

St Mary's Church, Aberavon, Port Talbot – External Repairs

18-1001 Specification

4<sup>th</sup> May 2018

| Ref | Section                                     | Revision | Date       |
|-----|---------------------------------------------|----------|------------|
| C41 | REPAIRING / RENOVATING / CONSERVING MASONRY | -        | 04/05/2018 |
| H62 | NATURAL SLATING                             | -        | 04/05/2018 |
| H71 | LEAD SHEET COVERINGS/FLASHINGS              | -        | 04/05/2018 |
| M60 | PAINTING                                    | -        | 04/05/2018 |

## C41 REPAIRING, RENOVATING & CONSERVING MASONRY

To be read with Preliminary information

### GENERAL CONDITIONS

The work described in these sections should be carried out by qualified stonemasons working for an approved stonemasonry sub-contractor whose name shall be supplied to the CA for approval before putting the work in hand.

### 110 SCOPE OF WORK

- Schedule of work: As noted on drawings 18-1001- 401, 402,403 and 404
- Records of masonry to be repaired: Before starting work, use measurements and photographs as appropriate to record bonding patterns, joint widths, special features, etc.
- Identification of masonry units to be removed, replaced or repaired: Mark clearly, but not indelibly, on face of masonry units or parts of units to be cut out and replaced. Transcribe markings to drawings/photographs. The Contractor and CA are to agree the scope before any works commence with formal instruction provided, as per clause 120.

### 120 SITE INSPECTION FOLLOWING SUITABLE ACCESS HAS BEEN PROVIDED AND VEGETATION REMOVED

- Purpose: To confirm type and extent of repair/ renovation/ conservation work shown on drawings and described in survey reports and schedules of work.
- Parties involved: Contract Administrator and Contractor's site foreman / project manager.
- Timing: At least 10 working days before starting each section of work.
- Instructions issued during inspection: Confirm in writing, with drawings and schedules as required, before commencing work.

### 130 REMOVAL OF PLANT GROWTHS FROM MASONRY

- Plants, root systems and associated soil/ debris: Carefully remove from joints, voids and face work. Where roots are invasive and embedded within the wall, remove visible vegetation and drive copper nails into the root system to kill the root and monitor until root withers.
- Removal of roots: Where growths cannot be removed completely without disturbing masonry seek instructions.

140 RECORD OF WORK

- General: Record work carried out to masonry clearly and accurately using written descriptions, sketches, drawings and photographs, as necessary.
- Specific records: Photographs to be taken before and after the works clearly stating the date and location of the photograph. Each photograph is to have a reference number, which is to be referenced back to the location of the works and indicated on the series of drawings.
- Documentation: Submit on completion of the work.
- Number of sets: Two sets of completed annotated drawings with photographic references clearly indicated, and series of photographs to be issued digitally on CD (2 copies).

150 POWER TOOLS

- Usage for removal of mortar: Permitted only with prior approval and in discussion with the contract administrator. The administrator will require a demonstration of where and how the usage of power tools is to be used.

155 PROTECTION OF MASONRY UNITS AND MASONRY

- Masonry units: Prevent overstressing during transit, storage, handling and fixing. Store on level bearers clear of the ground, separated with resilient spacers. Protect from adverse weather and keep dry. Prevent soiling, chipping and contamination. Lift units at designed lifting points, where provided.
- Masonry: Prevent damage, particularly to arrises, projecting features and delicate, friable surfaces. Prevent mortar/ grout splashes and other staining and marking on face-work. Protect using suitable non-staining slats, boards, tarpaulins, etc. Remove protection on completion of the work.

160 STRUCTURAL STABILITY

- General: Maintain stability of masonry. Report defects, including signs of movement that are exposed or become apparent during the removal of masonry units.

165 DISTURBANCE TO RETAINED MASONRY

- Retained masonry in the vicinity of repair works: Disturb as little as possible.
- Existing retained masonry: Do not cut or adjust to accommodate new or reused units.
- Retained loose masonry units and those vulnerable to movement during repair works: Prop or wedge so as to be firmly and correctly positioned.

170 WORKMANSHIP

- Skill and experience of site operatives: Appropriate for types of work on which they are employed.
- Documentary evidence: Should the team put forward during the tender period change and new site operatives employed, their credentials are to be issued to the CA for comment/approval.

175 ADVERSE WEATHER

- General: Do not use frozen materials or lay masonry units on frozen surfaces.
- Air temperature: Do not bed masonry units or repoint:
  - In cement gauged mortars when ambient air temperature is at or below 3°C and falling or unless it is at least 1°C and rising, unless mortar has a minimum temperature of 4°C when laid and the masonry is adequately protected.
  - In hydraulic lime:sand mortars when ambient air temperature is at or below 5°C and falling or unless it is at least 3°C and rising.
  - In non-hydraulic lime:sand mortars in cold weather, unless approval is given.
- Temperature of the work: Maintain above freezing until mortar has fully set.
- Rain, snow and dew: Protect masonry by covering during precipitation, and at all times when work is not proceeding.
- Hot conditions and drying winds: Prevent masonry from drying out rapidly.
- New mortar damaged by frost: Rake out and replace.

185 CONTROL SAMPLES

- General: Complete an area of each of the following types of work, and arrange for inspection before proceeding with the remainder:
  - a) Insertion of new stone pinning
  - b) Repairs to movement patterns, including structural engineer's interventions
  - c) Repointing to coursed masonry
  - d) Stitching to ashlar masonry
- Retention of samples: Unless instructed otherwise, retain samples on site for reference. Protect from damage and contamination.

186 ECOLOGY

Prior to the start of investigation/repair works the contractor is to allow for an ecologist to inspect the small cracks/cavities for the presence of bats. This will involve a day-time inspection using a torch or endoscope as appropriate and will require scaffold access to works areas to be in place. In the unlikely event a bat were discovered; all works would cease immediately and Natural Resources Wales (NRW) or the project

architect contacted for advice on how to proceed. If a hibernating bat were discovered in a particular area, no further works would be possible until further survey and/or a licence was put in place (from spring/summer 2018). The contractor is to allow for a provisional sum for ecologist time to inspect the cracks/cavities.

190 RECORDING PROFILES

- Profiles: Take measurements from existing masonry units, as instructed, to allow accurate matching of replacements.
- Recording in situ: If there are no suitable joints to allow use of inserts, seek instructions.
- Drawings and templates: Prepare as necessary. Templates must be clearly and indelibly marked to identify use and location.

191 RELEASING STONES

Releasing: Release stones by cutting out the stone with chasing chisels and hacksaws. Power tools will not be permitted. All voids formed as a result of stone removal must be well cleaned of all loose mortar, debris and vegetation prior to reinstatement of masonry to ensure that good adhesion is obtained between the new mortar and sound surfaces of existing and new masonry.

195 REPLACEMENT STONE UNITS

- Supplier: Contractor to put forward suggestions and provide samples for approval by the CA. Samples are to be offered up to the existing adjacent stonework so that samples can be matched to the conditions.
- Quality: Free from vents, cracks, fissures, discolouration, or other defects that may adversely affect strength, durability or appearance. Thoroughly seasoned, dressed and worked.
- Sizes and profiles: To match existing masonry. Maintain existing joint widths.
- Sinkings for fixings, joggles and lifting devices: Accurately aligned and positioned in relation to existing masonry.
- Marking: Mark each block/ dressing clearly and indelibly on a concealed face to indicate the natural bed and position in the finished work.

MATERIALS

204 STONE FIXINGS FOR COPING STONES

- Manufacturer: Ancon
  - Web: [www.ancon.co.uk](http://www.ancon.co.uk)
  - Email: [info@ancon.co.uk](mailto:info@ancon.co.uk)
  - +44 (0)114 275 5224

- Product reference: MPB: Austenitic stainless steel
- Sizes: length 200mm; 6mm diameter x 60mm loose dowel. CE Marked. (2 no cramps per coping stone, fitted to the LHS and RHS of coping stone with a minimum of 75mm clearance from the free edge to the side face of the coping stone.
- Other requirements: clause 330
- All copings are to be designed and installed with reference to BS 5642: Part 2: 1983 Sills, copings and capping's. Specification for copings and capping's of precast concrete, cast stone, clay ware, slate and natural stone (+A1:2014). In existing locations, where coping stones are being replaced/repared, coping stones are to match the adjacent stone copings in all characteristics, unless otherwise noted.
- Newly installed coping stones are to be tied into the masonry substrate below to prevent the coping from sliding down the wall and to also prevent lifting. This is to be carried out using Ancon MPB cramp fixing as noted above. Where connecting to the masonry below, fix using dowels 2no dowels as indicated in clause 206 – sizes to be confirmed on site following the opening-up works.

205 BED JOINT REINFORCEMENT TO MASONRY

- Manufacturer: Helifix
  - Web: [www.helifix.co.uk](http://www.helifix.co.uk).
  - Email: [sales@helifix.co.uk](mailto:sales@helifix.co.uk).
  - Product reference: DryFix
- Diameter: 6 mm.
- Accessories: None.
- Material: Austenitic Stainless Steel, to BS EN 10088-3.
- Width: Approximately 40-50 mm less in width than wall or leaf.
- Laying: On an even bed of mortar in a continuous strip with 225 mm laps at joints and full laps at angles. Keep back 20 mm from face of external work, 12 mm back from face of internal work and finish mortar joint to normal thickness.

206 PINS/DOWELS TO RUBBLE STONework AND ASHLAR

- Dowels / Pins
  - Stairib 460 Deformed Round Bar 6mm diameter in Grade 18/8 Austenitic Stainless Steel 460 Nmm<sup>2</sup> complies with BS6744:1986. Spec 304531 - By Ancon Building Products (Sheffield) Ltd or similar supplier approved by Architect.
  - Type: Austenitic stainless steel threaded rods
  - Diameter: 6mm
- Additional Requirements: Length of dowels 125mm

207 RESIN

Epoxy resin for bonding stainless steel dowels, etc. to be RKEX system from Rawlplug Ltd, Skibo Drive, Thornliebank Industrial Estate, Glasgow G46 8JR (telephone: 0141 638 7961, e-mail: rawlinfo@rawlplug.co.uk) or equivalent approved, used strictly in accordance with manufacturer's instructions.

210 BEDDING AND POINTING FOR COPINGS, FLAUNCHING, STRING COURSES & ASHLAR STONE

- Mix: 1:2
  - 1: Natural Hydraulic lime NHL5/Z: Singleton Birch (Secil) Hyradulic Lime
  - 2: Sand
  - Sand source/ type: Clean, well graded, well washed sharp sand from a local quarry (samples to be provided).

215 POINTING FOR COURSED STONework

- Mix: 1:3
  - 1: Lime Putty (Ty-Mawr Lime Putty or similar)
  - 2.5: Sand
  - 0.5: Pozzolan
  - Sand source/ type: Clean, well graded, well washed sharp sand from a local quarry (samples to be provided).
  - Pozzolan to be ground granulated blast furnace slag (GGBFS) or equivalent, or low-fired brick dust (1/8" to dust) where colour required for appearance.  
(samples to be provided).

WORKMANSHIP GENERALLY

305 RECORDING

- All areas are to be fully recorded by the contractor using photography and marked up record drawings prior to taking down, noting position of stones, the nature and style of the walling and style of the bedding and pointing.
- All materials resulting from taking down operations are to be carefully handled, salvaged and stored on site. They remain the property of the client until such time as they are instructed specifically for disposal.
- Following inspection with the CA mark out are to be treated on site and transfer onto record drawing. Photograph areas to be treated and cross refer photo to record drawings.

- 325 STONE PINNING'S FOR RUBBLE STONWORK
- Material for pinning's: matching sandstone, closely spaced.
  - Placing; Tamp pinning's firmly into fresh mortar. Ensure mortar is thoroughly compacted into voids and that levelling and load distribution functions of pinning's are retained.
- 330 PINNING TO RUBBLE STONWORK AND ASHLAR
- Dowels / Pins: As clause 206
  - Resin: Low viscosity resin for approval
  - Holes: Drill carefully, sloping downwards into background. Remove drilling dust and debris and keep dry.
  - Filling holes:
    - Check that dowel lengths are correct before filling with resin
    - Use sufficient resin so that when the dowel is inserted the resin is dispersed to achieve an effective repair.
  - Exposed faces: Keep clean and free from resin stains. Use temporary plugging material and / or isolating membrane as necessary.
  - Clearance: Keep ends of ties and resin back from face of masonry.
  - Making good after resin has cured. With mortar as clause 220.
- 335 MAKING GOOD TO INJECTION AND INSERTION HOLES
- Preparation: Clean out holes thoroughly.
  - Repair mortar: To match existing masonry units/ joints in colour and texture. Fill holes and finish mortar neatly and flush with surrounding masonry.
  - Finished appearance: Obtain approval for first few holes before completing the remainder.
- 340 POINTING / REPOINTING - PREPARATION
- Existing mortar: Working from top of wall downwards, remove mortar carefully, without damaging adjacent masonry or widening joints, to a depth equal to twice the width of the joints, but no less than 30mm
    - Loose or friable mortar: Seek instructions when mortar beyond specified recess depth is loose or friable and / or if cavities are found.
  - Raked joints: Remove dust and debris.
  - No power tools are to be used for cutting out and hand tools must be carefully selected to avoid damage to the stone or brick arrises.
  - Prior to repointing, clean out all joints with a stiff brush and thoroughly wash out loose material. While the joint remains damp, carefully repoint by firmly packing the joints

with mortar using pointing irons. The mortar should be just wet enough to compact. Care should be taken to minimize smudging of the stone/brick faces.

345 POINTING STONework GENERALLY

- Preparation of joints: Carefully brush away loose mortar, raking out mortar to a depth equal to twice the width of the joints, but no less than 30mm. Sound mortar should be retained. Dampen all stones/bricks and adjoining surfaces by spraying with water or immersing in water.
- Mortar: As per clause 210, 215
- Application: Large holes should be packed with lumps of stone or bricks. Push the mortar firmly into the joint to avoid voids in the wall. Bring out mortar joints in layers of up to 10 – 15 mm thick to allow carbonation, using a pointing or finger trowel. Leave each coat until it is 'leather-hard'. Brush or scrape back when firm with a churn brush, to compress and achieve finish.
- Joints profile / finish; Flush with the stone so not to create water traps, to retain original joint widths. Brushed finish as clause 355.

350 POINTING WITH TOOLS / IRONS

- General; Press mortar well into joints using pointing tools / irons that fit into the joints, so that they are fully filled.
- Face of masonry: Keep clear of mortar. Use suitable temporary adhesive tape on each side of joints where necessary. Finish joints neatly.

355 BRUSHED FINISH TO JOINTS

- Timing: After initial mortar set has taken place remove laitance and excess fines by brushing, to give a coarse texture. Do not compact mortar.

360 MORTAR FILLETS

- Existing mortar; remove in entirety and brush away loose mortar. Dampen all stones and adjoining surfaces by spraying with water.
- Mortar: As per clause 210.
- Form support of lime mortar fillet with expanded stainless-steel mesh, securing mesh to the base buttress, to the underside with stainless steel screws.
- The mortar fillet may need to be built up in more than one layer, to allow the mortar to carbonate properly and reduce the risk of cracking during the setting process. Where this is required, ensure that lines are incised into the mortar surface to provide a key for the subsequent coat.

## H62 NATURAL SLATING

To be read with preliminary information

### GENERAL CONDITIONS

#### 110 SCOPE OF WORK

- Schedule of work: As noted on drawings 18-1001-404
- Records of slate to be repaired: Before starting work, use measurements and photographs as appropriate to record the locations of repair.
- Identification of slates to be removed, replaced or repaired: Mark clearly, but not indelibly, on face of slate unit to be replaced. Transcribe markings to drawings/photographs. The Contractor and CA are to agree the scope before any works commence with formal instruction provided, as per clause 120.

#### 120 SITE INSPECTION FOLLOWING SUITABLE ACCESS HAS BEEN PROVIDED

- Purpose: To confirm type and extent of repair/ renovation/ conservation work shown on drawings and described in survey reports and schedules of work.
- Parties involved: Contract Administrator and Contractor's site foreman / project manager.
- Timing: At least 10 working days before starting each section of work.
- Instructions issued during inspection: Confirm in writing, with drawings and schedules as required, before commencing work.

#### 140 RECORD OF WORK

- General: Record work carried out to masonry clearly and accurately using written descriptions, sketches, drawings and photographs, as necessary.
- Specific records: Photographs to be taken before and after the works clearly stating the date and location of the photograph. Each photograph is to have a reference number, which is to be referenced back to the location of the works and indicated on the series of drawings.
- Documentation: Submit on completion of the work.
- Number of sets: Two sets of completed annotated drawings with photographic references clearly indicated, and series of photographs to be issued digitally on CD (2 copies).

### MATERIALS

#### 200 REMOVING EXISTING SLATING

Carefully remove slates, with minimum disturbance to adjacent retained slating.

205 SLATE FIXING

- General: Fix slating and accessories to make the whole sound and weathertight at earliest opportunity.
- Setting out: To true lines and regular appearance. Lay slates with slightly open (max 5mm) butt joints. Align tails.
- Slate thickness: Consistent with the existing slates.
- End of Courses: Use extra wide slates to maintain bond and to ensure that cut slates are as large as possible. Do not use slates less than 150mm wide.
- Fixing (repairs): Fix new slates with Hallhook system, accessible from [www.geniusroofsolutions.com](http://www.geniusroofsolutions.com). Fix as per manufacturers recommendations and BS 5534:2014+A1:2005. Where Hallhook system is fixed to adjacent slates, using copper clout nails to BS 1202-02.

## H71 LEAD SHEET COVERINGS/FLASHINGS

To be read with preliminary information

### GENERAL CONDITIONS

#### 110 SCOPE OF WORK

- Schedule of work: As noted on drawings 17-1003-03-404.
- Identification of lead units to be removed, replaced or repaired: The Contractor and CA are to agree the scope before any works commence with formal instruction provided, as per clause 120.

#### 120 SITE INSPECTION FOLLOWING SUITABLE ACCESS HAS BEEN PROVIDED AND DEBRIS REMOVED

- Purpose: To confirm type and extent of repair/ renovation/ conservation work shown on drawings and described in survey reports and schedules of work.
- Parties involved: Contract Administrator and Contractor's site foreman / project manager.
- Timing: At least 10 working days before starting each section of work.
- Instructions issued during inspection: Confirm in writing, with drawings and schedules as required, before commencing work.

#### 140 RECORD OF WORK

- General: Record work carried out to leadworks clearly and accurately using written descriptions, sketches, drawings and photographs, as necessary.
- Specific records: Photographs to be taken before and after the works clearly stating the date and location of the photograph. Each photograph is to have a reference number, which is to be referenced back to the location of the works and indicated on the series of drawings.
- Documentation: Submit on completion of the work.
- Number of sets: Two sets of completed annotated drawings with photographic references clearly indicated, and series of photographs to be issued digitally on CD (2 copies).

## TYPES OF LEADWORK

200

### LEAD PERIMETER GUTTERS TO TOWER ROOF

- Lead: Thickness: 3.15mm (Code 7) rolled to BS EN 12588
- Preparation: Remove all the existing defective felt gutter lining to the existing gutters that skirt the perimeter of the tower, and clear all debris from the area, including traces of mortar, dust etc.
- New substrate: Construct new box gutter falls to drain surface water to gully outlet with a gradient of 1 in 80, forming substrate with the following materials:
  - Breather underlay as per clause 340
  - 50 x 75mm sw gutter bearers, supported on existing gutter base structure
  - 18mm WBP plywood to form falls
- Drip design: As per LSA recommendations, with 60mm drip height with 75mm min splash lap.
- Length: The length of the bay is to be no greater than 2.5m. The existing gutter lengths are to be divided into 3 bays (approx. length at 6m to each face).
- Width: As existing, approx. 460mm, dressed up parapet wall by 150mm, and dressed up rendered upstand 150mm ensuring min 100mm overlap with lead flashing cut into render.

205

### STEP FLASHINGS TO EAST FACE OF NORTH AISLE – COURSED MASONRY

To new lead sheet roof, renew lead flashing to the abutment with the east face of the south aisle.

- Pitch tbc, assume 30°, equating to a lap length of 150mm to new lead sheet roof.
- Lead: Code 5.
- Fixing: lead wedges into each bed joint.
- The lap at the abutment to be a minimum of 100mm.
- The lap between each step flashing to be a minimum of 60mm.
- The flashing is to utilise the existing joints against the rake of the roof.

215

### COVER FLASHINGS

- Lead:
  - Thickness: 2.24mm (Code 5)
- Dimensions:
  - Lengths: not more than 1500mm
  - End to end joints: laps of not less than 100mm
  - Upstand: Not less than 50mm, to suit existing location and coursing into coursed rubble stone wall.
  - Cover to abutment: Not less than 75mm

- Fixing: lead wedges into bed joint, clips to bottom edge at laps and 500mm centres.
- Internal corner: Set out, cut, folded and then lead-welded with a small gusset in the corner.

## WORKMANSHIP GENERALLY

305

### STANDARDS

- Standard: To BS6915 and latest edition of 'Rolled lead Sheet, the complete manual', published by the Lead Sheet Association.
- Fabrication and fixing: To provide a secure, free draining and completely weathertight installation.
- Operatives: Trained in the application of lead coverings/flashings. Submit records of experience of request.
- Performing: Measure, mark cut and form lead prior to assembly wherever possible.
- Marking out: With pencil, chalk or crayon. Do not use scribes or other sharp instruments without approval.
- Bossing and forming: Straight and regular bends, leaving sheets free from ripples, kinks, buckling and cracks.
- Sharp metal edges: Fold under or remove as works proceeds.
- Finished work: Fully supported, adequately fixed to resist wind uplift but also to accommodate thermal movement without distortion or stress.

310

### LEAD WELDING

In situ welding: is permitted, subject to completion of a hot works permit form and compliance with its requirements.

315

### LEAD SHEET

- Production method:  
Rolled to BS EN 12588
- Identification: Labelled to show thickness/code, weight and type.

320

### EXITING METAL REMOVED TO REMAIN THE PROPERTY OF THE EMPLOYER

- Type / Location / Extent: removal as noted in the drawings
- Removal: Give notice when the metal is being stripped.
- Handling / storage: Keep for use by the Employer. Location for storage to be agreed.

325

### SUITABILITY OF SUBSTRATES

- Condition: Dry and free of dust, debris, grease and other deleterious matter.

340 UNDERLAY

- Manufacturer: Calder Industrial Materials Ltd.  
Web: [www.calderlead.co.uk](http://www.calderlead.co.uk).  
Email: [buildingproducts@caldergroup.co.uk](mailto:buildingproducts@caldergroup.co.uk).  
Product reference: Geotec Underlay

345 LAYING UNDERLAY

- Handling: Prevent tears and punctures.
- Laying: Butt or overlap jointed onto a dry substrate.  
Fixing edges: With copper or stainless-steel staples or clout nails.  
Do not lay over roof edges but do turn up at abutments.
- Wood core rolls: Fixed over underlay.
- Protection: Keep dry and cover with lead at the earliest opportunity.

FIXING LEAD

400 HEAD FIXING LEAD SHEET

- Top edge: Secured with two rows of fixings, 25mm and 50mm from top edge of sheet, at 75mm centres in each row, evenly spaced and staggered.
- Sheets less than 500mm deep: May be secured with one row of fixings, 25mm from top edge of sheet and evenly spaced at 50mm centres.

405 FIXINGS

- Nails to timber substrates: Copper clout nails to BS 1202-2, or stainless steel (austenitic) clout nails to BS 1202-1.  
Shank type: Annular ringed, helical threaded or serrated.  
Shank diameter: Not less than 2.65mm for light duty or 3.35mm for heavy duty.  
Length: Not less than 20mm or equal to substrate thickness.
- Screws to concrete or masonry substrates: Brass or stainless steel to BS 1210, tables 3 or 4.  
Diameter: Not less than 3.35mm.  
Length: Not less than 19mm.  
Washers and plastic plugs: Compatible with screws and lead.
- Screws to composite metal decks: Self tapping as recommended by the deck and lead manufacturer/supplier for clips.

410 CLIPS

- Manufacturer: Submit proposals.  
Material:  
Lead clips: Cut from sheets of same thickness/ code as sheet being secured.  
Copper clips:  
Thickness: 0.70mm.  
Temper: BS EN 1172, designation R220 in welts, seams and rolls, R240 elsewhere;  
dipped in solder if exposed to view.  
Stainless steel clips:  
Thickness: 0.46mm.  
Grade: BS EN 10088, 1.4301(304)terne coated if exposed to view.
- Dimensions:  
Width: 50mm where not continuous.  
Length: To suit detail.
- Fixing clips: Secure each to substrate with either two screws or three nail fixings not more than 50mm from edge of lead sheet. Use additional fixings where lead down-stands exceed 75mm.
- Fixing lead sheet: Welt clips around edges and turn over 25 mm.

415 CONTINUOUS CLIPS

- Material:  
Lead continuous clips:  
Thickness: 2 codes more than fixed sheet.  
Copper continuous clips:  
Thickness: 0.70mm.  
Temper: BS EN 1172, designation R220 in welts, seams and rolls, R240 elsewhere.  
Stainless steel continuous clips:  
Thickness: 0.46mm.  
Grade: BS EN 10088, 1.4301(304).
- Dimensions:  
Width: To suit detail.
- Fixing clips: To suit detail
- Fixing lead sheet: Welt edge around continuous clip and dress down.

420 SILICONE SEALANT FOR WEDGE FIXING INTO JOINTS/CHASES

- Manufacturer: Dow Corning, or similar and approved  
Web: [www.dowcorning.com/construction](http://www.dowcorning.com/construction).  
Email: [bruce.nicol@dowcorning.com](mailto:bruce.nicol@dowcorning.com).

Product reference: 791 Weatherproofing Silicone Sealant

- Colour: Stone.

#### JOINTING LEAD

##### 425 FORMING DETAILS

- Method: Bossing or lead-welding except where bossing is specifically required.
- Lead-welded seams: Neatly and consistently formed.  
Seams: Do not undercut or reduce sheet thickness.  
Filler strips: Of the same composition as the sheets being joined.  
Butt joints: Formed to a thickness one third more than the sheets being joined.  
Lap joints: Formed with 25mm laps and two loadings to the edge of the overlap.
- Bossing: Carried out without thinning, cutting or otherwise splitting the lead sheet.

##### 455 WELTED JOINTS

- Joint allowance: 50mm overlap and 25mm underlap.
- Copper or stainless-steel clips: Fix to substrate at not more than 450mm centres.
- Overlap: Welt around underlap and clips and lightly dress down.

##### 460 PATINATION OIL - ALL LEAD TO BE TREATED

- Manufacturer: 2iM.  
Web: [www.associatedlead.co.uk](http://www.associatedlead.co.uk).  
Email: [steve@enviro-lead.co.uk](mailto:steve@enviro-lead.co.uk).  
Product reference: Patination Oil

**M60 PAINTING**

To be read with all repair schedules & Preliminaries/General conditions

**GENERAL CONDITIONS**

**100 HANDLING AND STORAGE**

- Coating materials must be delivered in sealed containers, each clearly labeled with the brand name, type of material and manufacturer's batch number.
- Wherever possible materials must be from one manufacturing batch. Inform the CA if materials from more than one batch are to be used, store separately and allocate to distinct parts or areas of the work.
- Store materials in accordance with manufacturer's recommendations. Use in order of delivery and before expiry of any shelf life date.

**115 COMPATIBILITY**

- Check that all materials to be used are recommended by their manufacturers for the particular surface and conditions of exposure, and that they are compatible with each other.
- Where surfaces have been treated with preservatives or fire retardants, check with treatment manufacturer that coating materials are compatible with the treatment and do not inhibit its performance.
- Inform the CA of any discrepancy in specification of coatings and obtain instructions before proceeding with application.

**120 PROTECTION**

- Adequately protect internal and external surfaces, fixtures and fittings which are not to be coated, by covering with dust sheets, masking or other suitable materials.
- Exhibit 'Wet paint' signs and provide barriers where necessary to protect other operatives and the general public, and to prevent damage to freshly applied coatings.

**125 PREPARATION GENERALLY**

- To BS 6150, Section 4.
- Materials used in preparation must be types recommended by their manufacturers and the coating manufacturer for the situation and surfaces being prepared.
- Prevent or control exposure of operatives to dust, vapour and fumes exceeding occupational exposure standards set in the current Health and Safety Executive (HSE) document EH40.
- Substrates must be sufficiently dry in depth to suit the coating to be applied.
- Remove efflorescence salts from surfaces. Repeat removal if efflorescence recurs.

- Clean off dirt, grease and oil from surfaces. If contamination of surfaces/substrates has occurred, obtain instructions before proceeding.
- Smooth surface irregularities. Fill joints, cracks, holes and other depressions with stoppers/fillers worked well in and finished off flush with surface. Abrade to a smooth finish.
- Apply oil-based stoppers/fillers after priming. Apply water-based stoppers/fillers before priming unless recommended otherwise by manufacturer. Patch prime water-based stoppers/fillers when applied after priming.
- Remove dust and particles from dry abrasive preparation of surfaces.
- Remove residues from wet preparation of surfaces by rinsing with clean water, wiping and allowing to dry.

## MATERIALS

200

### EXTERIOR PAINT TO RAINWATER GOODS AND STRAPWORK

- Preparation: as per clause 125
- Primer
  - Manufacturer: Rust-Oleum Metal Primer (or other approved)
  - Prime coats: 2 no to achieve 35um Dry Film Thickness (DFT)
  - Application method: As per manufacturer's instructions
- Finishing Coat
  - Manufacturer: Rust-Oleum 7500 Alkythane (or other approved)
  - Finishing Coat: 1 no coat to achieve 50um DFT; Satin finish
  - Application method: As per manufacturer's instructions
  - Colour: Black

205

### EXTERIOR PAINT TO TIMBER

- Preparation: as per clause 125
- Primer
  - Manufacturer: Proprietary primer as agreed
  - Prime coats: 2 no coat to both faces and frame
  - Application method: As per manufacturer's instructions
- Finishing Coat
  - Manufacturer: OSMO Solo Country Colour High Solid Paint
  - Finishing Coat: 2 no coat to both faces and frame
  - Application method: As per manufacturer's instructions
  - Colour: 2703 Charcoal

## **WORKMANSHIP**

**300**

### **UNSUITABLE CONDITIONS**

- Take all necessary precautions including restrictions on working hours, providing temporary protection and allowing extra drying time, to ensure that coatings are not adversely affected by climatic conditions during and after application.
- Prevent or control exposure of operatives to solvent vapour levels exceeding occupational exposure standards set in the current Health and Safety Executive (HSE) document EH40.
- Unless it is specifically permitted by the coating manufacturer, do not apply coatings:
  - To surfaces affected by moisture, frost or airborne dust.
  - When the air or substrate temperature is below 5°C.
  - When the relative humidity is above 80%.
  - When heat is likely to cause blistering or wrinkling.

**301**

### **HAZARDOUS MATERIALS**

- Suspected existing hazardous materials: Prepare risk assessments and method statements covering operations, disposal of waste, containment and reoccupation, and obtain approval before commencing work.

**305**

### **COATING GENERALLY**

- To BS 6150, Section 5.
- Do not thin or intermix unless specified or recommended otherwise.
- Apply priming coats as soon as possible on the same day as preparation is completed. They must be of adequate thickness and suit surface porosity.
- Apply coatings by brush or roller unless otherwise specified or approved.
- Keep brushes and equipment in a clean condition. Dispose safely of cleaning and waste materials, do not pour into sanitary appliances or drains.
- Subsequent coats of the same pigmented material must be of a different tint to ensure that each coat provides complete coverage.
- Apply coatings to clean, dry surfaces in accordance with the manufacturer's recommended intervals between coats.
- Apply coatings evenly to give a smooth finish of uniform colour, free from brush marks, sags, runs and other defects. Cut in neatly and cleanly. Do not splash or mark adjacent surfaces.
- Adequately protect drying and completed work from damage.