

R10 Rainwater Drainage Systems

2 To be read with Preliminaries/General conditions.

GENERAL

110 GRAVITY RAINWATER DRAINAGE SYSTEM.
Rainwater outlets: As per detail sections below
Gutters: As per detail sections below
Pipework: As per detail sections below
Accessories outlets: As per detail sections below

SYSTEM PERFORMANCE

210 DESIGN
Design: Complete the design of the rainwater drainage system
Standard: To BSEN12056-3: 2000, clauses 3-7 and National Annexes
Proposals: Submit Drawings, technical information, calculations and manufacturer's literature.

221 COLLECTION AND DISTRIBUTION OF RAINWATER
General: Complete, and without leakage or noise nuisance

230 DESIGN PARAMETERS - GENERAL
Roof and gutter construction and finish: As per detail sections below
Design Rate of rainfall: As per BSEN12056-3: 2000, National Annex NB.2 - Category 1
Available capacity of existing below ground drainage (maximum): TBC

PRODUCTS

311 MUSTANG® SEAMLESS ALUMINIUM GUTTERS

Manufacturer: ARP Ltd
Unit 2 Vitruvius Way
Meridian Business Park
Braunstone
Leicester
LE19 1WA
Tel: 0116 289 4400
Email: sales@arp-ltd.com

Reference: Mustang® Seamless Aluminium Rainwater System
Accreditation: British Board of Agrément (BBA) Certificate No. 91/2625
Profile: Ogee
Size: 125mm
Flow performance: As stated in ARP literature.
Outlet Size: 60mm or 70mm
Type/grade: Pre-coated 0.9mm thick 3105 H45 aluminium in accordance with British Board of Agrément (BBA) Certificate No. 93/2918
Colour: RAL or BS _____
Functional life expectancy: In excess of 30 years
Jointing: (where required) to be made with "Mustang®" Polycarbonate Corners and Stop Ends and sealed with "Mustang®" approved sealant as stipulated in BBA Certificate No. 91/2625. In gutter runs over 30 meters expansion gaps to be created by using "Mustang®" Straight Connectors and sealed with "Mustang®" approved sealant
Fixing: Installation must be carried out by ARP Approved Contractor using materials supplied by ARP Ltd in accordance with British Board of Agrément Certificate No 91/2625.

Gutter to be formed on site in seamless lengths and secured/ supported with extruded mill finish aluminium fixing support brackets 16mm wide x 2.5mm thick at 450mm centres, using 4x40mm stainless steel countersunk screws.

370 COLONNADE ALUMINIUM PIPEWORK:

Pipes, fittings and accessories: To BS 8530.

Manufacturer: ARP Ltd

Unit 2 Vitruvius Way
Meridian Business Park
Braunstone
Leicester
LE19 1WA

Tel: 0116 289 4400.

Email: sales@arp-ltd.com

Reference: Colonnade Flushjoint Aluminium Rainwater Pipes.

Size: 76mmØ

Type/grade: from extruded 6060 T4 to BS1474: 19726

Finish: Polyester powder coated to BS EN 12206-1: 2004

Colour: RAL or BS _____

Fixing: Pipe clip fixed at maximum 2.0m centres in accordance with BS EN 8230. Plug and screw to wall with 5mm x 50mm stainless steel screws

Accessories: As supplied by ARP Ltd

EXECUTION

600 PREPARATION specified in this section, ensure that:

- 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.
- Before starting, ensure that the Gutter Machine has been correctly maintained in accordance with ARP Guidelines and sufficient coil and components are accessible to complete each gutter run.
- Obtain all components for pipework from the same manufacturer as gutter to ensure uniform performance and finish.
- Provide access fittings and rodding eyes as necessary in convenient locations to permit adequate cleaning and testing of pipework in accordance with BS EN 12056-3: 2000.
- Avoid contact between dissimilar metals and other materials which would result in electrolytic corrosion.
- 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, galvanised or nonferrous fastenings, suitable for the purpose and background, and compatible with the material being fixed.

610 FIXING AND JOINTING GUTTERS:

- Fix securely at 450mm centres along the continuous gutter length and within 150mm near angles and stop ends.
- Provide for thermal and building movement when fixing and jointing, and ensure that clearances are not reduced as fixing proceeds on lengths in excess of 30m.
- Seal as specified to make watertight.
- Spread jointing compound evenly over jointing faces.
- Remove surplus, squeezed out compound and neatly clean off.
- Ensure that roofing underlay is dressed into gutter.

615 SETTING OUT EAVES GUTTERS

- Gutters must be installed level unless otherwise specified.
- The gutter should be positioned at a level where the front lip of the gutter is 10mm under the line of the roof pitch ensuring excess debris and snow are not held within the gutter or back up the roof.
- Position outlets to align with connections to below ground drainage, unless shown otherwise on drawings.

630 RAINWATER OUTLETS:

Ensure that:

- Outlets are cut into the gutter sole by using an ARP Qmax cutter, ensuring a circular burr free hole before fitting integral 60mm or 70mm Soft Leaf Trap as stipulated in BBA Certificate No. 91/2625.
- Junctions between outlets and pipework can accommodate all movement in the structure and pipework caused by expansion.

435 FIXING PIPEWORK:

- In accordance with BS8230, fixed securely maximum of 2 metre centres.
- Make changes in direction of pipe runs only where shown on drawings unless otherwise approved.
- Access to be provided on every drop, in the form of a shoe or access plate in accordance with BS EN 12056-3: 2000.
- 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 ARP Ltd.
- Cut ends of pipes to be clean and square with burrs and swarf removed and in painted systems, touch up paint applied to the raw ends.
- 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:

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

690 ELECTRICAL CONTINUITY:

- Where required, 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

900 TESTING GENERALLY:

- Inform CA 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 CA.

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.