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**Agrément
Certificate
No 94/3002**
Third issue*

Designated by Government
to issue
European Technical
Approvals

RIGIDAL SYSTEMS ROLL-FORMED ALUMINIUM PROFILES

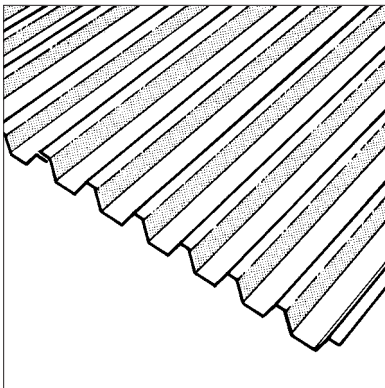
Plaque en alliage d'aluminium
Legierungsblech auf Aluminiumgrundlage

Product

• THIS CERTIFICATE RELATES TO THE RIGIDAL SYSTEMS ROLL-FORMED ALUMINIUM PROFILES DESCRIBED IN THE ACCOMPANYING DETAIL SHEETS.


• The profiles and the associated flashings and fittings are for use as external roofing, cladding or internal lining in accordance with the documents listed in section 1.3 of these Front Sheets.

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




Regulations — Detail Sheet 1

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

 In the opinion of the BBA, Rigidal Systems Roll-Formed Aluminium Profiles, if used in accordance with the provisions of this Certificate, will meet or contribute to meeting the relevant requirements of the following Building Regulations:

Requirement: B2(1)	Internal fire spread (linings)
Comment:	The products may be unrestricted under this Requirement. See sections 3.2 to 3.3 of the appropriate Detail Sheet.
Requirement: B3(2)(4)	Internal fire spread (structure)
Comment:	The products may be unrestricted under this Requirement. See sections 3.1 to 3.4 of the appropriate Detail Sheet.
Requirement: B4(1)(2)	External fire spread
Comment:	The products may be unrestricted under this Requirement. See sections 3.1 to 3.3 of the appropriate Detail Sheet.
Requirement: C2(b)	Resistance to moisture
Comment:	The products, can contribute to meeting this Requirement. See the <i>Weather-tightness</i> section of these Front Sheets.
Requirement: Regulation 7	Materials and workmanship
Comment:	The products are acceptable. See the <i>Installation</i> part of these Front Sheets and the tinted area in the <i>Durability</i> section of the accompanying Detail Sheets.

2 The Building Standards (Scotland) Regulations 2004 (as amended)

 In the opinion of the BBA, Rigidal Systems Roll-Formed Aluminium Profiles, if used in accordance with the provisions of this Certificate, will satisfy or contribute towards satisfying the various Regulations and related Mandatory Standards as listed below.

Regulation: 8(1)(2)	Fitness and durability of materials and workmanship
Comment:	The use of the products satisfies the requirements of this Regulation. See the tinted area in the <i>Durability</i> section of the accompanying Detail Sheets and the tinted areas in the <i>Maintenance</i> section and <i>Installation</i> part of these Front Sheets.
Regulation: 9	Building standards — construction
Standard: 2.1	Compartmentation
Comment:	The products may contribute to satisfying this Standard, with reference to clause 2.1.15 ⁽²⁾ . See sections 3.1 and 3.3 of the appropriate Detail Sheet.
Standard: 2.2	Separation
Comment:	The products may contribute to satisfying this Standard, with reference to clauses 2.2.7 ⁽²⁾ and 2.2.10 ⁽¹⁾ . See section 3.1 and 3.3 of the appropriate Detail Sheet.
Standard: 2.4	Cavities
Comment:	The products may 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 3.1 to 3.4 of the appropriate Detail Sheet.
Standard: 2.5	Internal linings
Comment:	The products may contribute to satisfying this Standard, with reference to clause 2.5.1 ⁽¹⁾⁽²⁾ . See sections 3.2 to 3.4 of the appropriate Detail Sheet.

Standard:	2.6	Spread to neighbouring buildings
Comment:		The products are not classified as 'non-combustible' and are therefore restricted under this Standard, with reference to clauses 2.6.4 ⁽¹⁾⁽²⁾ , 2.6.5 ⁽¹⁾ and 2.6.6 ⁽²⁾ . See sections 3.2 to 3.3 of the appropriate Detail Sheet.
Standard:	2.7	Spread on external walls
Comment:		The products are not classified as 'non-combustible' and are therefore restricted under this Standard, with reference to clause 2.7.1 ⁽¹⁾⁽²⁾ . See sections 3.2 to 3.3 of the appropriate Detail Sheet.
Standard:	2.8	Spread from neighbouring buildings
Comment:		The products may contribute to satisfying this Standard, with reference to clause 2.8.1 ⁽¹⁾⁽²⁾ . See sections 3.1 and 3.3 of the appropriate Detail Sheet.
Standard:	3.10	Precipitation
Comment:		The products can satisfy this Standard. See the <i>Weather-tightness</i> section of these Front Sheets, with reference to clauses 3.10.1 ⁽¹⁾⁽²⁾ , 3.10.5 ⁽¹⁾⁽²⁾ and 3.10.7 ⁽¹⁾⁽²⁾ .
Regulation:	12	Building standards – conversions
Comment:		All comments given for these products 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).

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



In the opinion of the BBA, Rigidal Systems Roll-Formed Aluminium Profiles, 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 the tinted areas in the <i>Durability</i> section and <i>Installation</i> part of the accompanying Detail Sheets.
Regulation:	B3(2)	Suitability of certain materials
Comment:		The products are acceptable. See the tinted areas in the <i>Maintenance</i> section of these Front Sheets.
Regulation:	C4(b)	Resistance to ground moisture and weather
Comment:		The products can be used to satisfy this Regulation. See the <i>Weather-tightness</i> section of these Front Sheets.
Regulation:	E3	Internal fire spread – Linings
Comment:		The products may be unrestricted under this Regulation. See sections 3.2 and 3.3 of the appropriate Detail Sheet.
Regulation:	E4	Internal fire spread – Structure
Comment:		The products may be unrestricted under this Regulation. See sections 3.1 to 3.4 of the appropriate Detail Sheet.
Regulation:	E5	External fire spread
Comment:		The products may be unrestricted under this Regulation. See sections 3.1 to 3.3 of the appropriate Detail Sheet.

4 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: 7 *Delivery and site handling* (7.1, 7.3 and 7.5).

Technical Specification

5 Description

5.1 Rigidal Systems Roll-Formed Aluminium Profiles are available in mill-finished aluminium (alloys from the 3000 or 5000 series to BS EN 485, BS EN 515 and BS EN 573), or are coated on one⁽¹⁾ or both sides with the coating described in the appropriate Detail Sheet.

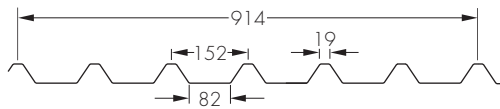
(1) The reverse side is coated to one of the specifications described in the appropriate Detail Sheet.

5.2 The products are available in a range of colours, from matt to full colour gloss levels, details of which may be obtained from the Certificate holder.

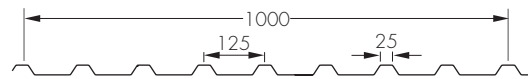
5.3 The products can be supplied stucco-embossed.

5.4 The standard profiles available are shown in Figure 1.

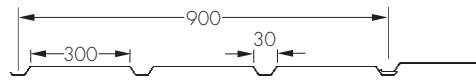
Figure 1 Profiles⁽¹⁾ (all dimensions in mm)



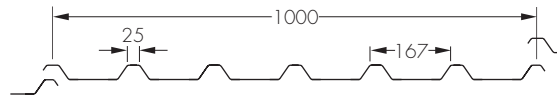
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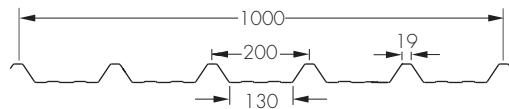
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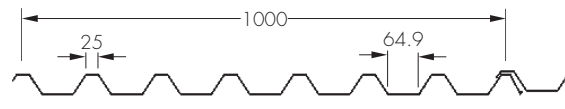
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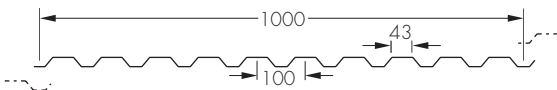
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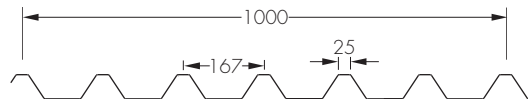
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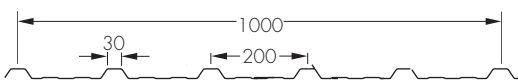
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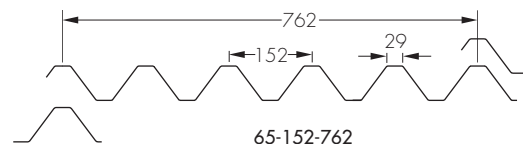
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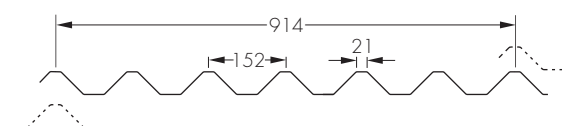
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19-76-991

(1) Other profiles are available, including the Locroll secret fix system, but the structural performance of such systems is outside the scope of this Certificate.

6 Manufacture

6.1 In a coil-coating process, aluminium coil is degreased, chemically pre-treated and coated to the specification described in the appropriate Detail Sheet. Quality control tests are carried out on incoming paint and on the coated product.

6.2 In a separate process, mill-finished aluminium or the coated coils are roll-formed into the profiles described in Figure 1.

6.3 Flashings and fittings may be formed by roll-forming or brake-pressing, and curved profiles are formed on a profile curving machine.

7 Delivery and site handling

7.1 The profiles are normally delivered to site on trailers and unloaded by crane. The site must have adequate access and a suitable surface for this traffic.

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

7.3 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.

7.4 Particular care should be taken to ensure the mill-finished aluminium and the wrapping remains dry before installation.

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

Design Data


8 General

Rigidal Systems Roll-Formed Aluminium Profiles are suitable for external use as roofing or cladding, or for internal use as a lining.


9 Practicability of installation

This product can be installed by operatives experienced with metal roofing and cladding sheets.

10 Weathertightness

 The product, when incorporated into a roofing or cladding system designed and installed in accordance with conventional good practice and section 13 will adequately resist the passage of moisture.

11 Maintenance

 11.1 In some areas (eg coastal and industrial areas, and where cladding is sheltered directly beneath a soffit) it will 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.

11.2 A planned maintenance cycle should be introduced if an extended design life is required. The Certificate holder can recommend a suitable system for maintenance painting.

11.3 Damaged panels may be replaced using normal installation techniques.

12 Durability

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

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

Installation

13 Procedure

The installation is designed and carried out in accordance with CP 143-1 : 1958, or with the relevant parts of:

- BS 5427 : 1996
- BS 8200 : 1985
- National Federation of Roofing Contractors *Profiled sheet metal roofing and cladding — A guide to good practice.*
- PSA Method of Building *Technical Guidance Wall and Roof Cladding — Profiled Steel and Aluminium.*

Technical Investigations

The following is a summary of the technical investigations carried out on Rigidal Systems Roll-Formed Aluminium Profiles.

14 Tests

14.1 Tests were carried out on the coated products in accordance with MOAT No 34 : 1986 to determine:

- abrasion resistance
- impact resistance
- scratch resistance
- effect of artificial weathering
- effect of salt spray
- effect of bending
- resistance to sulfur dioxide
- resistance to chemicals, marking and staining.

14.2 An examination was made of independent test reports relating to:

- fire propagation
- surface spread of flame
- fire roof exposure rating.

15 Investigations

15.1 An assessment was made of the manufacturing processes, and details of the raw material specifications and quality control procedures were obtained.

15.2 Visits were made to established sites to determine the performance of the product in service.

Bibliography

BS 5427 : 1996 *Code of practice for performance and loading criteria for profiled sheeting in building*

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

BS EN 485-1 : 1994 *Aluminium and aluminium alloys — Sheet, strip and plate — Technical conditions for inspection and delivery*

BS EN 485-2 : 2007 *Aluminium and aluminium alloys — Sheet, strip and plate. Mechanical properties*

BS EN 485-3 : 2003 *Aluminium and aluminium alloys — Sheet, strip and plate — Tolerances on dimensions and form for hot-rolled products*

BS EN 485-4 : 1994 *Aluminium and aluminium alloys — Sheet, strip and plate — Tolerances on shape and dimensions for cold-rolled products*

BS EN 515 : 1993 *Aluminium and aluminium alloys. Wrought products. Temper designations*

BS EN 573-1 : 2004 *Aluminium and aluminium alloys — Chemical composition and form of wrought products — Numerical designation system*

BS EN 573-2 : 1995 *Aluminium and aluminium alloys — Chemical composition and form of wrought products — Chemical symbol based designation system*

BS EN 573-3 : 2007 *Aluminium and aluminium alloys — Chemical composition and form of wrought products. Chemical composition and form of products*

BS EN 573-4 : 2004 *Aluminium and aluminium alloys — Chemical composition and form of wrought products — Forms of products*

BS EN 573-5 : 2007 *Aluminium and aluminium alloys — Chemical composition and form of wrought products — Codification of standardized wrought products*

CP 143-1 : 1958 *Code of practice for sheet roof and wall coverings — Aluminium, corrugated and troughed*

MOAT No 34 : 1986 *Precoated metal sheet roofing and cladding*

Conditions of Certification

16 Conditions

16.1 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.

16.2 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.

16.3 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.

16.4 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.

16.5 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.



In the opinion of the British Board of Agrément, Rigidal Systems Roll-Formed Aluminium Profiles are fit for their intended use provided they are installed, used and maintained as set out in this Certificate. Certificate No 94/3002 is accordingly awarded to Rigidal Systems Limited.

On behalf of the British Board of Agrément

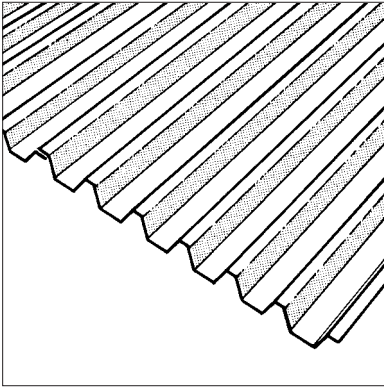
Head of Approvals
— Materials

Chief Executive

Date of Third issue: 9th July 2008

**Original Certificate issued 16th March 1994. This amended version includes change of Company name, and product name, revised national Building Regulations and Standards, new CDM Regulations, change to product profiles and new Conditions of Certification.*

Product



• THIS DETAIL SHEET RELATES TO RIGIDAL POLYESTER-COATED ALUMINIUM ALLOY PROFILES.

• The product is coated on the face side⁽¹⁾ with a primer and a polyester paint to a total coating thickness of 22 µm and is available in a range of colours and gloss levels, in the profiles described in the Front Sheets.

(1) The reverse side is coated with a 2 µm lacquer coating, a 6 µm chromated epoxy coating, or the same specification as the face side.

This Detail Sheet must be read in conjunction with the Front Sheets, which describe the profiles available and give the product's position regarding the Building Regulations, Technical Specifications, Design Data and the Conditions of Certification, respectively.

Design Data

1 General

Rigidal Polyester-Coated Aluminium Alloy Profiles are suitable for use as external roofing, cladding or internal lining in accordance with the documents listed in section 13 of the Front Sheets.

2 Workability

2.1 The product may be worked by conventional techniques including 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 standard product (3105 alloy H25) can withstand a 1.5T [ECCA⁽¹⁾-T20/1992] bend through 180° without damage. Other alloys and tempers may be less flexible.

(1) European Coil Coating Association.

2.3 Some care is necessary when handling to prevent damage to the coating.

3 Properties in relation to fire



3.1 When tested to BS 476-3 : 1958, a quarry grey sample of the product had an EXT.S.AA rating.

3.2 When tested to BS 476-6 : 1968, a quarry grey sample of the product had an index of performance (I) of 1.7, and a sub-index (i₁) of 0.9. When tested to BS 476-7 : 1971, a similar

sample achieved a Class 1 result. The product, therefore, has a Class 0 or 'low risk' surface as defined in the various national Building Regulations.

3.3 These performances may not be achieved by other colours of the product and the designations of a particular colour should be confirmed by:

England and Wales — Test or assessment in accordance with Approved Document B, Appendix A, Clause 1

Scotland — Test to conform with the Table to Annex 2C⁽¹⁾ or 2E⁽²⁾ of Regulation 9

(1) Technical Handbook (Domestic).

(2) Technical Handbook (Non-Domestic).

Northern Ireland — Test or assessment by a UKAS accredited laboratory or an independent consultant with appropriate experience.

3.4 The reverse side specifications are also Class 0 or 'low risk' surfaces.

4 Location

Rigidal Polyester-Coated Aluminium Alloy Profiles are 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 are reproduced (in part) in Table 1.

Table 1 Categories — BS 8200

Category	Description	Examples
BS 8200		
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
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
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

Zone of wall up to 1.5 m above pedestrian or floor level

Bibliography

- BS 476-3 : 1958 *Fire tests on building materials and structures — External fire exposure roof test*
 BS 476-6 : 1968 *Fire tests on building materials and structures — Method of test for fire propagation for products*
 BS 476-7 : 1971 *Fire tests on building materials and structures — Surface spread of flame tests for materials*
 BS 8200 : 1985 *Code of practice for design of non-loadbearing external vertical enclosures of buildings*

5 Durability



5.1 Rigidal Polyester-Coated Aluminium Alloy Profiles will perform effectively as a cladding or roofing with an ultimate life of at least 40 years.

5.2 The performance of the coating will depend upon the colour chosen, its environment, location, aspect face and use (ie roofing or cladding) It will retain a good appearance for up to 15 years in non-corrosive environments, or for at least 10 years in coastal or severe industrial environments. Colour changes, in general, will be slight and uniform on any one elevation.

5.3 If the building has an exposed eaves detail, and is in an aggressive environment, or if there are corrosive conditions inside it, the specification of the reverse side coating should be discussed with the Certificate holder.



On behalf of the British Board of Agrément

Head of Approvals
— Materials

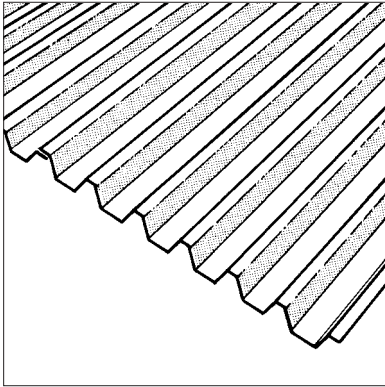
Chief Executive

Date of Second issue: 9th July 2008

**Original Detail Sheet issued 16th March 1994. This amended version included change of Certificate holder's name, and product name, revised Properties in relation to fire and Durability sections.*



Product



• THIS DETAIL SHEET RELATES TO RIGIDAL PVF₂-COATED ALUMINIUM ALLOY PROFILES.

• The product is coated on the face side⁽¹⁾ with a primer and a Class 1 polyvinylidene fluoride/acrylic paint to a total coating thickness of 25 µm and is available in a range of colours at a 35% gloss level, in the profiles described in the Front Sheets.

(1) The reverse side is coated with a 2 µm lacquer coating, a 6 µm chromated epoxy coating, or the same specification as the face side.

This Detail Sheet must be read in conjunction with the Front Sheets, which describe the profiles available and give the product's position regarding the Building Regulations, Technical Specifications, Design Data and the Conditions of Certification, respectively.

Design Data

1 General

1.1 Rigidal PVF₂-Coated Aluminium Alloy Profiles are suitable for use as external roofing, cladding or internal lining in accordance with the documents listed in section 13 of the Front Sheets.

1.2 The metallic coatings are directional. To avoid contrast, it is important to ensure that all sheets are fixed in the same (machine) direction and not inverted. Each elevation should be clad with material from the same batch.

2 Workability

2.1 The product may be worked by conventional techniques including 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 standard product (3105 alloy H25) is sufficiently flexible to withstand a 3T [ECCA⁽¹⁾-T20/1992] bend through 180° without damage. Other alloys and tempers may be less flexible.

(1) European Coil Coating Association.

2.3 Some care is necessary when handling the product to prevent damage to the coating.

3 Properties in relation to fire



3.1 When tested to BS 476-3 : 1958, an iron red sample of the product had an EXT.S.AA rating.

3.2 When tested to BS 476-6 : 1968, an iron red sample of the product had an index of performance (I) of 2.0, and a sub-index (i₁) of 1.1. When tested to BS 476-7 : 1971, a similar sample achieved a Class 1 result. The product, therefore, has a Class 0 or 'low risk' surface as defined in the various national Building Regulations.

3.3 These performances may not be achieved by other colours of the product and the designations of a particular colour should be confirmed by:

England and Wales — Test or assessment in accordance with Approved Document B, Appendix A, Clause 1

Scotland — Test to conform with the Table to Annex 2C⁽¹⁾ or 2E⁽²⁾ of Regulation 9

(1) Technical Handbook (Domestic).

(2) Technical Handbook (Non-Domestic).

Northern Ireland — Test or assessment by a UKAS accredited laboratory or an independent consultant with appropriate experience.

3.4 The reverse side specifications are also Class 0 or 'low risk' surfaces.

4 Location

Rigidal PVF₂-Coated Aluminium Alloy Profiles are 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 are reproduced (in part) in Table 1.

Table 1 Categories — BS 8200

Category	Description	Examples
BS 8200		
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
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
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

Zone of wall up to 1.5 m above pedestrian or floor level

5 Durability



5.1 Rigidal PVF₂-Coated Aluminium Alloy Profiles will perform effectively as a cladding or roofing with an ultimate life of at least 40 years.

5.2 The performance of the coating will depend upon the colour chosen, its environment, location, aspect face and use (ie roofing or cladding). It will retain a good appearance for up to 20 years in non-corrosive environments, or for at least 15 years in coastal or severe industrial environments. Colour changes, in general, will be slight and uniform on any one elevation, and may be more pronounced with colours of vermilion, golden yellow and silver metallic.

5.3 If the building has an exposed eaves detail, and is in an aggressive environment, or if there are corrosive conditions inside it, the specification of the reverse side coating should be discussed with the Certificate holder.

Bibliography

- BS 476-3 : 1958 *Fire tests on building materials and structures — External fire exposure roof test*
 BS 476-6 : 1968 *Fire tests on building materials and structures — Method of test for fire propagation for products*
 BS 476-7 : 1971 *Fire tests on building materials and structures — Surface spread of flame tests for materials*
 BS 8200 : 1985 *Code of practice for design of non-loadbearing external vertical enclosures of buildings*



On behalf of the British Board of Agrément

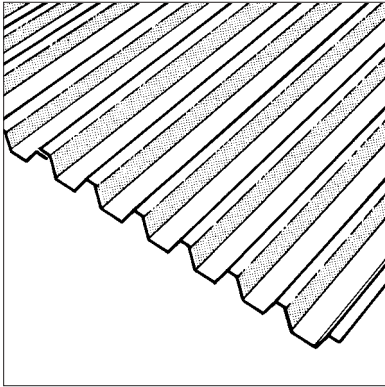
Head of Approvals
— Materials

Chief Executive

Date of Second issue: 9th July 2008

*Original Detail Sheet issued 16th March 1994. This amended version includes change of Certificate holder's name and product name, revised Properties in relation to fire and Durability sections.

Product



• THIS DETAIL SHEET RELATES TO RIGIDAL ALUMINIUM PROFILES WITH ABRASION RESISTANT COATING.

• The product is coated on the face side⁽¹⁾ with a primer and a polyamide modified polyurethane paint to a total coating thickness of 28 µm and is available in a range of colours at a 30% gloss level, in the profiles described in the Front Sheets.

(1) The reverse side is coated with a 2 µm lacquer coating, a 6 µm chromated epoxy coating, or the same specification as the face side.

This Detail Sheet must be read in conjunction with the Front Sheets, which describe the profiles available and give the product's position regarding the Building Regulations, Technical Specifications, Design Data and the Conditions of Certification, respectively.

Design Data

1 General

Rigidal Aluminium Profiles with Abrasion-Resistant Coating are suitable for use as external roofing cladding or internal lining in accordance with the documents listed in section 1.3 of the Front Sheets. The product is available in a range of colours, at 30% gloss, details of which may be obtained from the manufacturer.

2 Workability

2.1 The product may be worked by conventional techniques including 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 standard product (3105 alloy H25) can withstand a 3T [ECCA⁽¹⁾-T20/1992] bend through 180° without damage. Other alloys and tempers may be less flexible.

(1) European Coil Coating Association.

3 Properties in relation to fire



3.1 When tested to BS 476-3 : 1958, a white sample of the product had an EXT.S.AA rating.

3.2 When tested to BS 476-6 : 1968, a white sample of the product had an index of performance (I) of 0.4 and a sub-index (i₁) of 0.0. When tested to BS 476-7 : 1971, a similar sample achieved a Class 1 result. The product, therefore, has a Class 0 or 'low risk' surface as defined in the various national Building Regulations.

3.3 These performances may not be achieved by other colours of the product and the designations of a particular colour should be confirmed by:

England and Wales — Test or assessment in accordance with Approved Document B, Appendix A, Clause 1.

Scotland — Test to conform with the Table to Annex 2C⁽¹⁾ or 2E⁽²⁾ of Regulation 9

(1) Technical Handbook (Domestic).

(2) Technical Handbook (Non-Domestic).

Northern Ireland — Test or assessment by a UKAS accredited laboratory or an independent consultant with appropriate experience.

3.4 The reverse side specifications are also Class 0 or 'low risk' surfaces.

4 Location

4.1 The coating is tough and abrasion resistant, making the product suitable for use at low level in areas readily accessible to the public (eg alongside pedestrian thoroughfares and playing fields) where accidental damage is possible. These are described in category B (and less vulnerable situations) of BS 8200 : 1985, Table 2, which are reproduced (in part) in Table 1.

4.2 The impact resistance of the product is determined by the impact resistance of the aluminium on which it is based. No adhesion failure of the coating will occur although hairline cracks may occur in areas of high stress.

Table 1 Categories — BS 8200

Category BS 8200	Description	Examples
B	Readily accessible to public and others with little incentive to exercise care. Chances of accidents occurring and of misuse	Walls adjacent to pedestrian thoroughfares or playing fields when not in category A
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
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
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

Zone of wall up to 1.5 m above pedestrian or floor level

5.3 If the building has an exposed eaves detail, and is in an aggressive environment, or if there are corrosive conditions inside it, the specification of the reverse side coating should be discussed with the Certificate holder.

Bibliography

- BS 476-3 : 1958 *Fire tests on building materials and structures — External fire exposure roof test*
 BS 476-6 : 1968 *Fire tests on building materials and structures — Method of test for fire propagation for products*
 BS 476-7 : 1971 *Fire tests on building materials and structures — Surface spread of flame tests for materials*
 BS 8200 : 1985 *Code of practice for design of non-loadbearing external vertical enclosures of buildings*

5 Durability



5.1 Rigidal Aluminium Profiles with Abrasion-Resistant Coating will perform effectively as a cladding or roofing with an ultimate life of at least 40 years.

5.2 The performance of the coating will depend upon the colour chosen, its environment, location, aspect face and use (ie roofing or cladding). It will retain a good appearance for up to 20 years in non-corrosive environments. Colour changes, in general, will be slight and uniform on any one elevation, and may be more pronounced with colours of vermilion, golden yellow and silver metallic.



On behalf of the British Board of Agrément

Head of Approvals
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