.2 and 7.4 of this Certificate.

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 section: 3 *Delivery and site handling* (3.4).

Non-regulatory Information

NHBC Standards 2007

In the opinion of the BBA, the use of Colorcoat LG, when installed and used in accordance with this Certificate, is capable of satisfying the requirements of *NHBC Standards* Chapters 6.3 *Internal walls*, 6.9 *Curtain walling and cladding*, 7.1 *Flat roofs and balconies* and 7.2 *Pitched roofs*.

Zurich Building Guarantee Technical Manual 2007

In the opinion of the BBA, the use of Colorcoat LG, when installed and used in accordance with this Certificate, is capable of satisfying the requirements of the *Zurich Building Guarantee Technical Manual*, Section 4 *Superstructure*, Sub-sections *External walls – timber frame*, *External walls – render/cladding/curtain walling*, *External walls – steel frame*, *Pitched roofs* and *Flat roofs*.

General

This Certificate relates to Colorcoat⁽¹⁾ LG, pre-finished steel coil and sheet, for use as external roofing and cladding or internal lining.

The product may be:

- profiled by roll-forming
- brake-pressed into the associated flashings and fittings
- used as flat sheet.

(1) Colorcoat is a registered trademark of Corus UK Limited.

Technical Specification

1 Description

1.1 Colorcoat LG consists of Z275 galvanized steel, manufactured to BS EN 10326 : 2004 or BS EN 10327 : 2004, coated on the face side with a primer and a plastisol coating to a total coating thickness of 200 µm.

1.2 The product features an embossed finish and is available in a range of standard colours (see Table 1).

Table 1 Colour range

Colour	Compass durability code ⁽¹⁾	Nearest BS ⁽²⁾ or RAL finish
Albatross	CD1	18B17
Anthracite	CD2	RAL 7016
Black	CD1	00E53
Goosewing Grey	CD1	10A05
Hamlet	CD1	RAL 9002
Heritage Green	CD2	RAL 6002
Honesty	CD1	10C31
Juniper Green	CD2	12B29
Meadowland	CD1	12B17
Merlin Grey	CD1	18B25
Moorland Green	CD1	12B21
Mushroom	CD1	10B19
Ocean Blue	CD2	18C39
Olive Green	CD1	12B27
Raven	CD2	18B29
Sargasso	CD2	RAL 5003
Terracotta	CD2	04C39
Vandyke Brown	CD2	08B29
Wedgwood Blue	CD1	18C37
White	CD1	00E55

(1) See Table 3

(2) BS 4904 : 1978.

1.3 The reverse side is coated with a 15 µm polyester system.

1.4 Coils are available in widths of up to 1.65 m and thicknesses of between 0.4 mm and 1.6 mm.

2 Manufacture

2.1 In a coil-coating process, Z275 galvanized steel coil is degreased, chemically pre-treated and coated on the face and reverse sides.

2.2 Quality control is exercised over raw materials, during manufacture and on the final product.

3 Delivery and site handling

3.1 The product is not usually delivered to site in coil form, but is formed into profiled sheets and flashings by specialist forming companies.

3.2 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.

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

3.4 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.

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

Assessment and Technical Investigations

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

Design Considerations

4 Use

4.1 Colorcoat LG, after roll-forming or brake-pressing, is suitable for external use as roofing and cladding, or for internal use as a lining.

4.2 The product may also be used as plain sheet for such purposes as small infill panels (provided these are sufficiently robust and properly secured).

5 Practicability of installation

The product can be installed by operatives experienced within this type of product.

6 Weathertightness



The product, when incorporated into a roofing or cladding system designed and installed in accordance with conventional good practice and section 12, will adequately resist the passage of moisture.

7 Properties in relation to fire



7.1 The coated steel coil and sheet has been given a notional designation of AA/B_{ROOF}(t4) by Appendix A, Table A5 of Approved Document B to The Building Regulations 2000 (as amended) (England and Wales) and by Technical Booklet E, Table 4.6 of The Building Regulations (Northern Ireland) 2000 (as amended) and may be used as a roof covering within six metres of any boundary.

7.2 When tested to BS 476-6 : 1989, a Goosewing Grey sample of the product had an index of performance (I) of 2.8 and a sub-index (i₁) of 1.1. When tested to BS 476-7 : 1997, a similar sample achieved a Class 1 result. The product, therefore, has a Class 0/'low risk' surface as defined in the various national Building Regulations. This is valid for all colours in the product range (see section 14.3).

7.3 The reverse side specifications are also Class 0/'low risk' surfaces.

7.4 The Certificate holder is also able to supply fire performance data according to Euro-classification standards.

8 Location

The product 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, which is reproduced (in part) in Table 2.

Table 2 BS 8200, Table 2 – access categories

Category	Description	Examples	
C	Accessible primarily 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.	
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.	
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.	

9 Workability

9.1 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.

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

10 Maintenance



10.1 Regular maintenance inspections should be carried out to ensure that rainware is present and in good order, that flashings are secure and that fixings are present and secure.

10.2 Maintenance painting should be considered at the intervals defined in section 11.4, or earlier if a high aesthetic standard is required. The Certificate holder can recommend a suitable paint and maintenance system.

10.3 In some areas (eg coastal and industrial locations, 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.

11 Durability



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

11.2 Particular care should be taken during design to minimise the exposure of cut edges of the installed sheets. This could include the use of welded seams, secret-fix systems, continuous ridge to eaves installation (ie without horizontal lap joints), or installation of a curved roof.

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

11.4 The performance of the coating will depend on its environment, location, aspect face 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 3.

Table 3 Period-to-repaint decision (years)

Compass durability bands ⁽¹⁾	Inland		Coastal ⁽²⁾	
	Walls	Roofs	Walls	Roofs
CD1	25	25	20	20
CD2	20	15	15	10

(1) See Table 1.

(2) Figures for coastal are for buildings within 2 km of any coast.

12 Procedure

12.1 The installation should be 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 Sheet*
- Publication No 41 *Good Practice in Steel Cladding and Roofing*

and with the relevant parts of:

- BS 5250 : 2002
- BS 5427-1 : 1996
- BS 8200 : 1985
- *National Federation of Roofing Contractors Profiled sheet metal roofing and cladding — A guide to good practice*
- MCRMA⁽¹⁾ *Technical Paper No 5 — Metal Wall Cladding Detailing Guide*
- MCRMA⁽¹⁾ *Technical Paper No 6 — Profiled Metal Roofing Design Guide.*

(1) The Metal Cladding and Roofing Manufacturer's Association.

12.2 Fixings should be selected in accordance with ECCS Publication No 35 *Mechanical Fasteners for Use in Steel Sheet 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

13 Tests

Tests were carried out to determine:

- resistance to salt spray
- adhesion to substrate
- ease of forming.

14 Investigations

14.1 Existing data were examined relating to:

- abrasion resistance
- impact resistance
- scratch resistance
- effect of artificial weathering
- resistance to sulfur dioxide.

14.2 Independent test data were examined relating to:

- Surface spread of flame
- Fire propagation.

14.3 Opinion was sought from a UKAS-accredited fire authority concerning the effect of colour on the fire properties of the product.

14.4 The manufacturing process and quality control procedures were examined and details were obtained of the quality and composition of the materials used.

Bibliography

- BS 476-6 : 1989 *Fire tests on building materials and structures — Method of test for fire propagation for products*
- BS 476-7 : 1997 *Fire tests on building materials and structures — Method of test to determine the classification of the surface spread of flame of products*
- BS 4904 : 1978 *Specification for external cladding colours for building purposes*
- BS 5250 : 2002 *Code of practice for control of condensation in buildings*
- BS 5427-1 : 1996 *Code of practice for the use of profiled sheet for roof and wall claddings on buildings — Design*
- BS 8200 : 1985 *Code of practice for design of non-loadbearing external vertical enclosures of buildings*
- BS EN 10326 : 2004 *Continuously hot-dip coated strip and sheet of structural steels — Technical delivery conditions*
- BS EN 10327 : 2004 *Continuously hot-dip coated strip and sheet of low carbon steels for cold forming — Technical delivery conditions*

15 Conditions

15.1 This Certificate:

- relates only to the product/system that is named and described on the front page
- is granted only to the company, firm or person named on the front page — no other company, firm or person may hold or claim any entitlement to this Certificate
- 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.

15.2 References in this Certificate to any Act of Parliament, Statutory Instrument, Directive or Regulation of the European Union, British, European or International Standard, Code of Practice, manufacturers' instructions or similar publication, are references to such publication in the form in which it was current at the date of this Certificate.

15.3 This Certificate will remain valid for an unlimited period provided that the product/system and the manufacture and/or fabrication including all related and relevant 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.

15.4 In granting this Certificate, the BBA is not responsible for:

- 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 the nature, design, methods and workmanship of or related to the installation
- the actual works in which the product/system is installed, used and maintained, including the nature, design, methods and workmanship of such works.

15.5 Any information relating to the manufacture, supply, installation, use and maintenance 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 and maintained. It does 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; 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. 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 manufacture, supply, installation, use and maintenance of this product/system.