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Agrément Certificate
91/2625
Product Sheet 1

ALUMINIUM ROOFLINE PRODUCTS GUTTERING SYSTEMS

MUSTANG GUTTER AND ACCESSORIES

This Agrément Certificate Product Sheet⁽¹⁾ relates to Mustang Gutter and Accessories, an eaves gutter system comprising aluminium gutter lengths, fixing hangers and ancillary items for the collection and discharge of rainwater from pitched roofs.

(1) Hereinafter referred to as 'Certificate'.

CERTIFICATION INCLUDES:

- factors relating to compliance with Building Regulations where applicable
- factors relating to additional non-regulatory information where applicable
- independently verified technical specification
- assessment criteria and technical investigations
- design considerations
- installation guidance
- regular surveillance of production
- formal three-yearly review.



KEY FACTORS ASSESSED

Resistance to loading — the gutter system has adequate resistance to the likely loads anticipated in general use (see section 7).

Flow characteristics — the gutter system provides adequate flow capacities (see section 8).

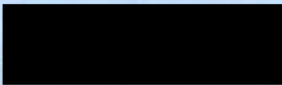
Durability — the gutter system will have a life expectancy of at least 30 years (see section 10).

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

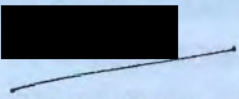
On behalf of the British Board of Agrément

Date of First issue: 17 December 2013

Originally certificated on 27 March 1991


Brian Chamberlain

Head of Approvals — Engineering


Claire Curtis-Thomas

Chief Executive

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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Regulations

In the opinion of the BBA, Mustang Gutter and Accessories, if installed, used and maintained in accordance with this Certificate, will meet or contribute to meeting the relevant requirements of the following Building Regulations (the presence of a UK map indicates that the subject is related to the Building Regulations in the region or regions of the UK depicted):



The Building Regulations 2010 (England and Wales) (as amended)

| | | |
|--------------|----|--|
| Requirement: | H3 | Rainwater drainage |
| Comment: | | The gutter and accessories will contribute to carrying the flow of rainwater from the roof to an outfall and minimise the risk of blockage or leakage. See sections 4.1, 6, 7 and 8 of this Certificate. |
| Requirement: | 7 | Materials and workmanship |
| Comment: | | The gutter and accessories are acceptable. See section 10.1 of this Certificate. |



The Building (Scotland) Regulations 2004 (as amended)

| | | |
|-------------|-----------|--|
| Regulation: | 8(1)(2) | Fitness and durability of materials and workmanship |
| Comment: | | The gutter and accessories are acceptable. See sections 9.1, 9.2 and 10.1 and the <i>Installation</i> part of this Certificate. |
| Regulation: | 9 | Building standards applicable to construction |
| Standard: | 3.6 | Surface water drainage |
| Comment: | | The gutter and accessories will contribute to meeting this Standard, with reference to 3.6.1 ⁽¹⁾⁽²⁾ . See sections 4.1, 6, 7 and 8 of this Certificate. |
| Standard: | 7.1(a)(b) | Statement of sustainability |
| Comment: | | The system can contribute to meeting the relevant requirements of Regulation 9, Standards 1 to 6, and, therefore, will contribute to a construction meeting a bronze level of sustainability as defined in this Standard. |
| Regulation: | 12 | Building standards applicable to conversions |
| Comment: | | All comments given for this system under Regulation 9, Standards 1 to 6, 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) 2012

| | | |
|-------------|------------------|--|
| Regulation: | 23(a)(i)(iii)(b) | Fitness of materials and workmanship |
| Comment: | | The gutter and accessories are acceptable. See section 10.1 of this Certificate. |
| Regulation: | 82 | Rainwater drainage |
| Comment: | | The gutter and accessories contribute to meeting the relevant requirements of this Regulation. See sections 4.1, 6, 7 and 8 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* (3.1) of this Certificate.

Additional Information

NHBC Standards 2013

NHBC accepts the use of Mustang Gutter and Accessories, provided they are installed, used and maintained in accordance with this Certificate, in relation to *NHBC Standards*, Chapter 7.2 *Pitched Roofs D15 Roof Drainage*.

Technical Specification

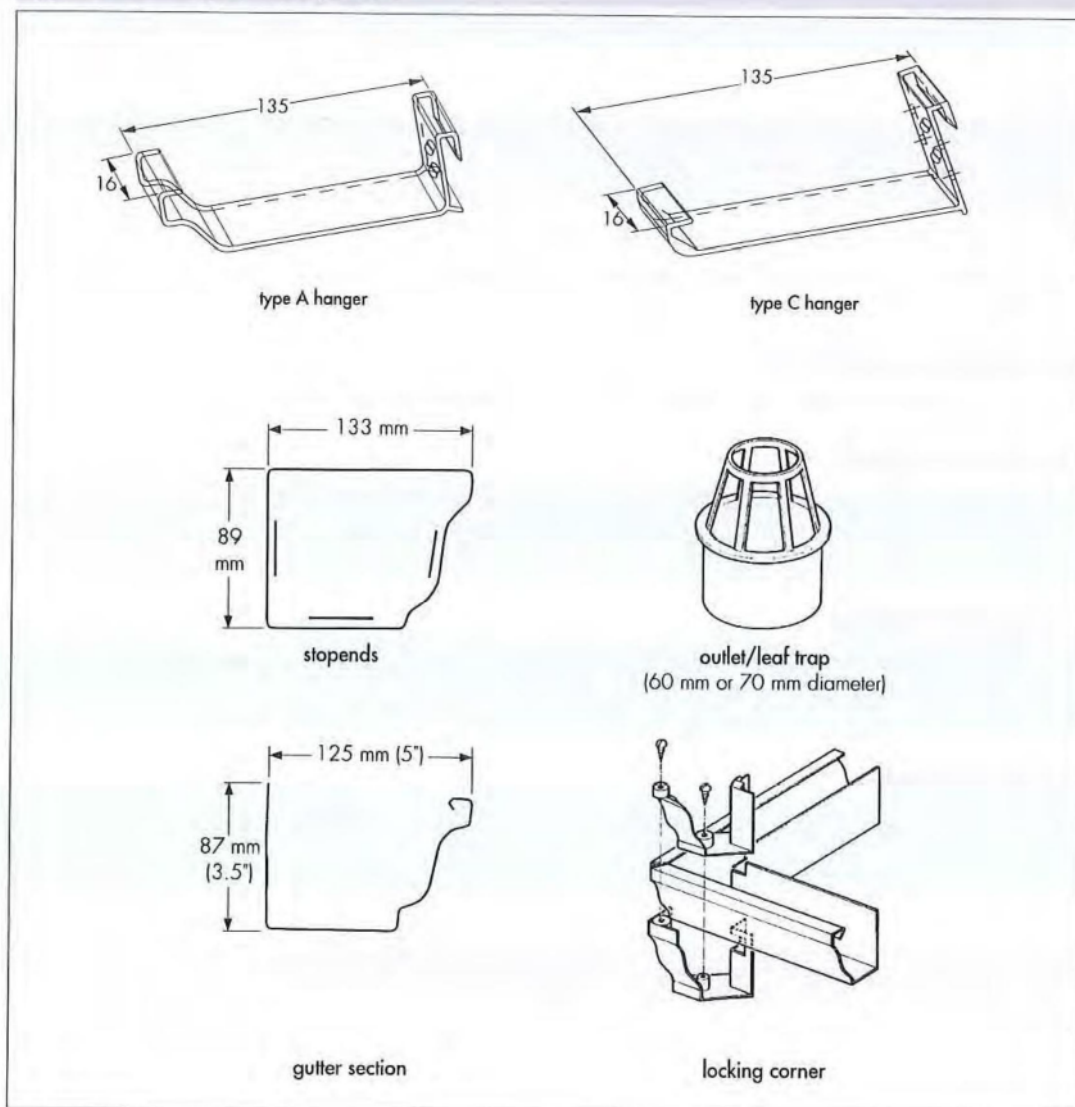
1 Description

1.1 Mustang Gutter and Accessories comprise an eaves guttering system with the components given in Table 1 and shown Figure 1.

Table 1 Mustang gutter system components

| Component | Specification |
|--|---|
| Gutter | 0.9 mm thick, 125 mm wide by 87 mm deep aluminium ogee profile available in lengths of up to 30 metres. The aluminium is coated with 25 µm total thickness either; primer/ polyester; primer/polyvinylidene fluoride/ acrylic or primer/ polyamide-modified polyester (refer to BBA Certificate 93/2918 Product Sheets 1, 2 and 3). Colours available are black, brown, grey, white or cream. |
| Fixing hangers | 2.5 mm thick by 16 mm wide extruded mill finish aluminium (H19T6) secured using stainless steel screws. |
| Stop ends | Polycarbonate, snap fit to gutter end and sealed. Colours available are black, brown, grey, white or cream. |
| Outlets/leaf traps | 60 mm or 70 mm diameter, low-density polyethylene (LDPE), with UV stabilisers, fixed through pre-formed hole and sealed. |
| Locking corners and connector/expansion joints | Two-part polycarbonate fittings sealed and fastened with stainless steel screws. Colours available are black, brown, grey, white or cream. |
| Sealant | Silicone sealant for use between gutter joints, end caps, outlets and corner pieces. |

Figure 1 Gutter system components



1.2 Ancillary items used with the system, but outside the scope of this Certificate are:

- stainless steel screws — M4 x 40 mm long A2 stainless steel.

2 Manufacture

2.1 The gutter is manufactured on-site by roll-forming continuous lengths from coated aluminium coil pre-cut to width. The fixing support brackets, stop ends, outlets, locking corners and connector/expansion joints are bought in to an agreed specification.

2.2 As part of the assessment and ongoing surveillance of product quality, the BBA has:

- agreed with the manufacturer the quality control procedures and product testing to be undertaken
- assessed and agreed the quality control operated over batches of incoming materials
- monitored the production process and verified that it is in accordance with the documented process
- evaluated the process for management of nonconformities
- checked that equipment has been properly tested and calibrated
- undertaken to carry out the above measures on a regular basis through a surveillance process, to verify that the specifications and quality control operated by the manufacturer are being maintained.

3 Delivery and site handling

3.1 Mustang gutter runs are produced on site from a roll forming machine that forms the pre-coated aluminium coil into the predetermined ogee shape.

3.2 Components of the system are bubble-wrapped, separated with paper, boxed and labelled.

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on the Mustang Gutter and Accessories.

Design Considerations

4 General



4.1 Mustang Gutter and Accessories are suitable for use as eaves guttering for conveying rainwater from pitched roofs to suitable outlets. It is important to ensure the fascia board or fixing background is in good and secure condition.

4.2 The gutter is for use with downpipe and fittings complying with BS EN 12200-1 : 2000 and BS EN 1462 : 2004.

4.3 Slight undulation in the external face of the gutter may be evident, particularly if the facing is uneven or where dark-coloured gutters are exposed to direct sunlight. This will not affect the serviceability of the gutter.

5 Practicability of installation

The system should only be installed by installers who have been trained and approved by the Certificate holder.

6 Performance of joints



Joints between adjacent gutter sections made in accordance with this Certificate are watertight under conditions of thermal movement in excess of those expected to occur in practice.

7 Resistance to loading



The gutter system has adequate resistance to impacts and snow, water and other loads likely to occur during and after installation.

8 Flow characteristics



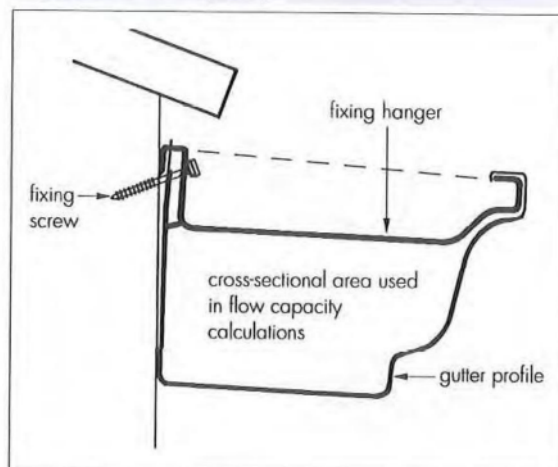
The flow capacities, when calculated in accordance with BS EN 12056-3 : 2000, are given in Table 2.

Table 2 Free flow capacities (based on BS EN 12056-3 : 2000)

| Component | Flow capacity (litres per second) |
|-----------------------|--------------------------------------|
| Gutter ⁽¹⁾ | 2.33 |
| Outlet | |
| 60 mm | 1.56 |
| 70 mm | 2.12 |

(1) Section properties based on Figure 2.

Figure 2 Flow capacity



9 Maintenance



9.1 The gutter can be cleared readily of debris (eg leaf litter).

9.2 Installed correctly, the gutter joints will be maintenance free. However, if accidentally damaged, joints can be replaced or slackened, resealed and re-assembled.

9.3 Where the gutter is damaged along the length in the centre position, the damaged portion can be removed and a new length inserted by the use of the connector/expansion joints.

10 Durability



10.1 The gutter system will have a life expectancy of at least 30 years.

10.2 The performance of the coatings will depend upon the specification⁽¹⁾, colour chosen, its environment, location and aspect face. It will retain a good appearance for at least 15 years in non-corrosive environments, and at least 10 years in severe industrial environments.

(1) see BBA Certificate 93/2918 Product Sheets 1,2 and 3 for specific coating durability statements.

11 Reuse and recyclability

The system comprises aluminium that can be readily recycled.

Installation

12 General

12.1 Installation must be carried out by approved installers trained by the Certificate holder. The installation must be in accordance with BS EN 12056-3 : 2000 when applicable.

12.2 The system is fabricated on site to the specification for the particular installation.

13 Procedure

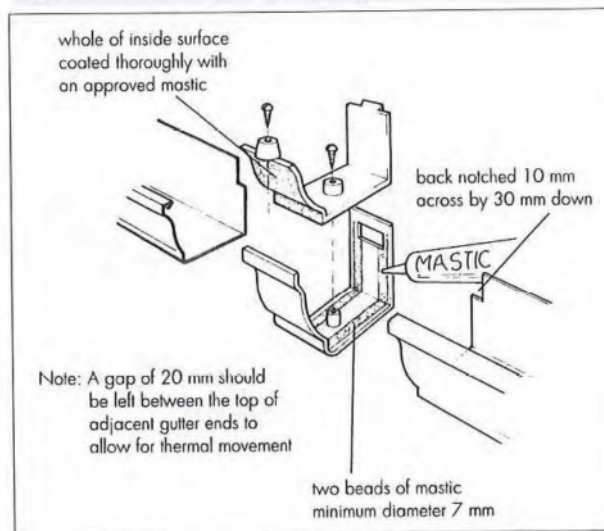
13.1 Downpipes are positioned and marks corresponding to their centres are made on the fascia board. An exact measurement is taken of the length of gutter required, noting the marked positions of the downpipes. An initial 1 m length of the gutter section is roll-formed and the process stopped for an end cap to be fitted. Silicone sealant is used to seal the joint and roll-forming to the exact gutter length is completed. Aluminium fixing hangers are clipped into position at centres not exceeding 450 mm as roll-forming is continued. The formed gutter is cut to length and a stop end fitted to the remaining open end.

13.2 Corners are formed by mitring the ends of the gutter lengths and the installation of a two-piece polycarbonate locking corner fitting sealed with silicone sealant and held together with stainless steel screws.

13.3 Provision for expansion to take place is necessary in gutters of 30 m and over. Connector/ expansion joints are installed in the same manner as the corner fittings (see Figure 3).

13.4 At the downpipe positions in the gutter, a hole is formed using a tank cutter, into which a low-density polyethylene (LDPE) outlet/leaf trap is fitted and silicone sealed. The gutter is positioned and fixed with stainless steel screws in accordance with the recommendations of the Certificate holder. The screws are located in the pre-drilled holes in the fixing hangers and driven through the back of the gutter into the fascia.

Figure 3 Connector/expansion joint



Technical Investigations

14 Tests

14.1 Tests were carried out to determine:

- watertightness of joints
- resistance of gutter to loading
- performance of expansion joints
- effect of temperature on 30 m length of gutter.

14.2 An examination was made of data in relation to:

- impact resistance
- dimensional accuracy
- flow capacity
- ease of cleaning
- thermal movement.

15 Investigations

15.1 The manufacturing process was examined, including the methods adopted for quality control, and details were obtained of the quality and composition of the materials used.

15.2 Site visits were carried out to assess the practicability of installation and the performance in use.

Bibliography

BS EN 1462 : 2004 *Brackets for eaves gutters — Requirements and testing*

BS EN 12056-3 : 2000 *Gravity drainage systems inside buildings — Roof drainage, layout and calculation*

BS EN 12200-1 : 2000 *Plastics rainwater piping systems for above ground external use — Unplasticized poly(vinyl chloride) (PVC-U) — Specifications for pipes, fittings and the system*

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 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.

16.2 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.

16.3 This Certificate will remain valid for an unlimited period provided that the product/system and its manufacture and/or fabrication, including all related and relevant parts and processes thereof:

- are maintained at or above the levels which have been assessed and found to be satisfactory by the BBA
- continue to be checked as and when deemed appropriate by the BBA under arrangements that it will determine
- are reviewed by the BBA as and when it considers appropriate.

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

16.5 In issuing this Certificate, the BBA is not responsible and is excluded from any liability to any company, firm, organisation or person, for any matters arising directly or indirectly from:

- the presence or absence of any patent, intellectual property or similar rights subsisting in the product/system or any other product/system
- the right of the Certificate holder to manufacture, supply, install, maintain or market the product/system
- actual installations of the product/system, including their nature, design, methods, performance, workmanship and maintenance;
- any works and constructions in which the product/system is installed, including their nature, design, methods, performance, workmanship and maintenance
- any loss or damage, including personal injury, howsoever caused by the product/system, including its manufacture, supply, installation, use, maintenance and removal.
- any claims by the manufacturer relating to CE marking.

16.6 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.