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**Agrément
 Certificate
 No 91/2625**
*Fourth issue**

Designated by Government
 to issue
 European Technical
 Approvals

MUSTANG GUTTER AND ACCESSORIES

Systèmes de gouttière
 Dachrinnesysteme

Product



• THIS CERTIFICATE RELATES TO MUSTANG⁽¹⁾ GUTTER AND ACCESSORIES: ALUMINIUM GUTTER LENGTHS AVAILABLE IN ONE SHAPE, CORNERS, STOPENDS, FIXING BRACKETS, EXPANSION JOINTS AND OUTLETS/LEAF GUARDS.


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

• The gutter and accessories, in conjunction with downpipe and fittings to BS EN 12200-1 : 2000, are for the collection and discharge of rainwater from roofs.

(1) Mustang is a registered trademark of Aluminium Roofline Products Limited.


Regulations

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

 The Secretary of State has agreed with the British Board of Agrément the aspects of performance used by the BBA in assessing the compliance of drainage systems with the Building Regulations. In the opinion of the BBA, Mustang Gutter and Accessories, if used in accordance with the provisions of this Certificate, will meet the relevant requirements.

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 7.1 and 10 of this Certificate.
Requirement:	Regulation 7	Materials and workmanship
Comment:		The gutter and accessories are acceptable. See sections 8, 9 and 13 of this Certificate.

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

 In the opinion of the BBA, Mustang Gutter and Accessories, if used in accordance with the provisions of this Certificate, will satisfy the various Regulations and Technical Standards listed below.

Regulation:	10	Fitness of materials and workmanship
Standard:	B2	Selection and use of materials, fittings, and components, and workmanship
Comment:		The gutter and accessories are acceptable. See sections 8, 9 and 13 of this Certificate.
Regulation:	24	Drainage
Standard:	M2	Drainage
Comment:		The gutter and accessories are acceptable. See sections 7.1 and 10 of this Certificate.

3 The Building Regulations (Northern Ireland) 2000



In the opinion of the BBA, Mustang Gutter and Accessories, if used in accordance with the provisions of this Certificate, will satisfy the various Building Regulations listed below.

Regulation: B2	Fitness of materials and workmanship
Comment:	The gutter and accessories are acceptable. See sections 8, 9 and 13 of this Certificate.
Regulation: N5	Rain-water drainage
Comment:	The gutter and accessories will contribute to meeting the relevant requirements of this Regulation. See sections 7.1 and 10 of this Certificate.

4 Construction (Design and Management) Regulations 1994 (as amended)

Construction (Design and Management) Regulations (Northern Ireland) 1995 (as amended)

In the opinion of the BBA there is no information in this Certificate which relates to the obligations of the client, planning supervisor, designer and contractors under these Regulations.

Technical Specification

5 Description

5.1 Mustang Gutter and Accessories comprise the items listed in Table 1 and shown in Figure 1.

Table 1 Mustang gutter system components

Component	Specification
Gutter	Manufactured from 0.9 mm thick Hydrocoat 800 textured aluminium coil and available in black, brown, white, green or cream.
Fixing brackets	Extruded in mill finish aluminium HE9T6 16 mm wide by 2.5 mm thick, secured with stainless steel fixings.
Stopends	Manufactured from polycarbonate and available in black, brown, white, green or cream.
Outlets/leaf traps	Low-density polyethylene.
Locking corners and connector/expansion joints	Two-part fittings in polycarbonate with two fixing screws.
Sealant	Mustang Mustseal supplied by the Certificate holder.

5.2 The gutter is of ogee section 125 mm wide by 87 mm deep (see Figure 1).

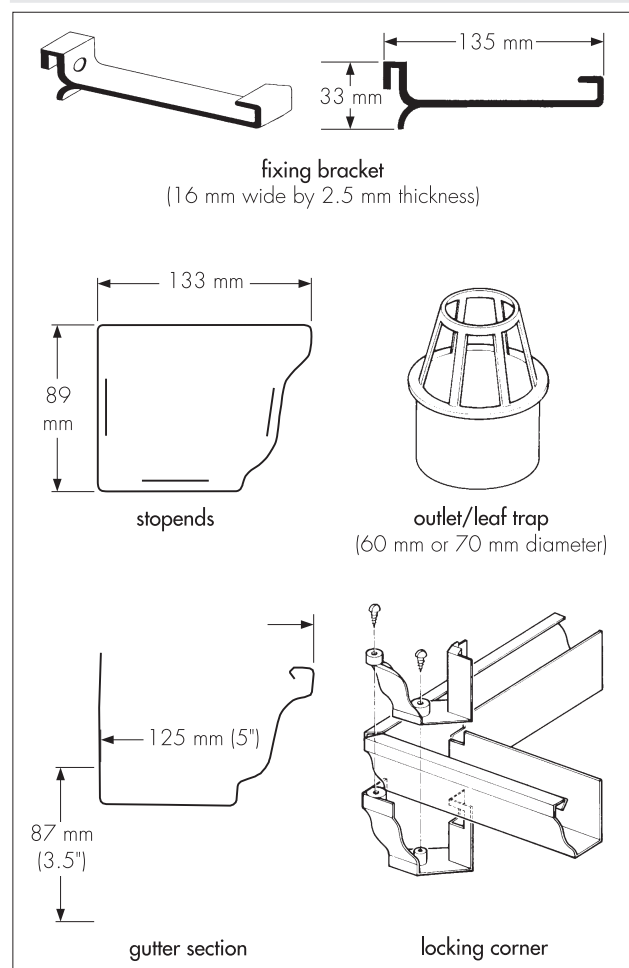
5.3 Joints between lengths of gutter and end caps, outlets and corner pieces are sealed with Mustang Mustseal, supplied by Aluminium Roofline Products Limited.

6 Manufacture

6.1 The gutter is manufactured on site by roll-forming continuous lengths from Hydrocoat 800 aluminium coil pre-cut to width. Fixing brackets are factory-made using conventional metalworking techniques. Stopends, outlets/leaf traps, locking corners and connector/expansion joints are bought in to an agreed specification.

6.2 The quality of the roll-formed gutter is controlled on site by visual and dimensional checks and by correct maintenance of the roll-forming equipment by trained operatives. Factory-made components are subject to visual and dimensional checks.

Figure 1 Gutter system components



Design Data

7 General



7.1 Mustang Gutter and Accessories are suitable for use as eaves guttering for conveying rainwater from roofs to suitable outlets. It is important to ensure that the fascia board or fixing background is in a sound condition.

7.2 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.

8 Performance of joints



Correctly-made joints between adjacent gutter sections are watertight under conditions of thermal movement in excess of those expected to occur in practice.

9 Resistance to loading



The systems have adequate resistance to impacts and snow, water and other loads likely to occur during and after installation.

10 Flow characteristics



The flow capacities, when calculated in accordance with BS EN 12056-3 : 2000, Clause 5 are given in Table 2.

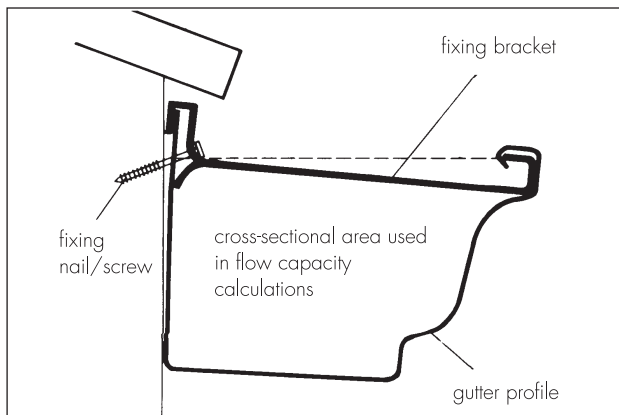
Table 2 Freeflow capacities
(based on BS EN 12056-3 : 2000)

	Flow capacity (litres per second)
Gutter ⁽¹⁾	1.99
Outlet ⁽²⁾	1.05

(1) Section properties based on Figure 2.

(2) Assuming 50 mm diameter outlet.

Figure 2 Flow capacity



11 Practicability of installation

Installation of the gutter and accessories is achieved easily by suitably-trained personnel under normal site conditions (see section 14).

12 Maintenance

12.1 Installed correctly, the joints will be maintenance free; however, if accidentally damaged they can be replaced or slackened, resealed and reassembled.

12.2 If the centre position of a long length of gutter is damaged, the damaged portion can be removed and a new length inserted by the use of the connector/expansion joints.

12.3 The gutter can be cleared easily of debris, etc.

13 Durability



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

Installation

14 General

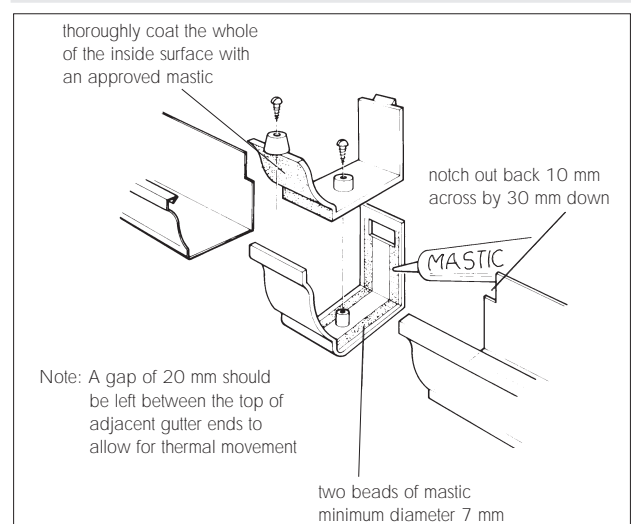
Installation must be carried out by approved installers trained by the Certificate holder. The installation must be in accordance with BS EN 12056-3 : 2000 when applicable.

15 Procedure

15.1 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 to the open end. The gutter is crimped centrally near the edge of the rear, front and base to create raised fixing nibs. The end cap is pressed home causing the internal slotted securing clips to fully engage over the fixing nib, ensuring a non-removable fitting. The completed fitting is sealed inside the gutter with at least three beads of the sealant, minimum diameter 7 mm. Roll-forming to the exact gutter length is completed.

15.2 Aluminium fixing brackets are clipped into position at centres not exceeding 450 mm as roll-forming is continued. The formed gutter is cut to length and a stopend fitted to the remaining open end. Corners are formed by mitring the ends of the gutter lengths and the installation of a two-piece polycarbonate locking corner fitting, sealed with mastic and held together with stainless steel screws. Connector expansion joints are installed in the same manner (see Figure 3). The corners and connectors do not require mechanical fixing and allow for thermal movement. At the downpipe positions in the gutter a hole is formed using a tank cutter, into which a low-density polyethylene outlet/leaf trap is fitted and sealed with mastic. The gutter is positioned and fixed with 3.75 mm diameter, 30 mm long stainless steel ring-shank nails or M4 by 40 mm stainless steel, self-tapping screws, in accordance with the recommendations of the Certificate holder. The fixings are located in pre-drilled holes in the fixing brackets and driven through the back of the gutter into the fascia.

Figure 3 Connector/expansion joint



15.3 It is necessary to make provision for expansion to take place in gutters over 30 m long. This is achieved by fitting connector/expansion joints as shown in Figure 3.

Technical Investigations

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

16 Tests

16.1 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.

16.2 An examination was made of data in relation to the following:

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

17 Other investigations

17.1 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.

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

Bibliography

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

18 Conditions

18.1 This Certificate:

- (a) relates only to the product that is described, installed, used and maintained as set out in this Certificate;
- (b) is granted only to the company, firm or person identified on the front cover — no other company, firm or person may hold or claim any entitlement to this Certificate;
- (c) has to be read, considered and used as a whole document — it may be misleading and will be incomplete to be selective;

(d) is copyright of the BBA.

18.2 References in this Certificate to any Act of Parliament, Regulation made thereunder, Directive or Regulation of the European Union, Statutory Instrument, Code of Practice, British Standard, manufacturers' instructions or similar publication, shall be construed as references to such publication in the form in which it was current at the date of this Certificate.

18.3 This Certificate will remain valid for an unlimited period provided that the product and the manufacture and/or fabricating process(es) thereof:

- (a) are maintained at or above the levels which have been assessed and found to be satisfactory by the BBA;
- (b) continue to be checked by the BBA or its agents; and
- (c) are reviewed by the BBA as and when it considers appropriate.

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

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

18.5 Any recommendations relating to the use or installation 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, common law or other duty which may 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, 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 installation and use of this product.



In the opinion of the British Board of Agrément, Mustang Gutter and Accessories are fit for their intended use provided they are installed, used and maintained as set out in this Certificate. Certificate No 91/2625 is accordingly awarded to Aluminium Roofline Products Limited.

On behalf of the British Board of Agrément

A handwritten signature in black ink, appearing to read 'P. Q. Newman'.

Date of Fourth issue: 19th June 2002

Chief Executive

**Original Certificate issued on 27th March 1991. This amended version includes a change to the Certificate holder's name and address and reference to the revised Building Regulations and Standards.*