

Appendix 1.

Specification R.10. Rainwater goods

The Elms, Fitzroy Park, London N6 6HS

R10 RAINWATER DRAINAGE SYSTEMS

To be read with Preliminaries/ General conditions.

GENERAL

110 GRAVITY RAINWATER DRAINAGE SYSTEM

- Gutters: Cast iron
- Pipework: Cast iron

SYSTEM PERFORMANCE

210 DESIGN

- Design: Complete the design of the rainwater drainage system.
- Standard: To BS EN 12056-3, clauses 3–7 and National Annexes.
- Proposals: Submit drawings, technical information, calculations and manufacturers' 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: Slate roof with cast iron gutters and down pipes.
- Design rate of rainfall: As BS EN 12056-3, National Annex NB.2.
 - Category: 2
- Design life of building: 60 years

235 INSTALLATION STANDARDS

- All installation work should be undertaken in accordance with the manufacturers recommendations and adhere to BS 8000 1989 Workmanship on Building Sites Parts 13 Code of Practice for above ground drainage and sanitary appliance.

PRODUCTS

315 CAST IRON GUTTERS

- Standard
- Manufacturer: Hargreaves Foundry or similar approved
www.hargreavesfoundry.co.uk
 email: info@hargreavesfoundry.co.uk
 tel; 01422 330607
- Product reference: Premier Range
- Profile: ½ Round 150x100
- Jointing type: for Half Round gutters use Gutter Jointing Kit HR0006 using a EPDM rubber seal with M6x25mm bolts,nuts,washers suitable for 100mm, 115mm, 125mm and 150mm gutter sizes.
 Refer to manufacturer's instructions and literature for further details.

Note: If gutters have been cut, remove any loose filings immediately to ensure there is no discolouration / rust marks on the paint surface. Also check that cut ends, bolts, nuts and any slight installation damage is made good with the appropriate primer/paint.

- Nominal size: 150x100mm
- Finish as supplied: Black semi gloss finish -factory applied.
- Brackets: Fascia Clips to suit gutter profile.
 - Fixings: Position first bracket at 150mm from the end of the run and then subsequent brackets at 900mm centres using a string line for alignment and ensuring a slight fall towards the outlet. (Falls between 1:350 and 1:600)
 Size: to suit gutter profile.
- Accessories:
 Angles, Outlets, Stopends, Union Clips and Fascia Brackets to suit gutter profile.
 Gutter Bolt, Nuts & Washers: M6x25mm Zinc plated.
 Silicone Sealant: Sealquick Sealant or similar approved.
 Gutter fixing screws, Zinc plated 30mm Mushroom Head Screw.
 Brackets screws: Zinc plated 10x1.25mm Round Head Pozi Screw.
 Touch Up Paint: Black semi gloss finish

Refer to manufacturers literature for further details.

Notes: Before commencing the installation inspect all fascia boards to ensure they are in good conditions and will adequately support cast iron gutters.
 Determine direction for fitting for type of gutter i.e left to right or vice versa.

360 SEALANT FOR GUTTERS

- Type: to suit type of gutter used. See clause 315 for further details.

376 CAST IRON PIPEWORK

- Standard: To BS EN 877, Agrément certified.
- Manufacturer: as clause 315
 - Product reference: Premier: R4001E, R4002E, R4003E, R4004E,
- Coupling type: Eared Pipes
- Nominal size: 100mm dia
- Finish as supplied: Black semi gloss finish -factory applied.
- Brackets: in accordance with manufactures recommendations.
 - Fixings: see clause 635

- Accessories: Access Pipes, Bends, Branches, Loose Sockets, Offsets, Shoes, Holdfast, Pipe brackets, Spacer plates, Bobbins and Pipe Nails.

460 RAINWATER COLLECTOR UNITS

- Manufacturer: as clause 315
- Product reference: Standard rainwater hopper heads to suit site conditions. Angular or Rectangular subject to local authority approval.
Product Ref: H1 flat back 253x210x210 or
H460 or H42 Rectangular to match existing on site.
- Connections: in accordance with manufactures recommendations.

EXECUTION

600 PREPARATION

- Work to be completed before commencing work specified in this section:
 - Below ground drainage. Alternatively, make temporary arrangements for dispersal of rainwater without damage or disfigurement of the building fabric and surroundings.
 - Painting of surfaces which will be concealed or inaccessible.

605 INSTALLATION GENERALLY

- Electrolytic corrosion: Avoid contact between dissimilar metals where corrosion may occur.
- Plastics and galvanized steel pipes: Do not bend.
- Allowance for thermal and building movement: Provide and maintain clearance as fixing and jointing proceeds.
- Protection:
 - Fit purpose made temporary caps to prevent ingress of debris.
 - Fit access covers, cleaning eyes and blanking plates as the work proceeds.

610 FIXING AND JOINTING GUTTERS

- Joints: as clause 315.
- Brackets: Securely fixed.
 - Fixings: as recommended by gutter manufacturer.
- Fixing centres: 150mm from ends and subsequently at 900mm centres
 - Additional brackets: Where necessary to maintain support and stability, provide at joints in gutters and near angles and outlets.
- Roofing underlay: Dressed into gutter.

615 SETTING OUT EAVES GUTTERS – TO FALLS

- Setting out: To true line and even gradient to prevent 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.
- Outlets: Align with connections to below ground drainage.

630 INSTALLING RAINWATER OUTLETS & PIPEWORK

- Fixing: Secure. Fix before connecting pipework.
- Method: as recommended by manufacturer:

Method 1 (Traditional)

For eared cast iron rainwater pipework fix using large headed pipe nails, available in 75mm and 100mm lengths. These are secured in wooden plugs fitted into the brickwork/masonry background.

Method 2 (Alternative)

Non corrosive coach screws or other proprietary fixings may be used, installer to provide samples to the CA for approval prior to installation if considering adopting this method.

Method 3 (Uneven surfaces)

Epoxy resin fixings in pre drilled holes.

Fixing unearred pipes can be fixed by means of a drive spike (holdfast), build in holderbat, earband or screw to wall bracket, refer to manufacturer for further details.

- Junctions between outlets and pipework: Accommodate movement in structure and pipework.

635 FIXING PIPEWORK

- Pipework: Fix securely, plumb and/ or true to line.
- Branches and low gradient sections: Fix with uniform and adequate falls to drain efficiently.
- Externally socketed pipes and fittings: Fix with sockets facing upstream.
- Additional supports: Provide as necessary to support junctions and changes in direction.
 - Provide a loadbearing support at least at every storey level.
 - Tighten fixings as work proceeds so that every storey is self supporting.
 - Wedge joints in unsealed metal pipes to prevent rattling.
- Wall and floor penetrations: Isolate pipework from structure.
 - Pipe sleeves: As section P31.
 - Masking plates: Fix at penetrations if visible in the finished work.
- Expansion joint pipe sockets: Fix rigidly to buildings. Elsewhere, provide brackets and fixings that allow pipes to slide.

640 FIXING VERTICAL PIPEWORK

- Bracket fixings: as recommended by manufacturer
- Distance between bracket fixing centres (maximum): to be advised

645 FIXING LOW GRADIENT PIPEWORK

- Bracket fixings: as recommended by manufacturer
- Distance between bracket fixing centres (maximum): to be advised

650 JOINTING PIPEWORK AND GUTTERS

- General: Joint with materials and fittings that will make effective and durable connections.
- Jointing differing pipework and gutter systems: Use adaptors intended for the purpose.
- Cut ends of pipes and gutters: Clean and square. Remove burrs and swarf. Chamfer pipe ends before inserting into ring seal sockets.
- Jointing or mating surfaces: Clean and, where necessary, lubricate immediately before assembly.
- Junctions: Form with fittings intended for the purpose.
- Jointing material: Strike off flush. Do not allow it to project into bore of pipes and fittings.
- Surplus flux, solvent jointing materials and cement: Remove.

660 JOINTING EXTERNAL PIPEWORK

- Jointing: In accordance with manufacturers recommendations.
Vertical rainwater pipes would not normally be sealed.
Only seal joints between gutter outlet and rainwater pipe and / or offset, plus any joints in a horizontal position e.g. 90° degree branch arm or bends.

Insert 3 small wedges made from sheet lead off-cuts to centralise pipe joints and prevent wind rattle.

675 CUTTING COATED PIPEWORK AND GUTTERS

- Cutting: Recoat bare metal.

690 ELECTRICAL CONTINUITY – PIPEWORK

- Joints in metal pipes with flexible couplings: Clips (or suitable standard pipe couplings) supplied for earth bonding by pipework manufacturer to ensure electrical continuity.

COMPLETION**910 GUTTER TEST**

- Preparation: Temporarily block all outlets.
- Testing: Fill gutters to overflow level and after 5 minutes closely inspect for leakage.

920 MAKING GOOD

Any impact damage or surface scuffing during and after installation should be rectified in accordance with manufacturers recommendations to ensure product warranty and the integrity of the finished coating.\

Likewise, any cutting or drilling operations must be protected with paint immediately to prevent the onset of the rusting process. This touch up reworking also applies to any bolts, nuts screws used during assembly.