

Rainwater Goods Method statement

29 June 2022

Ref: Condition 8 of Listed Building Consent 131433/LO/2021

1. LEADWORK

Generally, all flashings, soakers, cappings, valley and gutter linings and other weatherings that should be in lead, are to adhere to the weights and details recommended by the Lead Sheet Association as described in the latest Lead Sheet Manuals.

Contractor to carefully remove disturbed lead covering by hand in stages by removal of the abutment mortar to the both chimneys, over existing box gutter, at valleys and ridges where present. All lead work to be formed from Code 5 lead sheet and fully supported on treated valley boards, etc, and to have a minimum 150mm lap joints, dressed 200mm under tiles, etc, and not to be fixed in lengths exceeding 1.5m and to be fixed in accordance with the roof cladding manufacturer's and the Lead Sheet Association recommendations.

All new and repaired flashings are to be inserted into raggles sufficiently deep to allow the raggle to be pointed with lime mortar; typically, this would be to a depth twice the width of the raggle, and square cut. Existing raggles should be used wherever possible. Lead should be isolated from lime mortar by a protective coating such as masking tape or bituminous paint. The use of sacrificial flashings where slating discharges into valleys and box gutters is encouraged.

Appropriate provision should be made for ventilation below the lead, particularly where thermal conditions are likely to change, eg where insulation or a new heating system has been installed.

Repair Strategy - Lead lined box gutter to both north-western and south eastern elevations are to be inspected

Lead flashing to gutters are to be renewed or where missing replaced with new

Lead flashing to all abutments are to renewed or where missing replaced with new; where necessary introduce new concealed lead soakers as additional protection against moisture ingress at

2. RAINWATER GOODS

There are currently no original rainwater goods remaining in the building. Generally, any new or replacement rainwater goods required should be in cast iron, to the original pattern. Gutters and rainwater goods originally of a different material, such as lead, should be retained unless otherwise agreed. Cast aluminium gutters may be acceptable in cases where the original section is no longer obtainable in cast iron. Appropriate new overshoots and weirs detailed to discharge water clear of hoppers and catch-pits should these become blocked.

Gutters and rainwater goods originally of a different material, such as lead, stone or timber, should be replaced accordingly, unless otherwise agreed. Installation of UPVC or similar non-traditional gutters and downpipes are not acceptable

All rainwater fittings are to be carefully removed including all moss, debris around timber fascias. Leaf guards or wire balloons above downpipes are to be fitted to all downpipes including any overflow pipes and hopper heads as the building sits in a site surrounded by mature trees. Eaves gutters in cast aluminium are to match existing profile where present and these should be supported by brackets at sufficient spacing in accordance to manufacturer's recommendations. The bottoms of rainwater downpipes are to be terminated with shoes for ease of access and clearance. Existing gulley surrounds if not already present are

3. RAINWATER DISPOSAL

There are currently no original rainwater goods remaining in the building. All of the existing rainwater goods have been replaced by uPVC throughout the building. For most of them, roof survey reports have recommended they be all be replaced due to age, neglect, vandalism, lack of maintenance or failure to control and discharge water safely away from the building. This is also evident in the common symptoms of rainwater penetration such as water staining on the internal walls and algae growth on external walls.

The strategy for the charity is therefore proposed for the rainwater disposal pipes to be replaced with 100mm diameter round section powder coated cast aluminium pipes which provide an acceptable replacement for what would have been cast iron pipes originally present but is more affordable and durable. Similarly, the box gutters to the front elevation which have either decayed,

Generally, ground drainage to be checked, recorded and made fully operational to ensure water is being conducted properly away from the building.

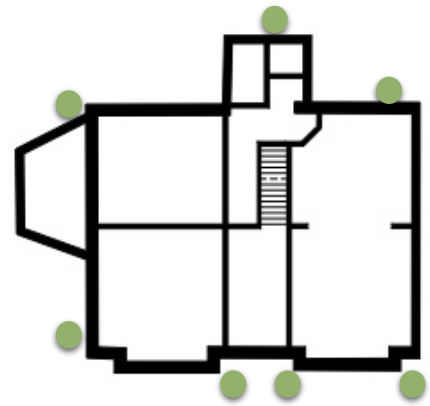
Where sound, ensure they are clear and flowing freely, and that there is maintenance access at ground level and at key junction points above.

Where sections are broken, damaged or missing, or in non-original materials such as uPVC, replace to match original profile in cast aluminium. All new cast aluminium pipework are to be prepared and powder coated to manufacturer's instructions. In the absence of any original cast iron pipework, the powder coated colour for the proposed cast aluminium downpipes are to be RAL 9017 Black.

Rainwater goods method statement



uPVC downpipe at rear elevation



uPVC downpipes & gutters on front elevation at north-west aspect

Rainwater Drainage System Specification

R10 Rainwater Drainage Systems

GENERAL

- Gravity Rainwater Drainage System.
- Rainwater outlets, gutters, pipework and accessories as per detail sections below.

SYSTEM PERFORMANCE

- Design Standard: To BS EN 12056-3:2000, clauses 3-7 and National Annexes.
- Collection and Distribution of Rainwater: Complete, and without leakage or noise nuisance.
- Design Parameters: Design rate of rainfall as per BS EN 12056-3:2000, National Annex NB.2 - Category

PRODUCTS

HERITAGE ALUMINIUM MOULDED GUTTERS (150MM)

311 HERITAGE ALUMINIUM GUTTERS

Gutters and fittings to: BS8530 (formerly BS 2997)

Manufacturer: Alumasc Exterior Building Products Ltd or similar

Reference: Heritage cast aluminium rainwater system



Form: Cast

Third-party product certification BBA Approval, BS 8530:2010.

Profile: Moulded gutter

Size (nominal width) 150mm

Outlet Size: 100mm

Type / grade:

Thickness or gauge 4mm

Finish Polyester powder coated; Mill finish

Colour RAL 9017M Black

Film thickness (minimum) 60-80 Microns
120-160 Microns (Marine)

Jointing: Gutter lengths or fittings are overlapped at the joint with a spigot and socket. Slots are provided for fixing using M6 mushroom head aluminium screws with nuts and washers. Seal evenly across the joints with Dow Corning 791

Fixing: Fascia bracket fixed at 915mm centres and at each fitting using number 12x38mm round head twin thread screws and washers bright zinc plated.

Integral accessories

Angles.
Fascia Brackets.
Outlets.
Stop Ends.

Fire rating (to BS EN 13501)A2

Standards To BS 8530:2010, BS EN 13501:2018.

Country of product manufacture: United Kingdom

Recyclability 100%

PRODUCTS

HERITAGE ALUMINIUM CIRCULAR DOWNPIPE (100MM)

370 HERITAGE FLUSHJOINT ALUMINIUM PIPEWORK FOR EXTERNAL USE
Pipes, fittings and accessories to: BS 2997 Manufacturer: As above

Reference: Heritage cast pipe socket aluminium downpipe rainwater system; Circular RW3 -100mm

Form: Cast

Third-party product certification BBA Approval, BS 8530:2010.

Profile: Round

Size (nominal width) 100mm

Minimum thickness / gauge: 1.6mm

Finish Polyester powder coated; Mill finish

Colour RAL 9017M Black

Film thickness (minimum) 60-80 Microns
120-160 Microns (Marine)

Integral Accessories

Access pipes.
Bends.
Branches.
Hopper heads.
Offsets.
Pipe clips.
Shoes.
Sockets.

Fixing: Pipe clip fixed at maximum 2.0m centres. Plug and screw to wall with number 12 x 50mm round head twin thread screws and washers bright zinc plated to BS 1706:1960 Class ZN3. Seal internal spigot joints with Dow corning 791 silicone sealant allowing for a 3-4 mm vertical thermal movement gap.



Rainwater Drainage System Specification & Installation Guide

General specification clauses for aluminium rainwater systems are provided below.

For project specific specification advice, contact Alumasc Technical Services.

EXECUTION CLAUSES

600 PREPARATION, ENSURE:

- Below ground drainage is ready to receive rainwater or that the discharge can be dispersed by approved means to prevent damage or disfigurement of the building fabric.
- Any specified painting of surfaces which will be concealed or inaccessible is completed.

605 INSTALLATION GENERALLY:

- Install pipework/gutters to ensure the complete discharge of rainwater from the building without leaking.
- Obtain all components for each type of pipework/guttering from the same manufacturer unless specified otherwise.
- Provide access fittings and rodding eyes as necessary in convenient locations to permit adequate cleaning and testing of pipework.
- Avoid contact between dissimilar metals and other materials which would result in electrolytic corrosion.
- Do not bend plastics or galvanized steel pipes.
- Adequately protect pipework/gutters from damage and distortion during construction. Fit purpose made temporary caps to prevent ingress of debris. Fit all access covers, cleaning eyes and blanking plates as the work proceeds.
- Where not specified otherwise use plated, sherardized, galvanized or nonferrous fastenings, suitable for the purpose and background, and compatible with the material being fixed.

610 FIXING AND JOINTING GUTTERS:

- Fix securely at specified centres and at all joints in gutters, with additional brackets near angles and outlets.
- Provide for thermal and building movement when fixing and jointing, and ensure that clearances are not reduced as fixing proceeds.
- Seal as specified to make watertight.
- Spread jointing compound evenly over jointing face of socket.
- For gutters with bolted joints, tighten joints in the gutter sole before any other bolts. Fit suitable washers, and spacers to prevent overtightening, unless specified otherwise.
- Tighten fixing to squeeze out some compound.
- Remove surplus, squeezed out compound and neatly clean off.
- Ensure that roofing underlay is dressed into gutter.

615 SETTING OUT EAVES GUTTERS - TO FALLS

- Set out to a true line and even gradient to ensure no ponding or backfall. Position high points of gutters as close as practical to the roof and low points not more than 50 mm below the roof.
- Position outlets to align with connections to below ground drainage, unless shown otherwise on drawings.

630 RAINWATER OUTLETS, ENSURE THAT:

- Outlets are securely fixed before connecting pipework.
- Junctions between outlets and pipework can accommodate all movement in the structure and pipework.

435 FIXING PIPEWORK:

- Fix securely at specified centres plumb and/or true to line.
- Make changes in direction of pipe runs only where shown on drawings unless otherwise approved.
- Fix branches and low gradient sections with uniform and adequate falls to drain efficiently.
- Fix externally socketed pipes/fittings with sockets facing upstream.
- Provide additional supports as necessary to support junctions and changes in direction.
- Fix every length of pipe at or close below the socket collar or coupling.
- Provide a load bearing support for vertical pipes at not less than every storey level. Tighten fixings as the work proceeds so that every storey is self supporting and undue weight is not imposed on fixings at the base of the pipe.
- Isolate from structure where passing through walls or floors and sleeve pipes as specified in Section P31.
- Provide for thermal and building movement when fixing and jointing, and ensure that clearances are not reduced as fixing proceeds.
- Fix expansion joint pipe sockets rigidly to the building and elsewhere use fixings that allow the pipe to slide.

650 JOINTING PIPEWORK/GUTTERS:

- Joint using materials, fittings and techniques which will make effective and durable connections.
- Joint differing pipework/gutter systems with adaptors recommended by manufacturer(s).
- Cut ends of pipes to be clean and square with burrs and swarf removed. Chamfer pipe ends before inserting into ring seal sockets.
- Ensure that jointing or mating surfaces are clean, and where necessary lubricated, immediately before assembly.
- Form junctions using fittings intended for the purpose ensuring that jointing material does not project into bore of pipes, fittings and appliances.
- Remove surplus flux/solvent/cement/sealant from joints.

675 COATED PIPEWORK/GUTTERS:

- Make good to coatings after cutting and any other damage or recoat, as recommended by the manufacturer.

685 IDENTIFICATION OF INTERNAL RAINWATER PIPEWORK:

- To BS 1710 using self-adhesive bands or identification clips located at junctions, at both sides of each slab, bulkhead and wall penetration, and elsewhere as directed.

690 ELECTRICAL CONTINUITY:

- Use clips or suitable standard couplings supplied for the purpose by pipework manufacturer to ensure electrical continuity at all joints in metal pipes with flexible couplings and which are to be earth bonded.

700 ACCESS FOR TESTING AND MAINTENANCE:

- Install pipework and gutters with adequate clearance to permit testing, cleaning and maintenance.
- Position access fittings and rodding eyes so that they are not obstructed by other pipework, framing, etc.

COMPLETION CLAUSES

900 TESTING GENERALLY:

- Inform the Contractor Administrator sufficiently in advance to give him a reasonable opportunity to observe tests.
- Check that all sections of installation are free from obstruction and debris before testing.
- Provide clean water, assistance and apparatus for testing as required.
- Carry out tests as specified. After testing, locate and remedy all defects without delay and retest as instructed.
- Keep a record of all tests and provide a copy of each to the Contractor Administrator.

905 INTERNAL PIPEWORK TEST - ENGLAND, WALES AND NORTHERN IRELAND:

- Temporarily seal open ends of pipework with plugs.
- Connect a 'U' tube water gauge and air pump to the pipework via a plug.
- Pump air into pipework until gauge registers 38 mm.
- Allow a period for temperature stabilization, after which the pressure of 38 mm is to be maintained without loss for not less than 3 minutes.

906 INTERNAL PIPEWORK TEST- SCOTLAND

- Standard - To BS EN12056-3:2000, National Annex NG

910 GUTTER TEST:

- Block all outlets, fill gutters to overflow level and after 5 minutes closely inspect for leakage.

915 MAINTENANCE INSTRUCTIONS

- At completion, submit printed instructions recommending procedures for maintenance of the rainwater installation including full details of the recommended inspection, cleaning and repair procedures.

920 IMMEDIATELY BEFORE HANDOVER:

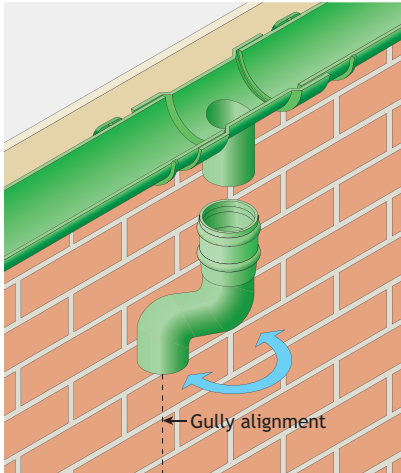
- Remove construction rubbish and debris from all roofs and gutters. Where possible, sweep and remove fine dust which may enter rainwater systems. Do not sweep or flush dust or debris into the rainwater system.
- Remove swarf, debris and temporary caps from the entire rainwater installation.
- Ensure that all access covers, rodding eyes, outlet gratings, etc. are secured complete with all fixings.

Installation - Heritage Rainwater Pipe

Heritage traditional rainwater pipes have cast pipe sockets either with ears for wall fixing or without for use with pipe clips. Installation is generally from the eaves downward.

Where sockets are supplied separately these must be lightly driven home into the rainwater pipe using a softwood block or adequate protection at the pipe end to prevent damage. Saw cuts must be square and free from dents and burrs. A light application of silicone sealant must be applied to both surfaces to ensure a waterproof seal.

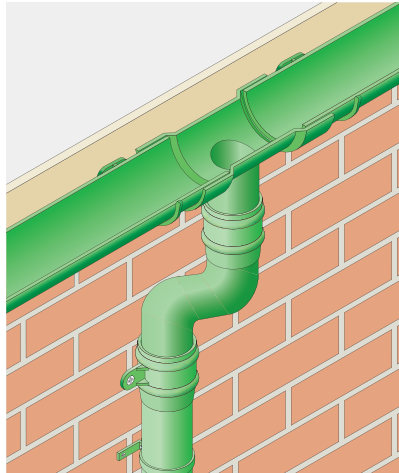
Pipe Alignment



Where square or rectangular pipes are being installed and offsets are required, alignment between the gutter outlet and gully must be exact.

Round pipe systems are more flexible to install and offsets can be adjusted and "swung" into alignment with the gully position.

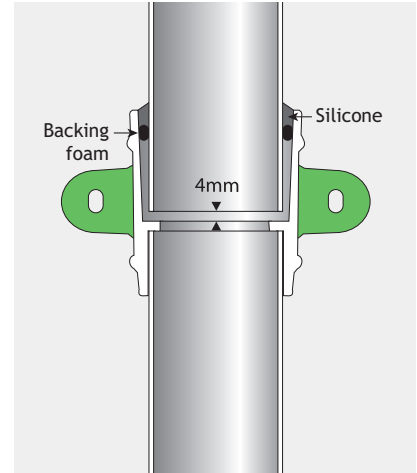
Outlets and Offsets



Commence installation from the gutter outlet by fitting and adjusting the one part or two part offsets.

Check vertical plumb line positioning and seal spigot and socket joints using DOW791 silicone sealant.

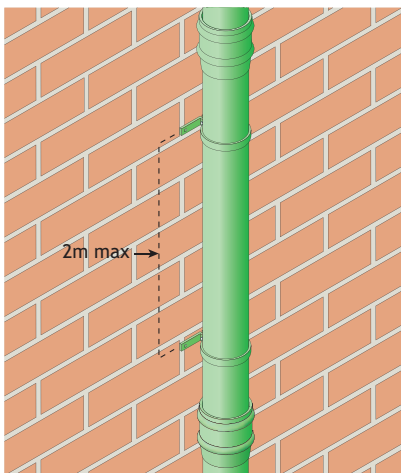
Pipe Jointing and Fixing



Allow a 4mm expansion gap between pipe end and socket, and insert a 6mm backing foam into the pipe joint. Seal with DOW 791 silicone sealant.

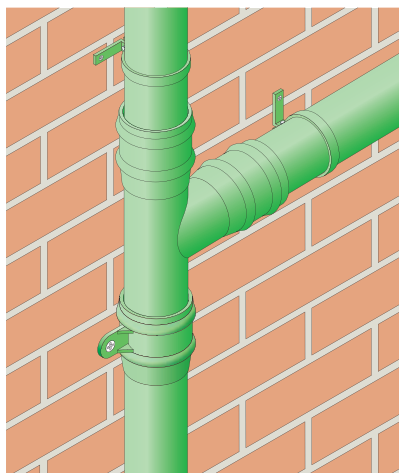
Fix to wall at 2m centres using No12 x 50mm screws. Eared sockets have elongated fixing holes to permit the use of pipe nails.

Pipe Clips



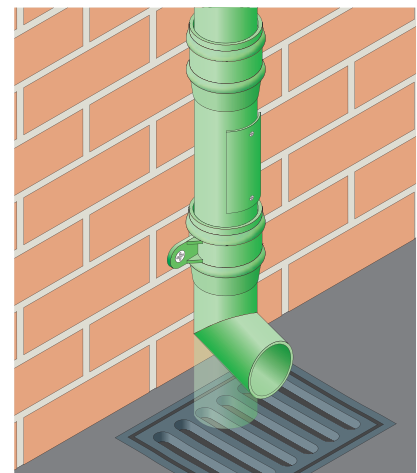
Where uneared pipework is being used it must be secured at maximum 2m centres. Pipe clips should be chosen according to visual or practical considerations and comprise Standard Base, Small Base and Extended Base options.

Bends and Branches



Bends and branches are secured into the pipe socket. Where additional fixing is required e.g a change of direction at a bend, use additional pipe clips.

Shoes and Access Pipes



At ground level rainwater pipes can terminate with a shoe for free discharge over a gully or be directly connected into the gully.

In the case of direct connections it is recommended that an access pipe fitting is included within 750mm of ground level.