sharmans
gutter & roof refurbishment systems

HD Sharman Ltd
High Peak Works
Chapel-en-le-frith
High Peak
SK23 0HW

01/01/2020

Dear Sir/Madam,

Plygene Gutterline Product Guarantee

Guarantee Certificate	0000
Invoice Number	123456
Order Number	123456
Site Address	HD Sharman Ltd High Peak Works Chapel-en-le-frith High Peak SK23 0HW

Further to your recent order, we now take pleasure in enclosing the Plygene Gutterline Product Guarantee for the above project.

We also enclose copies of the Maintenance Statement and BBA Certificate for your record purposes.

This guarantee is only valid from the date the goods are paid for in full.

Yours faithfully,

Garath Buckingham

Mr. Garath Buckingham
Technical Director

Plygene Gutterline

Providing permanent gutter leak prevention

25-year Guarantee

Certificate number: 0000

Project address:

HD Sharman Ltd
High Peak Works
Chapel-en-le-frith
High Peak
SK23 0HW

BBA APPROVAL INSPECTION TESTING CERTIFICATION

NFRC LEADING ROOFING EXCELLENCE

hdsharman.co.uk

sharmans
gutter & roof refurbishment systems

Product Guarantee

Beneficiary: The Trained Contractor and any other person who is entitled to the benefit of this guarantee in accordance with clause 6.2 of the Terms	HD Sharman Ltd
Installation Address:	HD Sharman Ltd High Peak Works Chapel-en-le-frith High Peak SK23 0HW
Product:	Plygene Gutterline System
Installation Completion Date confirmed by you:	01/01/2020
Guarantee Number:	0000
Guarantee Period:	25 years from the Installation Completion Date
Guarantee	Subject to the Terms (as defined below), HD Sharman Limited guarantees that, during the Guarantee Period, the system will provide a watertight lining to existing gutters.

This page and the terms and conditions set out overleaf and attached, where applicable (together, the **"Terms"**) are the terms and conditions of HD Sharman Limited's Guarantee for the Product.

Please read the Terms carefully. **Please note that the Guarantee will not be valid, and you will not be able to make a claim under it, unless you have complied with the Terms.**

Signed for and on behalf of HD Sharman Limited Garath Buckingham Garath Buckingham	By signing here: You confirm that you have installed the system in accordance with the relevant system specifications.

Maintenance guide

Plygene® Gutterline when installed to our recommendations will give a long and trouble-free life.

To enable the installation to carry on performing as when first installed, we suggest the following maintenance guide is followed:

1. Soft soled footwear should be worn when inspecting Plygene Gutterline installations.
2. Every 12 months or sooner, clean out the gutter using a soft brush. (**Do not use a spade or shovel**).
3. Inspect the outlets, and, if fitted, the moulded accessories to ensure there are no blockages.
4. Check the lining is still secured well up under the roof sheets. (Cladding).
5. When maintenance is being carried out, care should be taken, as the Plygene Gutterline can become slippery under certain conditions.
6. Care should also be taken when maintaining equipment fitted on the roof. Any sharp object i.e. screws/pop rivet mandrells, should be immediately removed from the gutter liner, otherwise if trodden on could perforate the liner.
7. If extensive work is to be carried out on the roof, then the gutter liners should be protected by boards.
8. If the liner is damaged, this can be readily repaired by an experienced operative trained in the hot air welding process, using an approved repair kit supplied direct from our works. Fully trained contractors can also be called upon if required.

HD Sharman Ltd.
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High Peak, Derbyshire
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sharmans plygene® gutterline

HD Sharman Ltd. Registered in England No. 945570 | VAT No. 511-5113-06.

Health and safety information

Product: Plygene® Gutterline.

Manufacturer: HD Sharman Ltd.

1. **Trade name**
   Plygene Gutterline.

2. **Manufacturer**
   HD Sharman Ltd.

3. **Product appearances**
   Plygene Gutterline is a flexible sheet material nominally 1.5mm thick and black in colour.

4. **Product composition**
   Blended ethylene thermo plastic sheeting.

5. **Product approved uses**
   Specifically manufactured for lining rainwater gutters.

6. **Physical data**
   Melting point: 110+ degrees C.
   Product stable at ambient temperatures.

7. **Storage and handling**
   Avoid build up of static electricity and formation of dust during transfer to metallic installations.

   Decomposition products: Above 260 degrees centigrade formation of acetic acid and carbon monoxide.

   Individual protective measures: Gloves and protective clothing should be worn when heating material and fitting liner.

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8. **Fire and explosion data**
   Auto ignition temperature: 350 degrees C.
   Special fire or explosion hazards: Thermal decompositon by oxidation gives small quantities of carbon oxides, hydrocarbon derivatives, acetic acid and carbon monoxide.
   Extinction: Water, foam, carbon dioxide, halons.
   Particular measures during fire fighting: self contained breathing apparatus..

9. **Health hazards and effects**
   Toxicological information: This polymer product may be considered as non-irritating to the skin and eyes and practically non-harmful. Thermal decomposition gives vapours which could be irritating to the skin and mucous membranes.

10. **First aid/emergency procedures**
    In the case of burns by not molten resin, wash immediately with plenty of cold water for 10 mins. Do not remove resin, but peel off with mineral oil when cool. Seek medical advice.
    Inhalation of decomposition products: Remove to fresh air. Seek medical advice.

11. **Special precautions – for waste disposal**
    Do not dispose of into sewers or in the environment. To be disposed of in accordance with appropriate local legislation.

12. **Specific data**
    Transport – not classified.

Construction (design and management) Regulations 2015
Health and safety requirements

Statement from HD Sharman Ltd. – Plygene® Gutterline

Guarantee

We have a 25 year guarantee which is **for the material only** and does not include the fitting of the liner or any mechanical damage to it. Mechanical damage can be repaired using a weld patch and hot air, welded in situ (see technical sheet ref GSW1A/1B).

Life expectancy

The material will last a minimum of 35 years and the system is fully approved by the British Board of Agrément. (See certificate attached ref 00/3718).

COSHH issues

The material is not hazardous to health at the time of supply or after installation and will not react with any other substance. There are no hazards associated with dismantling the system. In case of fire and thermal decomposition, self-contained breathing apparatus is recommended.

Stability/performance/appearance

The material is thermoplastic, i.e. relaxes with the heat and tightens with the cold. This does not affect the performance in any way. It is possible that the liner may fade in colour over a period of time. These factors do not affect the guarantee.

Installation

Failure to install the material securely will affect performance. The material must be trapped by cappings, flashings, eaves angles, existing roofing materials, etc. (as per recommendations).

Cleaning/maintenance

To ensure that the material will carry on performing from when it is first installed, we suggest that periodic cleaning and inspections are carried out (see maintenance guide attached).

Extending the installation

There are no issues or hazards with extending or adding to the material as long as this is undertaken following our fitting recommendations ensuring a correct fix and seal. Material must be clean, dry and free from oils and silicones. Cleaning instructions must be followed (see maintenance guide) and welding recommendations must be adhered to (see technical sheet ref GSW1A/1B).

Recycling

The material can be commercially recycled. However, we do not provide a recycling service.

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BBA APPROVAL INSPECTION TESTING CERTIFICATION
TECHNICAL APPROVALS FOR CONSTRUCTION

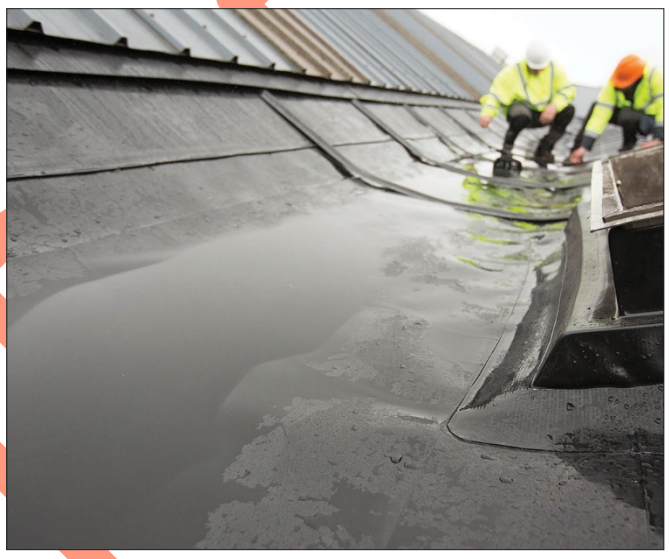
Agrément Certificate
00/3718
Product Sheet 1

HD SHARMAN ROOFING PRODUCTS

PLYGENE GUTTERLINE

This Agrément Certificate Product Sheet(1) relates to Plygene(2) Gutterline, a watertight thermoplastic membrane system for relining existing gutters.

(1) Hereinafter referred to as 'Certificate'.
(2) Plygene is a registered trademark.



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 system will form a watertight barrier in existing gutters (see section 6).

Resistance to mechanical damage — the system is robust and is unlikely to be damaged by normal site handling (see section 8).

Durability — under normal conditions, the system will provide a watertight lining to existing gutters, with a service life expectancy of at least 25 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 Second issue: 20 November 2018

Originally certificated on 15 May 2000

John Albon — Head of Approvals
Construction Products

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.

Any photographs are for illustrative purposes only, do not constitute advice and should not be relied upon.

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tel: 01923 665300
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www.bbacerts.co.uk

Regulations

In the opinion of the BBA, the use of Plygene Gutterline is not subject to the national Building Regulations.

Construction (Design and Management) Regulations 2015

Construction (Design and Management) Regulations (Northern Ireland) 2016

Information in this Certificate may assist the client, designer (including Principal Designer) and contractor (including Principal Contractor) to address their obligations under these Regulations.

See section: 3 *Delivery and site handling* (3.2) of this Certificate.

Technical Specification

1 Description

1.1 Plygene Gutterline is a flexible waterproof membrane system, preformed to fit into existing gutters. Installation is completed using standard outlets and stop end plates, or preformed outlet details hot-air welded to the main membrane in situ.

1.2 The Gutterline membrane is formed from thermoplastic polyolefin (Rubberised Plygene),1.5 mm thick.

1.3 Accessories used with the main Gutterline membrane are:

- standard outlets — PVC-U, used to form waterproof terminations of the liner at downpipes
- moulded outlet components — moulded components incorporating an outlet, which are hot-air welded to the liner in situ
- stop end plates — 4.5 mm thick, high-density polyethylene blank sheet, cut from a template and used to secure the ends of the liner
- custom-made corners and outlets — made from thermoplastic polyolefin with a lower softening point compared to the liner, and subsequently hot-air welded to the liner in situ
- plastisol-coated galvanized steel profiles — to secure the front edge of the liner to the existing gutter
- Boundary Sealing Kit — strips of fabric-reinforced rubberised bitumen and plastisol-coated steel, used to form a termination of the liner where the liner does not extend to the whole length of the existing gutter (eg at the boundary of a terraced property) or at the open end of a gutter
- high penetration primer — for use on porous gutter substrates to enhance the adhesion of the Boundary Sealing Kit
- Transition Joint Sealing Kit — for sealing the membrane to existing aluminium liner at the boundary of a terraced property
- Joint Sealing Kit — similar to the Boundary Sealing Kit, used to join membranes where the preferred hot-air welding method is not available
- Plygene-covered metal hold-down straps — designed to provide resistance to wind uplift and installed at intervals across the width of the gutter
- Gutterbond Polyurethane Sealant — for general-purpose use, for example, sealing outer thimbles in gutters and flashings against walls (see section 11.3)
- proprietary hole cutters — for use at downpipe outlets
- Weldstrap — for fabrication and repairs using hot-air welding.

2 Manufacture

2.1 The Certificate holder designs the system for each proposed installation using the dimensions and site details provided by the client, including:

- total length of gutter
- gutter inside width and profile detail
- number and diameter of downpipe outlets
- number of termination points
- number and dimensions of internal and external corners
- number and diameter of vent pipes
- sketch plan of the entire gutter.

2.2 The Certificate holder produces a prototype Gutterline section, pre-creased to the client's specification. If the client accepts the prototype, the membrane is produced to this design.

2.3 The Gutterline membrane is produced by an extrusion process to a thickness of 1.5 mm. The membrane is cut to length and creased longitudinally to fit the client's specification.

2.4 Moulds for corner details are constructed in-house and used as templates for producing vacuum-formed units made from thermoplastic polymer.

2.5 The membrane is checked during production for thickness and crease depth.

3 Delivery and site handling

3.1 Each customer order is assembled and packaged individually using boxes, polythene wrapping and strap banding.

3.2 The Certificate holder has taken the responsibility of classifying and labelling the system components under the *CLP Regulation (EC) No 1272/2008 on the classification, labelling and packaging of substances and mixtures*. Users must refer to the relevant Safety Data Sheet(s).

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Plygene Gutterline.

Design Considerations

4 Use

Plygene Gutterline is satisfactory for use as a waterproof lining membrane system in existing concrete, fibre-cement (excluding asbestos-cement), aluminium, cast iron, steel and wooden gutters.

5 Practicability of installation

The system is designed to be installed by competent roofing contractors, experienced with this type of system. Where custom-made moulded details are to be installed, installers must have experience of hot-air welding. Training and instruction is available from the Certificate holder.

6 Weathertightness

6.1 The system will form a watertight barrier in existing gutters.

6.2 The lining membrane is flexible and, provided that it is mechanically anchored as described in this Certificate, will accommodate movements in the structure caused by changes in temperature.

7 Performance of joints

7.1 Wherever possible joints should be formed by hot-air welding. Preformed corner units are hot-air welded directly to Gutterline. Joints formed between two Gutterline membranes should be made using an overbanding strip of Weldstrap.

7.2 Where hot-air welding is not possible, joints should be formed using a Joint Sealing Kit. This kit uses bitumen strips as the sealing medium and the joint is mechanically secured to the gutter using screw fixings.

7.3 The mechanical securing of the joint to the gutter is necessary to adequately resist the thermal expansion and contraction of the liner (see also Figures 2 and 3).

8 Resistance to mechanical damage

The membrane is robust and is unlikely to be damaged by normal site handling. However, contact with sharp objects may result in puncture damage to the membrane. Such damage must be repaired using hot-air overbanding with Weldstrap.

9 Maintenance

9.1 Routine inspections of the gutter and fixings, and periodic cleaning, should be continued after installation. The use of sharp objects which may abrade or puncture the liner must be avoided.

9.2 If repairs to the liner are necessary, these can be achieved by the hot-air welding of patches of Weldstrap.

10 Durability

Under normal conditions, the system will have a service life of at least 25 years.

Installation

11 General

11.1 If installation is being carried out in hot weather, care must be taken not to pull the liner tight during fixing, as this places undue stress on the liner and fixings during cold weather.

11.2 Care should be exercised when drilling into concrete gutters. To minimise any damage or spalling to the concrete a percussion drill should be used in preference to a hammer-action drill. When fixing the metal edge trim, care should be taken not to drill too close to the edge of the concrete and to ensure that the angle of drilling is correct to minimise the risk of subsequent breakout of the concrete when the fixing is screwed home.

11.3 Gutterbond Polyurethane Sealant is only for use as a gap filler. It does not bond strongly with the liner material and should not be used as an adhesive in place of the appropriate mechanical fixing.

11.4 Previously lined wooden gutters should be checked for structural stability. In particular, friable areas or areas suffering from rot should be made good before installation of the system.

12 Preparation

Before fitting the system, the gutter must be cleaned and sharp protuberances removed. The outlets must be smooth and round.

13 Procedure

13.1 The outer thimbles are fixed into the downpipe outlets, and the inner thimbles check-fitted to ensure that there is an 8 mm wide split present to accommodate the thickness of the liner.

13.2 Areas of the gutter which will have a Boundary Sealing Kit or Joint Sealing Kit fitted are checked to ensure that they are smooth and dry across the width of the gutter. If necessary, irregularities should be ground out before the area is primed with a generous coat of high penetration bitumen primer and allowed to dry.

13.3 A sarking angle and apron are fixed in place if required.

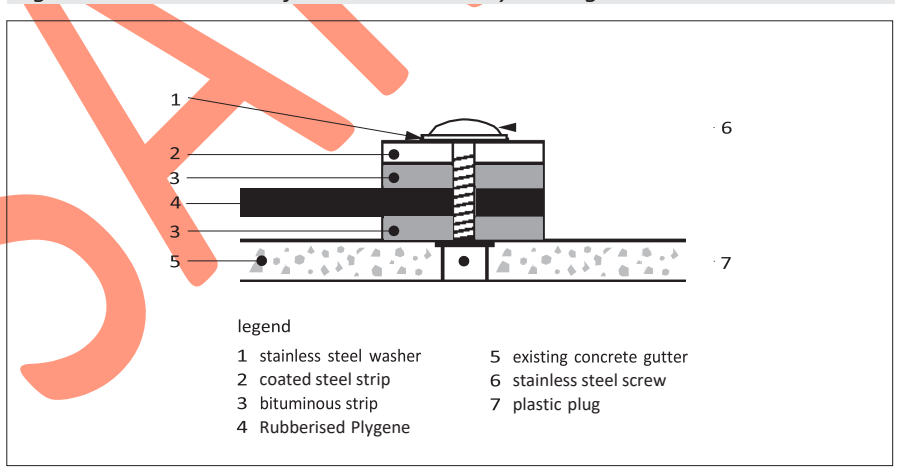
13.4 The liner is rolled out along the whole length of the gutter (allowing at least 300 mm spare at each end to form the termination) and the side edges are positioned under the cladding (or roof tiles). Alternatively, the liner may be folded back on itself under the cladding and mechanically secured in place. At the front edges of gutters, the liner is fixed in place using the supplied plastic-coated steel edging strip. Edges running against vertical surfaces, such as boundary walls, are mechanically fixed and made waterproof with flashing.

13.5 When the liner has been fitted along the full length of the gutter, the ends are secured. A template is made of the gutter end and used to cut out an angled stop from the blank supplied. The end of the liner is warmed, folded and pressed into shape by clamping the template to the existing gutter end. When cool, the top edge is trimmed and the blank replaced by the angled stop which is bolted through and secured to the gutter end.

13.6 Outlets are created by locating the existing outlet and centrally cutting a reduced diameter hole in the liner using the hole cutter supplied. The area around the hole is warmed and the inner thimble firmly inserted, trapping the liner between the inner and outer thimbles and creating a waterproof seal at the downpipe.

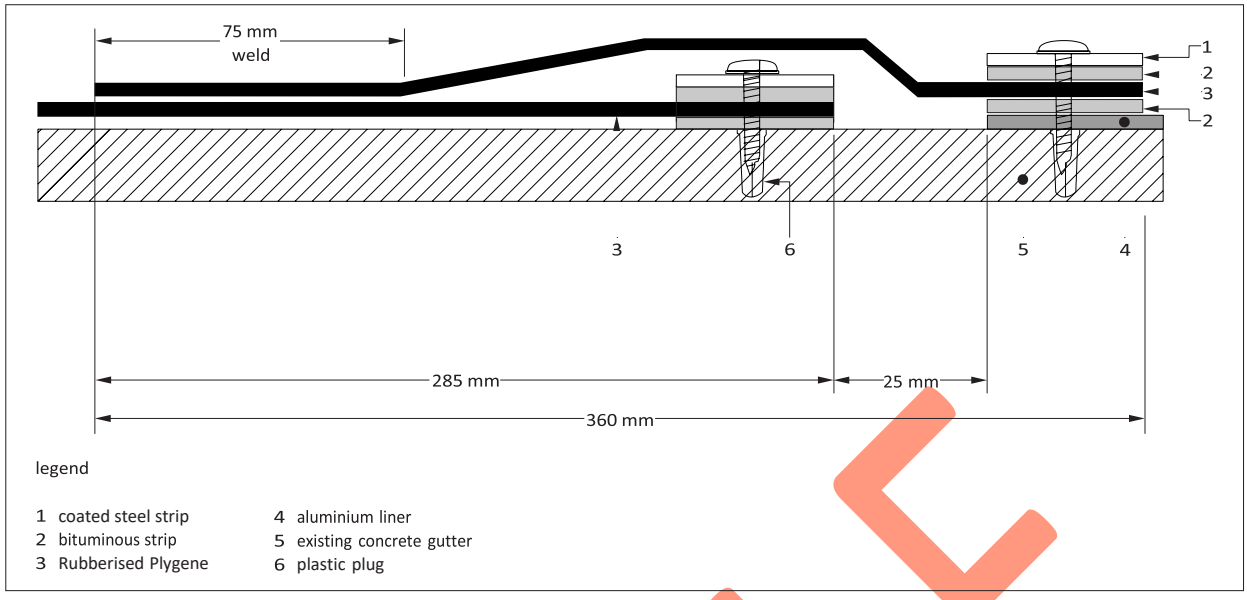
13.7 Terminations at boundaries should be made using a Boundary Sealing Kit. The liner is sandwiched between layers of rubberised bitumen finishing with a coated steel strip (with pre-punched holes). Holes are drilled through the metal strip into the gutter. For concrete gutters, holes are drilled using a 6.5 mm diameter bit to a depth of 35 mm. Plastic plugs, screws and washers are used for fixing and the screws are tightened while warming the entire assembly with hot air. The heat softens the bitumen, allowing it to be compressed by the action of driving home the screws (see Figure 1). The technique is the same for gutters made from other materials but the fixings used will vary.

Figure 1 Cross-section of installed Boundary Sealing Ki



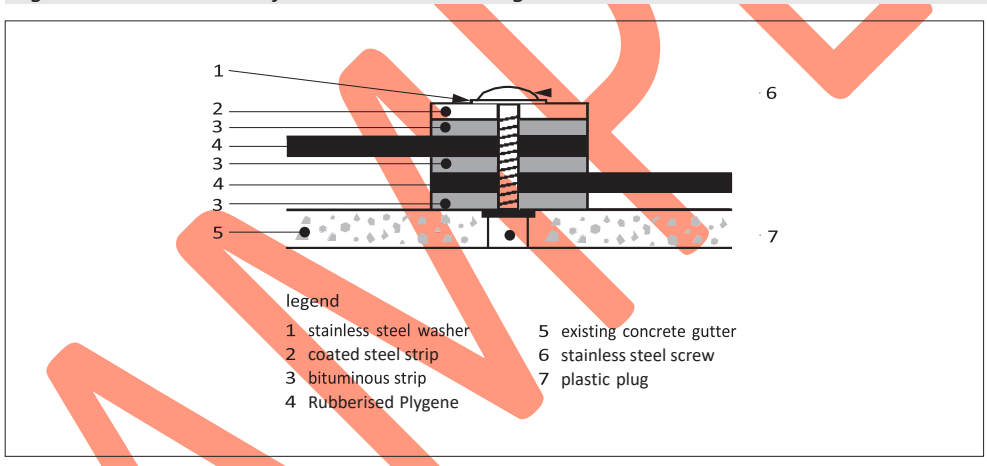
13.8 Where the membrane has to be joined to an existing aluminium liner at the boundary of the property, a Transition Joint Sealing Kit should be used. Using the same general fixing techniques described in section 13.7, a length of Plygene membrane, preformed to fit the aluminium liner and the newly installed Gutterline membrane, is installed between them and heat-welded to the gutterline (see Figure 2).

Figure 2 Transition joint between existing aluminium liner and newly-installed Gutterline



13.9 Using the same technique of sandwiching the liner between bitumen strips, a Joint Sealing Kit is used to make liner-to-liner joints where hot-air welding is not possible (see Figure 3). These joints must be secured to the existing gutter to resist the expansion and contraction forces acting on the liner as the temperature changes.

Figure 3 Cross-section of installed Joint Sealing Kit

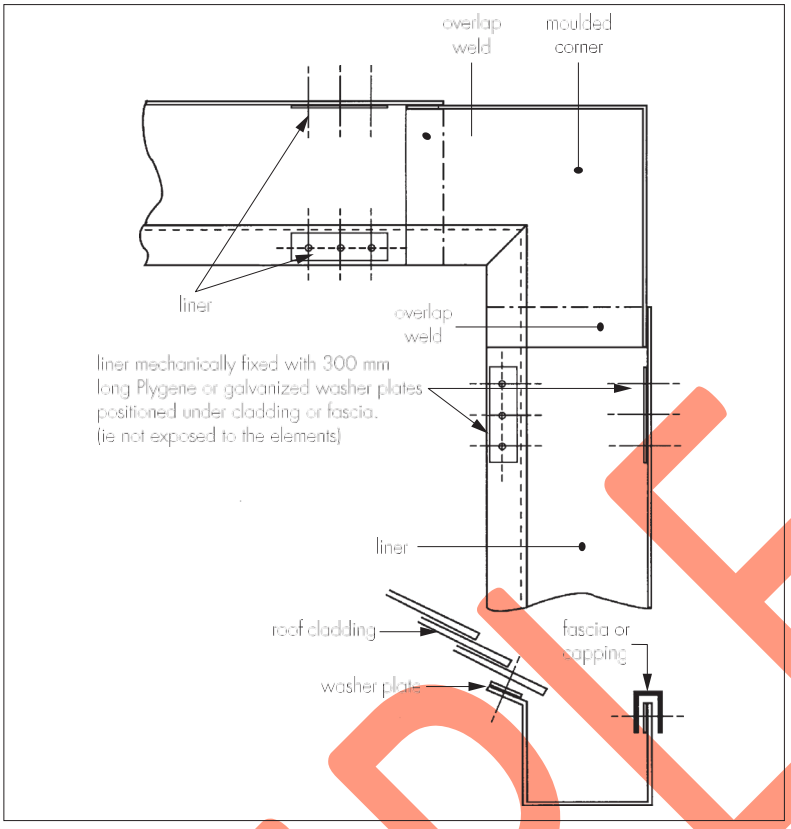


13.10 To protect welds from stress caused by thermal expansion and contraction, the liner must be mechanically fixed to the gutter at these points, above the likely level of water flowing in the gutter (see Figure 4).

13.11 Prior to installing moulded components incorporating outlets, the liner must be mechanically fixed to the gutter at the outlet site. Fixing holes made in the liner are rendered watertight when the component is subsequently hot-air welded to the liner.

13.12 Gutters with a sole width of 300 mm or more require the installation of hold down straps. These are fixed, without the need to penetrate the liner, across the width of the gutter at 1 to 3 m centres depending on the size of the gutter and prevailing conditions. Further details are available from the Certificate holder.

Figure 4 Moulded corner details



Technical Investigations

14 Tests

Tests were carried out on Plygene Gutterline to determine:

- dimensional stability
- tear strength
- integrity of joints
- tensile strength and elongation
- nail tear resistance
- resistance to heat
- low temperature flexibility
- hardness
- resistance to artificial weathering.

15 Investigations

15.1 The manufacturing processes were evaluated, including methods of quality control, and details were obtained of the quality and composition of the materials used.

15.2 A visit to a site in progress was carried out to assess the practicability of installation of the system.

15.3 Visits were carried out to established sites to assess the performance of the system in use.

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 Publications and documents referred to in this Certificate are those that the BBA deems to be relevant at the date of issue or re-issue of this Certificate and include any: Act of Parliament; Statutory Instrument; Directive; Regulation; British, European or International Standard; Code of Practice; manufacturers' instructions; or any other publication or document similar or related to the aforementioned.

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.

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