Atelier Mb Ltd

2057 - Cardinal

Materials and Workmanship

Tender Issue

29-01-2025

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C42
Repairing/ renovating/ conserving concrete

General

110 Survey report

1. See Brennan Consult Structural Inspection dated 31st March 2024.

130 Investigations by Employer's consultant

1. Access to repair area: When scaffold is in position.
   1.1. Notice: 5 days
2. Timing of instructions from date of each test: 2 days

140 Coordination of temporary works

1. Standard: To BS 5975.
2. Falsework coordinator: Appoint a suitably qualified and experienced person.
3. Responsibilities: In addition to those listed in BS 5975, clause 6.3.1.3, to ensure that:
   3.1. Relevant requirements for temporary supports, whether known at the outset or discovered in the course of the repair works, are fully considered.
   3.2. Removal of concrete/ reinforcement is only undertaken when it is safe to do so and temporary supports are in place.
4. Period of appointment: From commencement of Contract until completion of repair works.

150 Concrete replacement repairs

1. Description: To Window Surrounds
2. Location: As drawings 2057 T(200), T(210) and T(300)
3. Concrete removal
   3.1. Extent: Removal of damaged cast stone window surround units as identified on the drawings or other agreed on site.
   3.2. Limitations on removal: Complete damaged units only
   3.3. Method: Submit proposals
4. Concrete replacement: Cast stone units to match size of existing units
5. Finish: To match existing
6. Fixing: 5mm x 50mm long Grade 304 stainless steel dowels at 300 centres max.
   Ancon DPB or similar.
7. Joints: Fill joints with Sika Sikaflex waterproof sealant
8. Other requirements: Submit sample for approval

Products

305 Proprietary repair systems

1. Products: Compatible and supplied by the same manufacturer as part of a total repair system.

310 Polymer-modified cementitious mortars For crack repairs

1. Manufacturer: Sika Limited
   1.1. Contact details

1.1.1. Address: Watchmead
Welwyn Garden City
Hertfordshire
AL7 1BQ

1.1.2. Telephone: +44 (0)1707 394444

1.1.3. Web: https://www.sika.co.uk

1.1.4. Email: enquiries@uk.sika.com

1.2. Product reference: Sika MonoTop®-615

2. Density: Fresh mortar density ~ 1.65 kg/L.
3. Chloride Ion content: <0.009% (to EN 1015-17).
4. Colour:: Grey.
5. CompressiveStrength: ~35 N/mm² after 28 days (to EN 12190).
6. Modulus of elasticity: ~16.0 kN/mm² (to EN 13412).
7. Flexural strength: 28 days ~ 7.0 N/mm2 (to EN 12190).
8. Tensile Adhesion: ~2.0 N/mm² (to EN 1542).
9. Capillary absorption: 0.11 kg.m-2.h-0.5 (to EN 13057).
10. Carbonation resistance: Not required if coated.
11. Reaction to fire: Euroclass A1 (to EN 1504-3 cl 5.5).

341 Joint/ void sealant

1. Location: Joints between cast stone units
2. Type: Polyurethane sealant
3. Manufacturer: Sika Limited
Watchmead
Welwyn Garden City
Hertfordshire
AL7 1BQ

3.1. Product reference: Sikaflex - 11 FC

355 Corrosion inhibitor impregnations

1. Type: To EN 1504-7
2. Manufacturer: Sika Limited
Watchmead
Welwyn Garden City
Hertfordshire
AL7 1BQ

2.1. Product reference: SikaTop Armatec - 110 Epocem

3. Number of coats: As recommended by the manfacturer

Execution

605 Execution generally

1. Standard: To BS EN 1504-10.
2. Operatives' skill and experience: Appropriate for the types of preparation and application.

2.1. Evidence: Submit on request.

620 Trial samples

1. Location/ Size: Cast stone window surround, one complete replacement unit

2. Trial type/ purpose: For approval

625 Removal of fittings/ attachments

1. Extent: The area of repair and any fittings/ attachments that could impede or be damaged by access.
2. Removal methods: Minimize damage to concrete/ reinforcement and to fittings/ attachments that are to be retained for reuse.
3. Items for refixing after completion of repair work: Metal cladding and supports.
   3.1. Storage: Prevent damage.
4. Other requirements: Refix as soon as possible.

630 Cleaning concrete surfaces

1. Extent: To reveal surface condition and aid investigation work. Minimize disruption to concrete surfaces and materials. Leave no harmful residual cleaning agents.
2. Methods: Submit proposals

640 Extent of concrete removal for reinforcement treatment/ replacement

1. Generally: The minimum necessary to allow treatment/ replacement, and to achieve thorough compaction of replacement material.
2. Edges of retained concrete: No undercutting or feather edges. Maintain edge angle within 90-135° or, where replacement material is spray applied, 110-135°.
   2.1. Cutting: Prevent damage to reinforcement.
3. Removal of carbonated/ contaminated concrete: To be agreed
4. Gap to expose full profile of bar: Submit proposals
5. Length of continuous uncorroded reinforcement to be exposed (minimum): 50 mm or, where reinforcement is to be replaced, 50 mm beyond the end of lap or joint.

645 Cleaning reinforcement

1. Standard of cleaning: As recommended by the corrosion protection manufacturer

650 Adding/ replacing reinforcement generally

1. Cleaning existing reinforcement: Sufficient to assess degree of section loss.
2. Removing reinforcement sections: Minimize disruption to retained reinforcement, retained concrete and bond between the two.
3. Cutting reinforcement
   3.1. Cold worked reinforcement: Saw cut or shear.
   3.2. Hot rolled reinforcement when using welded or mechanical joints: Grind back burnt ends of reinforcement a minimum of 2 mm.
4. Condition of new reinforcement: Free from corrosive pitting, loose mills cale, loose rust and contaminants which may adversely affect the reinforcement, the concrete replacement material, or bond between the two.
5. Compatibility of metals in contact: Select to prevent bimetallic corrosion.

665 Formwork for recasting

1. Generally: Accurately and robustly constructed to produce finished concrete to the required dimensions.
   1.1. Formed surfaces: Free from twist and bow.
   1.2. Intersections, lines and angles: Square, plumb and true.

2. Joints in forms: Secure forms tight against existing concrete. Prevent loss of grout and formation of steps.

670 Grouting cracks/ voids

1. Substrates: Clean. Keep free of detritus.
2. Pressure: Minimum necessary to fill cracks completely. Leave no voids and prevent disruption to structure.

675 Curing concrete/ mortar

1. Requirement: Keep surface layers of concrete/ mortar moist throughout curing period, including perimeters and abutments, by either restricting evaporation or continuously wetting surfaces of concrete/ mortar.
    1.1. Surfaces covered by formwork: Retain formwork in position and, where necessary to satisfy curing period, cover surfaces immediately after striking.
    1.2. Top surfaces: If covering is removed for finishing operations, replace it immediately afterwards

Ω End of Section

F30
Accessories/ sundry items for brick/ block/ stone walling

330 Damp-proof courses Liquid

1. Description: To Parapet Walls
2. Manufacturer: Permaguard Products Ltd
   Units B2-B5,
   Worthy Road
   Chittening Industrial Estate
   Avonmouth
   Bristol
   BS11 0YB
   tel: 0117 982 3282
   www.permaguard.co.uk
   - 2.1. Product reference: PermaSEAL Liquid DPM
   - 2.2. Preparation: Remove existing mortar and clean, flush and free of contaminants. Dub out as required with 1:2 NHL 3.5: lime:sand slurry coat and allow to dry.
   - 2.3. Application: Two coats in accordance with the manufacturer's recommendations.

Installation of dpcs/ cavity trays

415 Installation of horizontal dpcs

1. Placement: In continuous lengths on full even bed of fresh mortar, with 100 mm laps at joints and full laps at angles.
2. Width: At least full width of leaf unless otherwise specified. Edges of dpc not covered with mortar or projecting into cavity.
3. Overlying construction: Immediately cover with full even bed of mortar to receive next masonry course.
4. Overall finished joint thickness: As close to normal as practicable.

Proprietary sills/ lintels/ copings/ dressings

726 Cast stone sills laid in hydraulic lime:sand mortar

1. Standard: To BS 1217.
2. Manufacturer:
   - 2.1. Product reference:
3. Dimensions: As shown on drawings.
4. Finish/ colour:
5. Mortar for bedding/ jointing: Hydraulic lime:sand, as section Z21.
   - 5.1. Hydraulic lime:
   - 5.2. Sand: Graded crushed stone.
     - 5.2.1. Colour: To match sill.
     - 5.2.2. Source/ type:
   - 5.3. Mix:
6. Joints: Flush.
7. Bedding one-piece sills: Leave bed joints open except under end bearings and masonry mullions. On completion, point to match adjacent work.
8. Environmental performance requirements:
   - 8.1. Environmental rating:

8.2. Recycled content:

9. Verification:
   9.1. Submittals:
   9.2. Timing:

766 Cast stone coping units laid in hydraulic lime:sand mortar

1. Standard: To BS 1217.
2. Manufacturer: Not applicable
   2.1. Product reference: Existing
3. Dimensions: As existing
4. Finish/ colour: As existing
5. Mortar for bedding/ jointing: Hydraulic lime:sand, as section Z21.
   5.1. Hydraulic lime: NHL 3.5
   5.2. Sand: Graded crushed stone.
      5.2.1. Colour: To match coping.
      5.2.2. Source/ type: Sharp, well-graded sand to approval
   5.3. Mix: 1:2 NHL 3.5 hydraulic lime:sharp, well-graded sand
6. Joints: Pointed with mortar.
7. Placement: Bedded on mortar.

Ω End of Section

L30
Stairs/ ladders/ walkways/ handrails/ balustrades

Preliminary information/ requirements

130 Site dimensions

1. Procedure: Before starting work on designated items take site dimensions, record on shop drawings and use to ensure accurate fabrication.
   1.1. Designated items:

Components

410 Steel ladders

1. Description: Roof Access
2. Manufacturer: Contractor's choice
3. Standard: To BS 4211.
4. Safety hoops: Required where height is greater than 3m
5. Platforms: Not required
6. Finish as delivered: Galvanized to BS EN ISO 1461
7. Reaction to fire: Not required
8. Other requirements: Walk through at top
9. Fixing: Bolted to existing structure

Installation

620 Priming/ Sealing/ Painting

1. Surfaces inaccessible after assembly/installation: Before fixing components, apply full protective/decorative treatment/coating system.

630 Corrosion protection of dissimilar materials

1. Components/ substrates/ fasteners of dissimilar materials: Isolate using washers/ sleeves or other suitable means to separate materials to avoid corrosion and/ or staining.

640 Installation generally

1. Fasteners and methods of fixing: To section Z20.
2. Structural members: Do not modify, cut, notch or make holes in structural members, except as indicated on drawings.
3. Temporary support: Do not use stairs, walkways or balustrades as temporary support or strutting for other work.
4. Applied finishes: Substrates to be even, dry, sound and free from contaminants. Make good substrate surfaces and prepare/ prime as finish manufacturer’s recommendation before application.

Completion

910 Inspection

1. Timing: Two weeks prior to date when contractor expects work to be practically complete
2. Period of notice (minimum): Three working days

920 Documentation

1. Contents
   1.1. Copies of structural design calculations/ test reports.
   1.2. General product information.
   1.3. Installation information.
   1.4. Inspection and maintenance reports.
2. Number of copies: 2
3. Submission: Two weeks prior to date when contractor expects work to be practically complete

Ω End of Section

M20
Plastered/ rendered/ roughcast coatings

Types of coating

310 Lime:sand

1. Description: EXTERNAL RENDER
2. Substrate: Existing brickwork
   2.1. Preparation: Remove existing render and brush clean. Dub out damaged brick surfaces with 1:2 NHL 3.5:sand lime slurry coat. Damp down substrate before applying render.
3. Lime manufacturer: Contractor's choice
   3.1. Product reference/ Type: Hydraulic NHL2, Hydraulic NHL3.5, Hydraulic NHL5
4. Stipple Coat:
   4.1. Mix: NHL5: sand 1:1.5 to 1:2
      4.1.1. Sand: well graded 5mm down to 0.075
      4.1.2. Thickness: 3 - 5mm
5. Undercoats
   5.1. Mix: NHL3.5: sand 1:2
      5.1.1. Sand: well graded 3mm down to 0.075
   5.2. Thickness (excluding dubbing out and keys): 10mm
6. Final coat
   6.1. Mix: NHL3.5: sand 1:2.5
      6.1.1. Sand: well graded 3mm down to 0.075
   6.2. Thickness: 5 - 8mm
   6.3. Finish: Plain wood float
7. Accessories: Stainless steel stops and beads
8. Other requirements: Protect with hessian cloth between coats

General

413 Samples

1. General: Provide representative samples of the following: …….

418 Control samples

1. Complete sample areas, being part of the finished work, in locations as follows:

421 Scaffolding

1. General: Prevent putlog holes and other breaks in coatings.

424 Special protection of historic plasterwork

1. General: Prevent damage and disturbance to retained plasterwork.
2. Protection methods: Submit proposals.

Materials and marking of mortar

438 Cements for mortars

1. Cement: To BS EN 197-1.

1.1. Types: Portland cement, CEM I.
2. Portland slag cement, CEM II.
3. Portland fly ash cement, CEM II.
   3.1. Strength class: 32.5, 42.5 or 52.5.
4. White cement: To BS EN 197-1.
   4.1. Type: Portland cement, CEM1.
   4.2. Strength class: 52.5.
5. Sulfate resisting Portland cement: To BS EN 197-1.
   5.1. Strength class: 42.5.

440 Sand for cement gauged mortars

1. Standard: To BS EN 13139.
   1.1. Grading: 0/2 or 0/4 (CP or MP); Category 2 fines.
2. Colour and texture: Consistent. Obtain from one source.

445 Pigment for coloured mortars

1. Standard: To BS EN 12878.

478 Hydraulic lime

1. Standard: To BS EN 459-1.
   1.1. Type: Natural hydraulic lime (NHL).

495 Mixing

1. Render mortars (site prepared)
   1.1. Batching: By volume. Use clean and accurate gauge boxes or buckets.
   1.2. Mix proportions: Based on damp sand. Adjust for dry sand.
   1.3. Lime:sand: Mix thoroughly. Allow to stand, without drying out, for at least 16 hours before using.
2. Mixes: Of uniform consistence and free from lumps. Do not retemper or reconstitute mixes.
3. Contamination: Prevent intermixing with other materials.

497 Cold weather

1. General: Do not use frozen materials or apply coatings on frozen or frost bound substrates.
2. External work: Avoid when air temperature is at or below 5°C and falling or below 3°C and rising. Maintain temperature of work above freezing until coatings have fully hardened.
3. Internal work: Take precautions to enable internal coating work to proceed without detriment when air temperature is below 3°C.

Preparing substrates

510 Suitability of substrates

1. Soundness: Free from loose areas and significant cracks and gaps.
2. Cutting, chasing, making good, fixing of conduits and services outlets and the like: Completed.
3. Tolerances: Permitting specified flatness/ regularity of finished coatings.
4. Cleanliness: Free from dirt, dust, efflorescence and mould, and other contaminants incompatible with coatings.

531 Roughening for key

1. Substrates: Roughen thoroughly and evenly.
   1.1. Depth of surface removal: Minimum necessary to provide an effective key.

541 Bonding agent application

1. General: Apply evenly to substrate to achieve effective bond of plaster/ render coat. Protect adjacent joinery and other surfaces.

556 Removing defective existing render

1. Render for removal: Detached, hollow, soft, friable, badly cracked, affected by efflorescence or otherwise damaged.
2. Removing defective render: Cut out to regular rectangular areas with straight edges.
   2.1. Horizontal and vertical edges: Square cut or slightly undercut.
   2.2. Bottom edges to external render: Do not undercut.
   2.3. Render with imitation joints: Cut back to joint lines.
3. Cracks
   3.1. Fine hairline cracking/ crazing: Leave.
   3.2. Other cracks:
4. Dust and loose material: Remove from exposed substrates and edges.

Backings/ beads/ joints

636 Beads/ stops for external use

1. Standard: In accordance with BS EN 13914-1, Table 4.
2. Material: Stainless steel to BS EN 13658-2

640 Beads/ stops generally

1. Location: External angles and stop ends except where specified otherwise.
2. Corners: Neat mitres at return angles.
3. Fixing: Secure, using longest possible lengths, plumb, square and true to line and level, ensuring full contact of wings with substrate.
   3.1. Beads/ stops for external render: Fix mechanically.
4. Finishing: After coatings have been applied, remove surplus material while still wet, from surfaces of beads/ stops exposed to view.

710 Application generally

1. Application of coatings: Firmly and in one continuous operation between angles and joints. Achieve good adhesion.
2. Appearance of finished surfaces: Even and consistent. Free from rippling, hollows, ridges, cracks and crazing.
   2.1. Accuracy: Finish to a true plane, to correct line and level, with angles and corners to a right angle unless specified otherwise, and with walls and reveals plumb and square.
3. Drying out: Prevent excessively rapid or localized drying out.

715 Flatness/ surface regularity

1. Sudden irregularities: Not permitted.
2. Deviation of plaster surface: Measure from underside of a straight edge placed anywhere on surface.

2.1. Permissible deviation (maximum) for plaster not less than 13 mm thick: 3 mm in any consecutive length of 1800 mm.

720 Dubbing out

1. General: Correct substrate inaccuracies.
2. New smooth dense concrete and similar surfaces: Dubbing out prohibited unless total plaster thickness is within range recommended by plaster manufacturer.
3. Thickness of any one coat (maximum): 10 mm.
4. Mix: As undercoat.
5. Application: Achieve firm bond. Allow each coat to set sufficiently before the next is applied. Cross scratch surface of each coat.

725 Undercoats generally

1. General: Rule to an even surface. Cross scratch to provide a key for the next coat.
2. Undercoats on metal lathing: Work well into interstices to obtain maximum key.
3. Undercoats gauged with Portland cement: Do not apply next coat until drying shrinkage is substantially complete.

777 Smooth finish

1. Appearance: A tight, matt, smooth surface with no hollows, abrupt changes of level or trowel marks. Avoid water brush, excessive trowelling and over polishing.

778 Wood float finish

1. Appearance: An even overall texture. Finish with a dry wood float as soon as wet sheen has disappeared.

External rendering

810 Application generally

1. Application of coatings: Firmly and in one continuous operation between angles and joints. Achieve good adhesion.
2. Appearance of finished surfaces: Even and consistent. Free from rippling, hollows, ridges, cracks and crazing.
   2.1. Accuracy: Finish to a true plane, to correct line and level, with angles and corners to a right angle unless specified otherwise, and with walls and reveals plumb and square.
3. Drying: Prevent excessively rapid or localized drying out.

820 Dubbing out rendering

1. General: Correct substrate inaccuracies.
2. Thickness of any one coat (maximum): 16 mm.
   2.1. Total thickness (maximum): 20 mm, otherwise obtain instructions.
3. Mix: As undercoat.
4. Application: Achieve firm bond. Allow each coat to set sufficiently before the next is applied. Comb surface of each coat.

840 Undercoats generally

1. General: Rule to an even surface. Comb to provide a key for the next coat. Do not penetrate the coat.
2. Undercoats on metal lathing: Work well into interstices to obtain maximum key.

856 Final coat – plain floated finish

1. Finish: Even, open texture free from laitance.

880 Curing and drying

1. General: Prevent premature setting and uneven drying of each coat.
2. Curing coatings: Keep each coat damp by covering with polyethylene sheet and/ or spraying with water.
   2.1. Curing period (minimum): 2 - 10 days as per weather conditions
   2.2. Final coat: Hang sheeting clear of the final coat.
3. Drying: Allow each coat to dry thoroughly, with drying shrinkage substantially complete before applying next coat.
4. Protection: Protect from frost and rain.

Ω End of Section

M60
Painting/clear finishing

Coating systems

130 Gloss paint

1. Description: To previously decorated external timber surfaces
2. Manufacturer: The Little Greene Paint Company Limited,
   The Coach Works,
   420 Ashton Old Road,
   Manchester M11 2DT
   tel: 0845 880 5855
   www.littlegreene.com
   2.1. Product reference: Intelligent Gloss
3. Surfaces: previously painted wood
   3.1. Preparation: Ensure surfaces are clean and dry. Degrease and provide key
4. Initial coats: Intelligent ASP
   4.1. Number of coats: One coat
5. Finishing coats: Full gloss
   5.1. Number of coats: Two coats
   5.2. Colour: To be confirmed

150 Eggshell/ satin paint

1. Description: To External Metal Surfaces
2. Manufacturer: The Little Greene Paint Company Limited,
   The Coach Works,
   420 Ashton Old Road,
   Manchester M11 2DT
   tel: 0845 880 5855
   www.littlegreene.com
   2.1. Product reference: Intelligent Exterior Eggshell
3. Surfaces: Previously decorated metal and new cast iron surfaces
   3.1. Preparation: Remove all loose and defective coatings
4. Initial coats: Intelligent All Surface Primer
   4.1. Number of coats: One coat
5. Finishing coats: Intelligent Exterior Eggshell
   5.1. Number of coats: Two coats
6. Colour: To be confirmed

170 Masonry coating

1. Description: To New External Render
2. Manufacturer: Graphenstone UK
   15-16G Speedwell Way
   Border Valley Industrial Estate
   Harleston
   Norfolk
   IP20 9EH
   tel: 01379 772940
   www.graphenstone.co.uk

2.1. Product reference: GCS Exterior

2.2. Colour: To be confirmed

3. Surfaces: New lime render

3.1. Preparation: Ensure surfaces are clean and dry

4. Finishing coats: Applied as recommended by the manufacturer

4.1. Number of coats: 2 - 3

5. Special requirements: Protect from rain for 4 days after application.

172 Masonry coating For Cast Stone

6. Description: To New and Existing Cast Stone

7. Manufacturer: Graphenstone UK
15-16G Speedwell Way
Border Valley Industrial Estate
Harleston
Norfolk
IP20 9EH
tel: 01379 772940
www.graphenstone.co.uk

7.1. Product reference: GCS Exterior

7.2. Colour: To be confirmed

8. Surfaces: New lime render

8.1. Preparation: Remove existing loose paint and ensure surfaces are clean and dry

9. Finishing coats: Applied as recommended by the manufacturer

9.1. Number of coats: 2

10. Special requirements: Protect from rain for 4 days after application.

Generally

215 Handling and storage

1. Coating materials: Deliver in sealed containers, labelled clearly with brand name, type of material and manufacturer's batch number.

2. Materials from more than one batch: Store separately. Allocate to distinct parts or areas of the work.

220 Compatibility

1. Coating materials selected by contractor

1.1. Recommended by their manufacturers for the particular surface and conditions of exposure.

1.2. Compatible with each other.

1.3. Compatible with and not inhibiting performance of preservative/fire-retardant pretreatments.

240 Surfaces not to be coated

1. Cast stone window surrounds, cornice and copings.

Preparation

400 Preparation generally

1. Standard: In accordance with BS 6150.
2. Refer to any pre-existing CDM Health and Safety File.
3. Refer to CDM Construction Phase Plan where applicable.
4. Suspected existing hazardous materials: Prepare risk assessments and method statements covering operations, disposal of waste, containment and reoccupation, and obtain approval before commencing work.
5. Preparation materials: Types recommended by their manufacturers and the coating manufacturer for the situation and surfaces being prepared.
6. Substrates: Sufficiently dry in depth to suit coating.
7. Efflorescence salts: Remove.
8. Dirt, grease and oil: Remove. Give notice if contamination of surfaces/ substrates has occurred.
9. Surface irregularities: Remove.
10. Joints, cracks, holes and other depressions: Fill flush with surface, to provide smooth finish.
11. Dust, particles and residues from preparation: Remove and dispose of safely.
12. Water based stoppers and fillers
    - 12.1. Apply before priming unless recommended otherwise by manufacturer.
    - 12.2. If applied after priming: Patch prime.
13. Oil based stoppers and fillers: Apply after priming.
14. Doors, opening windows and other moving parts
    - 14.1. Ease, if necessary, before coating.
    - 14.2. Prime resulting bare areas.

425 Ironmongery

1. Removal: Before commencing work: Remove ironmongery from surfaces to be coated.
2. Hinges: Do not remove
3. Replacement: Refurbishment as necessary; refit when coating is dry.

430 Existing ironmongery

1. Refurbishment: Remove old coating marks. Clean and polish.

440 Previously coated surfaces generally

1. Preparation: In accordance with BS 6150, clause 11.5.
2. Contaminated or hazardous surfaces: Give notice of:
    - 2.1. Coatings suspected of containing lead.
    - 2.2. Substrates suspected of containing asbestos or other hazardous materials.
    - 2.3. Significant rot, corrosion or other degradation of substrates.
3. Suspected existing hazardous materials: Prepare risk assessments and method statements covering operations, disposal of waste, containment and reoccupation, and obtain approval before commencing work.
4. Removing coatings: Do not damage substrate and adjacent surfaces or adversely affect subsequent coatings.
5. Loose, flaking or otherwise defective areas: Carefully remove to a firm edge.
6. Alkali affected coatings: Completely remove.
7. Retained coatings

7.1. Thoroughly clean to remove dirt, grease and contaminants.
7.2. Gloss-coated surfaces: Provide key.

8. Partly removed coatings
8.1. Additional preparatory coats: Apply to restore original coating thicknesses.
8.2. Junctions: Provide flush surface.

9. Completely stripped surfaces: Prepare as for uncoated surfaces.

461 Previously coated wood

1. Degraded or weathered surface wood: Take back to provide suitable substrate.
2. Degraded substrate wood: Repair with sound material of same species.
3. Exposed resinous areas and knots: Apply two coats of knotting.

471 Preprimed wood

1. Areas of defective primer: Take back to bare wood and reprime.

490 Previously coated steel

1. Defective paintwork: Remove to leave a firm edge and clean bright metal.
2. Sound paintwork: Provide key for subsequent coats.
3. Corrosion and loose scale: Take back to bare metal.
4. Residual rust: Treat with a proprietary removal solution.
5. Bare metal: Apply primer as soon as possible.
6. Remaining areas: Degrease.

500 Preprimed steel

1. Areas of defective primer, corrosion and loose scale: Take back to bare metal. Reprime as soon as possible.

622 Organic growths

1. Dead and loose growths and infected coatings: Scrape off and remove from site.
2. Treatment biocide: Apply appropriate solution to growth areas and surrounding surfaces.
3. Residual effect biocide: Apply appropriate solution to inhibit re-establishment of growths.

Application

711 Coating generally

1. Application standard: In accordance with BS 6150, clause 9.
2. Conditions: Maintain suitable temperature, humidity and air quality during application and drying.
3. Surfaces: Clean and dry at time of application.
4. Thinning and intermixing of coatings: Not permitted unless recommended by manufacturer.
5. Overpainting: Do not paint over intumescent strips or silicone mastics.
6. Priming coats
   - 6.1. Thickness: To suit surface porosity.
   - 6.2. Application: As soon as possible on same day as preparation is completed.
7. Finish
   - 7.1. Even, smooth and of uniform colour.
   - 7.2. Free from brush marks, sags, runs and other defects.
   - 7.3. Cut in neatly.
8. Doors, opening windows and other moving parts: Ease before coating and between coats.

770 External doors

1. Bottom edges: Prime and coat before hanging doors.

Ω End of Section

R10
Rainwater drainage systems

General

110 Gravity rainwater drainage system

1. Rainwater outlets: Proprietary
2. Pipework: Cast iron, spigot and socket, sealed
3. Below ground drainage: existing
4. Disposal: To surface water drainage
5. Controls: Not applicable
6. Accessories: none

System performance

210 Design

1. Design: Complete the design of the rainwater drainage system.
2. Standard
   - 2.1. To BS EN 12056-3, clauses 3–7, Annex A and National Annexes.
   - 2.2. To BS EN 12056-5, clauses 3, 4, 6 and 11.
3. Proposals: Submit drawings, technical information, calculations and manufacturers' literature.

221 Collection and distribution of rainwater

1. General: Complete, and without leakage or noise nuisance.

Products

385 Cast iron pipework - spigot and socket - sealed

1. Standard: To BS 416-1.
2. Manufacturer: J + JW Longbottom Limited
   Bridge Foundry
   Holmfirth
   HD9 7AW
   tel: 01484 692141
   www.longbottomfoundry.co.uk
   - 2.1. Product reference: Round rainwater pipe with sockets
3. Type: A, with ears
4. Nominal size: DN150 (6")
5. Finish as supplied: Water based primer, to receive paint finish as section M60
6. Brackets: Cast iron to match existing
   - 6.1. Fixings: Stainless steel screws
     - 6.1.1. Size: As recommended ny the manufacturer.
7. Accessories: Rainwater Head No. 82 or to match existing, shoe with ears or to suit installation.

Execution

600 Preparation

1. Work to be completed before commencing work specified in this section

1.1. Below ground drainage. Alternatively, make temporary arrangements for dispersal of rainwater without damage or disfigurement of the building fabric and surroundings.

1.2. Painting of surfaces which will be concealed or inaccessible.

605 Installation generally

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

610 Fixing and jointing gutters

1. Joints:
2. Brackets: Securely fixed.
   2.1. Fixings: Stainless Steel, as recommended by the manufacturer.
      2.1.1. Fixing centres: as recommended by the manufacturer.
   2.2. Additional brackets: Where necessary to maintain support and stability, provide at joints in gutters and near angles and outlets.
3. Roofing underlay: Dressed into gutter.

635 Fixing pipework

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

640 Fixing vertical pipework

1. Bracket fixings:
2. Distance between bracket fixing centres (maximum):

650 Jointing pipework and gutters

1. General: Joint with materials and fittings that will make effective and durable connections.
2. Jointing differing pipework and gutter systems: Use adaptors intended for the purpose.
3. Cut ends of pipes and gutters: Clean and square. Remove burrs and swarf. Chamfer pipe ends before inserting into ring seal sockets.
4. Jointing or mating surfaces: Clean and, where necessary, lubricate immediately before assembly.

5. Junctions: Form with fittings intended for the purpose.
6. Jointing material: Strike off flush. Do not allow it to project into bore of pipes and fittings.
7. Surplus flux, solvent jointing materials and cement: Remove.

660 Jointing external pipework

1. Jointing:

700 Access for testing and maintenance

1. General: Install pipework and gutters with adequate clearance to permit testing, cleaning and maintenance, including painting where necessary.
2. Access fittings and rodding eyes: Position so that they are not obstructed.

Completion

900 Testing generally

1. Dates for testing: Give notice.
   1.1. Period of notice (minimum):
2. Preparation
   2.1. Pipework: Complete, securely fixed, free from defects, obstruction and debris before testing.
3. Testing
   3.1. Supply clean water, assistance and apparatus.
   3.2. Do not use smoke to trace leaks.
4. Records: Submit a record of tests.

915 Maintenance instructions

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

920 Immediately before handover

1. Construction rubbish, debris, swarf, temporary caps and fine dust which may enter the rainwater system: Remove. Do not sweep or flush into the rainwater system.
2. Access covers, rodding eyes, outlet gratings and the like: Secure complete with fixings.

Ω End of Section

Z20
Fixings and adhesives

To be read with preliminaries/ general conditions.

200 General requirements for fixings

1. Materials need to have:
    1.1. Bimetallic corrosion resistance appropriate to items being fixed.
    1.2. Atmospheric corrosion resistance appropriate to fixing location.
    1.3. Fire resistance appropriate to fixing location and application.
    1.4. Material safety and data sheets (MSDS).
2. Appearance:

Products

315 Bolts

1. Manufacturer: Contractor's choice
2. Properties
    2.1. Head type: Hexagonal
        2.1.1. Standard: To BS EN ISO 3506-1
    2.2. Thread form: Metric (MM)
    2.3. Material: Stainless steel
        2.3.1. Grade: 304
    2.4. Dimensions
        2.4.1. Length: As recommended by the component manufacturer
            2.4.1.1. Shank: As recommended by the component manufacturer
            2.4.1.2. Thread: As recommended by the component manufacturer
        2.4.2. Thread diameter: As recommended by the component manufacturer
        2.4.3. Head size: As recommended by the component manufacturer
    2.5. Finish: Natural

370 Dowels

1. Manufacturer: Leviat
President Way
President Park
Sheffield, S4 7UR
United Kingdom
Tel: +44 (0) 114 275 5224
Fax: +44 (0) 114 276 8543
Email: info.ancon.uk@leviat.com
    1.1. Product reference: Ancon DPB
2. Properties
    2.1. Material: Austenitic stainless steel
    2.2. Dimensions
        2.2.1. Length: 50mm or to suit location
    2.3. Form: bracket with 6 x 60 dowel

380 Screws

1. Manufacturer: Contractor's choice
2. Screw details
    2.1. Type: As recommended by the component manufacturer
    2.2. Material: Stainless steel
        2.2.1. Grade: 304
    2.3. Dimensions
        2.3.1. Length: As recommended by the component manufacturer
        2.3.2. Thread diameter: As recommended by the component manufacturer
    2.4. Washers: Not required
3. Accessories: As recommended by the component manufacturer

Execution

670 Installing dowels

1. Preparation: Pre-drill holes into components
    1.1. Fastener spacing: To suit component
        1.1.1. Marking: Mark locations of dowels on the component surface
    1.2. Pilot holes: Drill using a hammer drill
        1.2.1. Diameter: 6.5mm
        1.2.2. Depth: 30mm
        1.2.3. Cleaning: Bush out to remove all debris
2. Installation: Apply epoxy grout and insert dowel
3. Finishing: Remove excess grout.

Ω End of Section

Z21
Mortars

Lime:sand mortars

310 Lime:sand mortar mixes

1. Specification: Proportions and additional requirements for mortar materials are specified elsewhere.

320 Sand for lime:sand masonry mortars

1. Type: Sharp, well graded.
   1.1. Quality, sampling and testing: To BS EN 13139.
   1.2. Grading/ Source: As specified elsewhere in relevant mortar mix items.

345 Admixtures for hydraulic lime:sand mortars

1. Air entraining (plasticizing) admixtures: To BS EN 934-3 and compatible with other mortar constituents.
2. Prohibited admixtures: Calcium chloride, ethylene glycol and any admixture containing calcium chloride.

350 Storage of lime:sand mortar materials

1. Sands and aggregates: Keep different types/ grades in separate stockpiles on hard, clean, free-draining bases.
2. Ready prepared nonhydraulic lime putty: Prevent drying out and protect from frost.
3. Nonhydraulic lime:sand mortar: Store on clean bases or in clean containers that allow free drainage. Prevent drying out or wetting and protect from frost.
4. Bagged hydrated hydraulic lime: Store off the ground in dry conditions.

360 Making lime:sand mortars generally

1. Batching: By volume. Use clean and accurate gauge boxes or buckets.
2. Mixing: Mix materials thoroughly to uniform consistency, free from lumps.
3. Contamination: Prevent intermixing with other materials, including cement.

400 Making hydraulic lime:sand mortars

1. Mixing hydrated hydraulic lime:sand: Follow the lime manufacturer's recommendations for each stage of the mix.
   1.1. Water quantity: Only sufficient to produce a workable mix.
2. Working time: Within limits recommended by the hydraulic lime manufacturer.

Ω End of Section



Specification created using NBS Chorus