



OUR TOWN HALL **FIREPLACE REFURBISHMENT** **SPECIFICATION**

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Issue: -



CLAUSE SUFFIX LETTERS

This Purcell Specification is based upon the National Building Specification (NBS). The Contractor's attention is drawn to the suffix letters **A**, **F** and ***** that occur after some of the clause numbers in the work sections.

These suffix letters are used as follows:

* is used for a new clause, not found in the NBS
A is used for an NBS clause which has been altered in the Purcell Standard Specification.
F is used for a new clause in this particular Job Specification or against an existing clause from the Purcell Standard Specification amended for this project.

No liability is accepted for the incorrect application of this convention in this Specification.

Rev	Issued By	Issued For	Issue Date	Reviewed By	Revision Notes
-	RB	For Tender	12/06/20	JC	n/a

Table of Contents

Title		Page
C40	Cleaning masonry/ concrete	4
C41	Repairing/ Renovating/ Conserving masonry	13
C50*	Repairing/Renovating Metalwork	21
C51	Repairing/ Renovating/ Conserving timber	26
F10	Brick/ block walling	31
F30	Accessories/ sundry items for brick/ block/ stone walling	35
M40	Stone/ concrete/ quarry/ ceramic tiling/ mosaic	38
M60	Painting/clear finishing	41
P12	Fire stopping systems	47

C40
Cleaning masonry/ concrete

Section Revision History

No.	Purpose	
-	FOR TENDER	14th Jun 2020

Clauses amended in Revision -

This is the first revision stamp for this section. For all future revision stamps, details of all clauses amended at that revision will be included here.

C40 Cleaning masonry/ concrete

To be read with Preliminaries/ General conditions.

GENERAL/ PREPARATION

117F SUMMARY OF INTERNAL CLEANING METHODS TO FIRE SURROUND

- The following methods are being considered for internal cleaning.
- These are subject to trials and results arising from the intrusive surveys.
- Removal of paint using chemicals and superheated steam:
- Will be applied to soften paint using a chemical which will not cause damage to the stone or plaster substrate
- Removal of salts using clay poultices:
- This is a tried and tested technique. If the salts are left untreated cyclical crystallisation can continue. i.e. removal of the salts is required to prevent the efflorescence returning.
- Removal of staining using latex poultices: This is a method for removing staining without the use of chemicals or abrasive techniques
- General Cleaning: This refers to methods of cleaning to remove superficial dirt in order to renew the finishes as part of the project works.
- These are to be non abrasive using techniques appropriate to the specific surface to be cleaned.
- Methods including dry brushing, vacuuming and mild wet cleaning.
- Specific methods to be confirmed following intrusive surveys.

161F PROTECTION

- Surfaces not designated for cleaning: Prevent damage, including marking and staining.
 - Glass and lead comes, lead flashings, timber and metal window frames must be masked and fully protected prior to commencement of work.
- Openings: Prevent ingress of water, cleaning agents and detritus.
 - Vents and grilles: Fully seal.
- Temporary mechanical fastenings:
 - In masonry: Locate in joints.
 - In other surfaces: Seek instructions.

191F CLEANING GENERAL TO FIRE SURROUND

- General Cleaning: This refers to methods of cleaning to remove superficial dirt in order to renew the finishes as part of the project works.
- These are to be non abrasive using techniques appropriate to the specific surface to be cleaned.
- Methods including dry brushing, vacuuming and mild wet cleaning.
- Specific methods to be confirmed following intrusive surveys
- All surfaces identified for retention and restoration to be cleaned using a soft brush with dust extraction prior to commencing cleaning

200F NON ABRASIVE PERFORMANCE CLEAN TO FIRE SURROUND

- Non abrasive clean to fire surround, defrass and re-point mortar to joints. Defects that have occurred as a result of performance failure and include a build up of salts and discolouration of stone.
- Assessment of mortar analysis and trial clean required.

201F LOCALISED CLEANING TO FIRE SURROUND

- Localised cleaning to remove of superficial dirt and localised staining as a result of removal of previous fittings & graffiti.
- Specification to be informed by intrusive survey trials

215F LOCALISED CLEANING TO FIRE SURROUND

- Cleaning of all stonework
- Removal of superficial dirt and heavy staining to areas discoloured and stained from continued use and locations of previous fittings.
- Non abrasive cleaning to remove , dirt, discolouration, and marking etc. that impacts on the significance of spaces proposed for restoration.
- Allow to sponge clean surround with neutral soap and deionised water on melamine resin sponge

216F RECORD OF CLEANING WORKS TO FIRE SURROUND

- Written report: Record cleaning methods and procedures used for each type of surface and deposit.
 - Content: Relevant attributes of cleaning methods used including:
Equipment and settings.
Dwell times.
Number of applications.
Ambient temperatures.
- Submission: At completion of cleaning works.

218F RESTORATION CLEANING OF STONWORK TO FIRE SURROUND

- Restoration Cleaning of all stonework
- Removal of superficial dirt and heavy staining to areas discoloured and stained from continued use and locations of previous fittings.
- Non abrasive cleaning to remove , dirt, discolouration, and marking etc. that impacts on the significance of spaces proposed for restoration.
- Allow to sponge clean surround with neutral soap and deionised water on melamine resin sponge

220F PERFORMANCE CLEAN PLAIN POULTICES FOR REMOVAL OF SALTS TO FIRE SURROUND

(STONE, TERRACOTTA AND CERAMIC TILES)

- Record and defrass stone with a stiff brush and apply clay poultice (with paper fibres) in order to remove existing salt efflorescence in accordance with specification.
- Clay poultice application to extend to full tile/stone affected by the salts.
- Product reference: Clay pack (with paper fibres); submit proposals.
- Conservator to submit detailed proposal for poultice pack to Architect for approval.
- Softening agent: Deionized water.
- Application:
 - Prevent damage, including abrasion to surfaces.
 - Apply to wetted surfaces to minimise penetration of the chemical into the masonry surface.
Prewetting with sprays to be sufficient for water to reach and mobilise the salts to suit depth of contamination. Maintain contact with surfaces as poultice dries out.
 - Apply with wire mesh or other reinforcement.
 - Drying: Prevent excessively rapid or localized drying out.
 - Spent poultice material: Do not reuse.
- Poultice reinforcement: Hessian or plastics; submit proposals.
- Coats: The following procedures are provisional and the type/number of packs and duration will be confirmed on site trials. Once the poultice has dried out the clay is to be removed and sampling/analysis is to be taken to confirm salt content. The reapplication is to be repeated until salt levels have significantly reduced.
- Other requirements:
 - Apply in accordance with manufacturers recommendations.
 - Following cleaning allow to 100% repoint area of cleaning with lime mortar as C41/221-225 as applicable.

233F TRIAL SAMPLES CHEMICAL CLEANING

- Trial sample reference:
 - Surface: Stone
 - Location/ Size: Approximately 1m x 1m.
 - Type of soiling: Heavy carbon soiling
 - Cleaning methods: As clause 502
- Records: Maintain written records for each trial area, including cleaning methods and conditions, to enable replication of results elsewhere.

234F TRIAL SAMPLE PAINT REMOVAL

- Trial sample reference:
 - Surface: Stone
 - Location/ Size: To Fire surround
 - Type of soiling: Paint on stone
 - Cleaning methods: As clause 525
- Records: Maintain written records for each trial area, including cleaning methods and conditions, to enable replication of results elsewhere.

243F UNIFICATION CLEANING TO INTERNAL MASONRY (STONE, TERRACOTTA AND CERAMIC TILES)

- Latex cleaning compound as per clause C40-373 For equal and approved.
- Mask off areas not to be cleaned with polythene film, work in sections not larger than 3 m x 3 m to facilitate easy removal. Stir thoroughly before application.
- Using hopper sprayer, brush or roller, apply in a generous even coat of approximately 2 to 4mm wet. Do not atomize if spraying
NOTE: Extremely porous masonry or roughly textured masonry may require 2 coats to ensure ease of peeling.
- Allow latex film cleaner to dry completely latex film cleaner dries and is ready to peel in approximately 4 to 6 hours but may take up to 24 hours depending on film thickness, temperature and humidity.
- Starting at one edge, pull the dried film from the surface and dispose of in accordance with local Regulations.
- Following Cleaning Trials:
 - Allow for 2 application to Terracotta
 - Allow for 1 application to Stone

PRODUCTS/ EQUIPMENT**300 COMPATIBILITY OF CHEMICAL PRODUCTS**

- Products: Compatible and produced by the same manufacturer.

300F COMPATIBILITY OF CHEMICAL PRODUCTS

- Products: Compatible and produced by the same manufacturer.

354F STEAM CLEANING EQUIPMENT

- Use: For cleaning stone and brick.
- Manufacturer/ Supplier: Restorative Techniques, 67a Gloucester Road, Rudgeway, Bristol BS35 3SG
 - web: www.restorative-products.com
 - Product reference: Thermatech
- Manufacturer/ Supplier: Stonehealth G4/5 Draycott Business Park, Dursley GL11 5DQ
 - web: www.stonehealth.com
 - Product reference: Doff
 Or equal and approved steam cleaning equipment.

362F CHEMICAL AGENTS PAINT, GRAFFITI & VARNISH REMOVER

- Use: For paint, graffiti & varnish remover
- Manufacturer: Jetchem Systems Ltd, Cuba Industrial Estate, Bolton Rd, North Ramsbottom, Burry, Lancashire BLQ 0NE
 - web: www.jetchem.com
- Product reference: JC013
 - Description: JC013 is a pale slightly yellow viscous organic solvent containing a blend of chlorinated hydrocarbons and aromatic solvents in gel form, formulated specifically for removing paint and varnish from stone, metal, plastics and wood.

363F CHEMICAL AGENTS

- Use: For removing carbon soiling from brick and stone
- Manufacturer: Jetchem Systems Ltd, Cuba Industrial Estate, Bolton Rd, North Ramsbottom, Burry, Lancashire BLQ 0NE
 - web: www.jetchem.com
- Product reference: JC000
 - Description: Blue liquid containing a solution of Hydrofluoric Acid at less than 3% concentration together with surface active agents and inhibitors to prevent iron staining.
 - Standards: Conforms to BS 8221 Code of practice.

364F CHEMICAL AGENTS HEAVY DUTY DEGREASER & LIME STONE CLEANER

- Use: Heavy Duty degreaser & Lime Stone cleaner
- Manufacturer: Jetchem Systems Ltd, Cuba Industrial Estate, Bolton Rd, North Ramsbottom, Burry, Lancashire BLQ 0NE
 - web: www.jetchem.com
- Product reference: JC008
 - Description: A yellow alkaline viscous liquid, formulated specifically for removing carbonaceous grime from lime stones and concrete surfaces, can also be used for removing light rust deposits and certain types of paint, can be used as a degreaser for sandstone and brick prior to using the appropriate cleaner.
 - Standards: This product must be used by competent stone cleaning contractors, experienced in the use of Sodium Hydroxide (Caustic Soda) based stone cleaning chemicals.

365F CHEMICAL AGENTS HEAVY DUTY PAINT STRIPPER

- Use: Heavy Duty Paint Stripper
- Manufacturer: Tensid UK Ltd., Unit 1 Craven Court, Canada Road, Byfleet. KT14 7JL
 - web: www.tensid.com
- Product reference: Heavy Duty Paint Stripper
 - Description: A brown gel of an alkaline formula with organic solvents, removes multiple layers of oil based paint and graffiti from masonry surfaces.

366F CHEMICAL AGENTS WATERBASED, MULTIPLE LAYER, PAINT STRIPPER

- Use: Waterbased Multiple layer, paint stripper
- Manufacturer: Tensid UK Ltd., Unit 1 Craven Court, Canada Road, Byfleet. KT14 7JL
 - web: www.tensid.com
- Product reference: Tavec 203
 - Description: Blue paste appearance, biodegradable multiple layer paint stripper, formulated for removal of most paint types, urethanes and other coatings. It is particularly effective for removal of paint from metal surfaces.

367F CHEMICAL AGENTS AGS GRAFFI CLEAN 300

- Use: Gel graffiti remover for most substrates
- Manufacturer: Tensid UK Ltd., Unit 1 Craven Court, Canada Road, Byfleet. KT14 7JL
 - web: www.tensid.com
- Product reference: AGS Graffi Clean 300
 - Description: Yellowish clear gel appearance is a viscous graffiti remover for use on masonry surfaces. It is a gelled remover which will cling to the surface.

368F CHEMICAL AGENTS MULTI - LAYER PAINT STRIPPER

- Use: Multi-Layer paint stripper
- Manufacturer: Tensid UK Ltd., Unit 1 Craven Court, Canada Road, Byfleet. KT14 7JL
 - web: www.tensid.com
- Product reference: Tavec 201
 - Description: Greenish creamy paste appearance is a biodegradable multiple layer paint stripper, formulated for removal of most paint types, urethanes and other coatings

369F CHEMICAL AGENTS LIMESTONE & MASONRY AFTERWASH

- Use: Neutralising & brightening cleaner for use with 766 Prewash
- Manufacturer: Tensid UK Ltd., Unit 1 Craven Court, Canada Road, Byfleet. KT14 7JL
 - web: www.tensid.com
- Product reference: Limestone and Masonry Afterwash
 - Description: Clear liquid afterwash, a mild organic acid cleaning compound, neutralises and brightens surfaces that have been prewashed with 766 Limestone and Masonry Prewash.

372F POULTICES AGS GRAFFI GHOST POULTICE

- Use: For deep seated and stubborn ghosting
- Manufacturer: Tensid UK Ltd., Unit 1 Craven Court, Canada Road, Byfleet. KT14 7JL
 - web: www.tensid.com
- Product reference: AGS Graffi Ghost Poultice
 - Description: A paste product ghosting remover.
It works by oxidising away traces of pigments and by breaking down grease and oil residues in the substrate.
The poultice is specially formulated for the removal of difficult ghosting and is suitable for most surfaces.

373F LATEX FILM CLEANER TO INTERNAL MASONRY (STONE, TERRACOTTA AND CERAMIC TILES)

- Use: DriKlean is a latex cleaning compound for most types of masonry, such as marble, limestone, terracotta, sandstone, concrete and plasters
- Manufacturer: Tensid UK Ltd., Unit 1 Craven Court, Canada Road, Byfleet. KT14 7JL
 - web: www.tensid.com
- Product reference: DriKlean
 - Description: Pale yellow paste.

432F TOOLING

- Tooling of surfaces: Not permitted.

442F ABRASIVE BLOCKS

- Types: Suitable grades of carborundum or gritstone.
- Application: Lubricate with water. Remove detritus.
- Abrasive power tools: Prohibited.

452F ABRASIVES CLEANING

- Surfaces: Minimize abrasion.
 - Ingrained deposits: Seek instructions.
- Equipment settings (including nozzle type and distance from surface): Adjust regularly to achieve optimum cleaning performance for each surface.
- Detritus: Remove with clean water.

483F STEAM CLEANING

Surfaces to be cleaned: Sandstone and brick.

Nature of soiling to be removed: Lightly adhered surface soiling and algae.

Preparation: As clauses 143, 161 and 412.

Cleaning system: As clause 354.

Surfaces: Prevent damage, including abrasion.

- Equipment settings (including nozzle type and distance from surface): Adjust regularly to achieve optimum cleaning performance for each surface.

496F TESTING PH VALUES FOR CHEMICAL CLEANING

- pH indicator: To distinguish pH values between 1-14.
- Testing before cleaning:
 - Clean rinsing water, wetted surfaces and joints: Test for pH. Record as 'control' values.
- Testing after water rinsing and neutralization:
 - Wetted surfaces and joints: Record pH values.
 - Acceptance criteria: Equal to original control values .
- Testing 48 hours following water rinsing:
 - Wet agreed sample areas to allow testing.
 - Record ph values
 - Acceptance criteria: Equal to original control values
 - If sample areas do not correspond with test values repeat rinsing procedure to entire area and re-test ph value.

502F CHEMICAL CLEANING TO INTERNAL MASONRY

- Surfaces/ Areas to be cleaned: Internal Masonry
- Nature of soiling: Ingrained carbon deposits from soot. The pattern of soiling is inconsistent and patchy.
- Purpose of cleaning: To remove areas of heavy soiling and create a more even consistent appearance.
- General methodology: Following initial clean using supeheated steam to remove dirt and algae deeply recessed joints are to be pointed. Heavy soiling is to be cleaned using dilute hydroflouric acid with several repeated applications to reducing areas of heavily soiling.
- Preparation: As clauses 121 and 143 and 412.
- Protection: As clause 161.
- Application procedure:
- Application 1:
 - Initial cleaning/ wetting: Superheated steam as clause 483
- Chemical applicaton 1 to wetted surface: Dilute hydroflouric acid as clause 363
- Application method:
 - From top of building to bottom in sections suitable for applicatioin and rinsing in the specified time.
 - Apply chemical to soiled areas only. Do not apply to clean stone or areas of heavy erosion and flaking.
 - Chemical to be applied using a brush or low pressure spray.
 - Dwell time: 10 minutes
 - Rinsing: As clause 483
 - pH testing: As clause 496 after initial rinse
 - Allow stone to dry for minimum 24 hours before application 2.
- Applicaton 2:
 - Initial cleaning/ wetting: Superheated steam as clause 483
- Chemical applicaton 1 to wetted surface: Dilute hydroflouric acid as clause 363
- Application method:
 - From top of building to bottom in sections suitable for applicatioin and rinsing in the specified time.
 - Apply chemical to soiled areas only. Do not apply to clean stone or areas of heavy erosion and flakin
 - Chemical to be applied using a brush or low pressure spray.
 - Dwell time: 10 minutes
 - Rinsing: As clause 483
 - pH testing: As clause 496 after initial rinse
 - Allow stone to dry for minimum 24 hours before application 3.
- Applicaton 3:
 - Initial cleaning/ wetting: Superheated steam as clause 483
- Chemical applicaton to wetted surface: Dilute hydroflouric acid as clause 363
- Application method:
 - From top of building to bottom in sections suitable for application and rinsing in the specified time.
 - Apply chemical to soiled areas only. Do not apply to clean stone or areas of heavy erosion and flaking.
 - Chemical to be applied using a brush or low pressure spray.
 - Dwell time: 10 minutes
 - Rinsing: As clause 483
 - pH testing: As clause 496 after initial rinse
 - Further pH testing: As clause 496 after 24 hours.
- Residual soiled areas after chemical cleaning: Seek instructions.

525F PAINT REMOVAL TO INTERNAL MASONRY

- Method: Chemical paint removal
 - Description: Non-caustic paint removers formulated without methylene chloride.
- Manufacturer: Dumond Architectural, Industrial and Marine Solutions
- Product: Smart Strip Pro
 - Description: Professional strength paint remover for multiple coats of oil-based, water-based, acrylics, varnishes, epoxies, urethanes, elastomeric and lead paint.
 - It is formulated without methylene chloride, is non-carcinogenic, noncaustic, and non-flammable.
- UK Supplier: Sherwin-Williams Protective and Marine Coatings
 - Web: www.swpaintonline.com
 - Available pack sizes: 18.9 litres
- Application method: Apply paste using a brush or plastic trowel. Use nylon brush to apply paste into mouldings.
 - Dwell time: 3 to 24 hours
 - Removal: Using plastic scrapers and nylon brush. Care should be taken to avoid damage to mouldings and details. Rinse with clean water.
 - Allow for several applications of paint remover. It should not be assumed that all paint will be removed following one application.
 - Accessories: Dumond laminated paper.

C41
Repairing/ Renovating/ Conserving masonry

Section Revision History

No.	Purpose	
-	FOR TENDER	14th Jun 2020

Clauses amended in Revision -

This is the first revision stamp for this section. For all future revision stamps, details of all clauses amended at that revision will be included here.

C41 Repairing/ Renovating/ Conserving masonry

To be read with Preliminaries/ General conditions

GENERALLY/ PREPARATION

112F REPAIR PRINCIPLES

- The following broad principles have been followed for specifying proposed masonry repairs to the Town Hall:
 - The use of mortar repairs will be limited to filling holes, fractures and relatively minor damage. They will not be used to build up complex mouldings or repair areas that will be exposed or difficult to access in the future.
 - Where facing stones are very heavily eroded they will be replaced with new stone components to a sufficient compressive bed depth to allow them to be fitted without the need for new restraint, with the height respecting the original coursing.
 - The width of replacement stones can be varied to reduce the loss of original fabric whilst ensuring logical spacing of vertical joints.
 - Where indent repairs are carried out the size and shape of the repair and position of dowels should avoid reliance on adhesives for retaining the stone.

113F APPROVED STONEMASONS

- The work described in this section 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.

115F MORTAR ANALYSIS

- Purpose:
To inform the mortar specification for the repair of the building using materials and techniques to ideally match those used originally and if not, those currently available to match the original as closely as possible.
Ensure that samples taken for examination are representative of the original mortar; locations to be agreed with CA.
- Type/number of samples:
 - Internal:
 - Bedding and grouting for wall tiles; 9no. samples.
 - Mortar analysis to glazed brick joints; 3no. samples
 - Bedding and grouting for decorative floor tiles; 2no. samples.
- Methods of analysis:
 - Wet chemical analysis:
 - Determine the constituent parts of the mortar using various chemical tests after dissolution in both acid and alkali. Measure the soluble silica to provide data on the hydraulic property of the mortar, and in conjunction with the use of calcium determine the proportion of hydraulic components.
 - Carryout tests for sulphate, calcium, soluble silica and insoluble content to assess the type of hydraulic binder and its proportion(s).
 - Carryout two types of soluble silica tests, method within BS4551 and the colorimetric method.
 - Instrumental technique for the analysis of component materials:
 - Use the following methods with a magnification of 1,000x, 10,000x and 100,000x to provide high resolution images of the samples to demonstrate the characterisation of form, texture and structure:
 - scanning electron microscopy (SEM);
 - electron microscopy with x-ray analysis (SEM/EDX) to provide basic analysis of samples;
 - x-ray diffraction (XRD) SEM to provide analysis of crystalline materials.
- Reporting:
 - To be undertaken by a highly skilled analyst is crucial.
 - Provide a detailed report to document where samples were taken, the method(s) of analysis adopted, coloured imagery of the investigations, lab results/records, a detailed description of the findings and the origin/quarry of the original materials.
 - From the testing data provide proposals for each mortar to include the type, quantities and source (all currently being available/quarried) for the sand, binder and any other constituent parts of the mortar for CA's review and approval.

122F SITE INSPECTION

- 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: Architect, Contractor and Conservation Officer.
- Purpose of inspection: To verify extent of repairs

WORKMANSHIP GENERALLY**151F POWER TOOLS**

- Use of fine bladed multi-tool cutters for removal of mortar will be permitted subject to the following requirements:
 - Method statement for proposed use to be submitted for approval.
 - Specific tools and blades to be agreed before use.
 - Methodology to be demonstrated on site in an agreed sample area.

165F 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.

170F 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.

180F WORKMANSHIP

- Skill and experience of site operatives: Appropriate for types of work on which they are employed.
 - Documentary evidence: Submit on request.

191F CONTROL SAMPLES

- General: Complete an area of each of the following types of work, and arrange for inspection before proceeding with the remainder:
 - Replacement stone mantel
 - Replacement stone detail
 - Stone insert
 - Replacement of tile
 - Repair tiling
 - Descaling stone
 - Mortar repair

MATERIALS/ PRODUCTION/ ACCESSORIES**216F MATERIAL SAMPLES**

- Representative samples of designated materials: Submit before placing orders.
- Designated materials:
 - Full brick
 - Replacent mosaic tiles all colours
 - Mortar mix for stone
 - Mortar mix for brick
 - Mortar mix for glazed brick
 - Mortar mix for tiles
- Retention of samples: Unless instructed otherwise, retain samples on site for reference. Protect from damage and contamination.

220F 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.

230F INSPECTION OF DRAWINGS, TEMPLATES, CASTS, ETC

- Timing: Before starting production of masonry units associated with the following items: Profiles for all stone features.
- Period of notice (minimum): Two weeks prior to commencement of manufacture of components.

260F RECLAIMED BRICKS

- Bricks reclaimed from demolitions and cutting away on the site will be approved for re-use only if they are free from fungus, have no deep or extensive cracks, or damaged corners or arises, and are free from old mortar.

291F POINTING MORTAR FOR STONE

- Mix 1 : 2.5 NHL 3.5 Natural Hydraulic Lime : Aggregate
- Lime: St Astier NHL 3.5
- Aggregate: 2 parts sand : 0.5 parts fine crushed stone gauged with 5% natural iron oxide pigment
 - Sand source/ type: Leighton Buzzard sharp sand
 - Crushed stone: Crossland Hill crushed sieved sandstone 300 microns down.
- Iron Oxide pigment:
 - Supplier: Coloured Earth Pigments
 - web: www.colouredearth.co.uk
 - Type: Cyprus Umber Cocoa - 121 natural iron oxide
 - Particle size: 50 micros (325 mesh)
 - Gauging: 9.5 parts aggregate to 0.5 iron oxide by volume.

292F POINTING MORTAR FOR BRICK

- Mix 1 : 2.5 NHL 3.5 Natural Hydraulic Lime : Aggregate
- Lime: St Astier NHL 3.5
- Aggregate: 2 parts sand : 0.5 parts fine crushed stone gauged with 5% natural iron oxide pigment
 - Sand source/ type: Leighton Buzzard sharp sand
 - Crushed stone: Crossland Hill crushed sieved sandstone 300 microns down.
- Iron Oxide pigment:
 - Supplier: Coloured Earth Pigments
 - web: www.colouredearth.co.uk
 - Type: Cyprus Umber Cocoa - 121 natural iron oxide
 - Particle size: 50 micros (325 mesh)
 - Gauging: 9.5 parts aggregate to 0.5 iron oxide by volume.

294F POINTING MORTAR FOR MOSAIC AND CERAMIC TILES

- Mix 1 : 2.5 NHL 2 Natural Hydraulic Lime : Aggregate
- Lime: St Astier NHL 2
- Aggregate: 2 parts sand : 0.5 parts crushed stone
 - Sand source/ type: Fine silver sand
 - Crushed stone: Crossland Hill crushed and sieved sandstone 300 microns down.

295F GROUT FOR DEBONDED TILE BACKING

- Mix 1 : 2 NHL 2 Natural Hydraulic Lime : Aggregate
Lime: St Astier NHL 2
- Aggregate: 2 parts sand : 2 Low sulphate pulverised fuel ash
 - Sand source/ type: Fine silver sand

296F BEDDING AND BACKING FOR MOSAIC TILES

- Bedding mix 1 : 2.5 NHL 2 Natural Hydraulic Lime : Aggregate
 - Lime: St Astier NHL 2
- Aggregate: Well graded sharp sand
- Backing mix 1 : 2.5 NHL 3.5 Natural Hydraulic Lime : Aggregate
 - Lime: St Astier NHL 3.5
- Aggregate: Well graded sharp sand

DISMANTLING/ REBUILDING

310F DISMANTLING FIRE SURROUND ELEMENTS FOR REUSE

- Fire surround elements to be reused: Remove carefully and in one piece.
 - Treatment: Clean off old mortar and dirt.
 - Leave units in a suitable condition for rebuilding.
 - Identification: Mark each unit clearly and indelibly on a concealed face, indicating its original position in the construction. Transcribe makings to drawings/ photographs.

REPLACEMENTS AND INSERTIONS

330F PREPARATION FOR REPLACEMENT MASONRY

- Defective material: Carefully remove to the extent agreed. Do not disturb, damage or mark adjacent retained masonry.
- Existing metal fixings, frame members, etc: Report when exposed.
- Redundant metal fixings: Remove.
- Recesses: Remove projections and loose material; leave joint surfaces in a suitable condition to receive replacement units. Protect from adverse weather if units are not to be placed immediately.

331F INAPPROPRIATE REPAIRS TO FIRE SURROUND

Previous inappropriate or visually obtrusive mortar repairs to be carefully removed and replaced with mortar repair to match base colour and texture of substrate.

332F REPAIR CHIPS TO STONE FIRE SURROUND

- Small chips to be repaired with a resin filler to match the colour of the stone.
- Larger chips to be repaired with a combination of matching pieces of stone, a clear resin filler and stone (marble) dust.

358F TILE REPLACEMENT TO FIRE SURROUND

- Replacement of tiles where defect is too large for a mortar repair.
- Includes the replacement of tile, making good of substrate and re-bedding with new tile.
- New tiles to match existing in size, appearance, material and colour. Subject to mortar analysis and sample panels.

REMOVING REDUNDANT FIXTURES AND FITTINGS

411F REMOVAL OF BOLTS, SCREWS, NAILS, THREADED SLEEVES AND OTHER METAL FIXINGS

- Removal: Cut out carefully, causing the least possible disturbance to surrounding masonry.
 - Remove any associated rust debris.
- Making good: As clause 518.

TOOLING/ DRESSING STONE IN SITU

456F DESCALING STONE TO FIRE SURROUND

- Requirement: Carefully remove loose scaling and powdering from stones to the extent agreed.
- Method: Suitable bristle brushes or carborundum blocks. Do not use wire brushes.

459F REDRESSING STONE TO FIRE SURROUND

- Requirement: Carefully dress back stones to the extent agreed.
- Method: Suitably graded carborundum blocks or tooling as appropriate.

MORTAR REPAIRS

509F MORTAR REPAIR PRINCIPLES TO FIRE SURROUND

- Mortar repairs are to be confined to the following types of defect:
 - Filling relatively minor erosion, damage and recesses on top face of cills.
 - Filling holes where bolts, screws, timber plug have been removed.
 - Filling natural fissures in face of stone.
 - Filling other small holes not exceeding 20mm diameter.
 - Filling cracks and widened mortar joints where ties, pinning or other remedial work is considered unnecessary.
 - Re-bed, fill cracks to fender.

516F MORTAR REPAIRS GENERALLY TO FIRE SURROUND

- Preparation:
 - Repair area: Scribe area of masonry to be removed using straight horizontal and vertical lines parallel to joints. Where repair area abuts joints, maintain existing joint widths and do not bridge joints.
 - Decayed masonry: Cut back carefully to a minimum depth of 20 mm to a sound background. Where the depth of removal exceeds 50 mm, seek instructions.
 - Precautions: Do not weaken masonry by removing excessive material. Do not damage adjacent masonry.
 - Top and vertical reveals of repair area: Undercut.
- Repair:
 - Dampen inside of hole and surrounding stone to control suction.
 - Mortar: To match stone surround
 - Finish: Flush with surrounding masonry
- Pointing/Repointing:
 - As clause C41-806F

519F MAJOR & MINOR MORTAR REPAIRS TO FIRE SURROUND

MAJOR REPAIRS:

- Cutting out and rectification of poor matching previous mortar repairs. These are to areas where the previous repair is a very poor visual match, dominates the original decorative scheme or are inappropriate ie cementitious mortar.
- Assessment of mortar analysis and samples required for successful match.

MINOR REPAIRS:

- Cutting out and rectification of poor matching previous mortar repairs. Generally the repairs are aesthetic but are of a size and prominent location that their repair will contribute to the project objectives.
- Assessment of mortar analysis and samples required for successful match.

520F SURFACE REPAIRS

- Comply with the general requirements of BS 6270 and use the particular method of repair specified in the Part and Section of BS 6270 stated below for the surface repair of:
 - mortar joints (Part 1, Section 3, paragraph 13)
 - brickwork (Part 1, Section 3, paragraph 14.3)

CRACK REPAIRS/ TIES/ REINFORCEMENT

611F MORTAR REPAIR OF CRACKS

- Mortar: As clause 291.
- Preparation: Clean out cracks to remove debris, dust and dirt. Dampen recesses, as necessary, to control suction.
- Applying mortar: Press well into cracks so that they are fully filled. Ensure that mortar does not encroach upon exposed faces. Finish mortar flush with masonry face.

642F PINNING ACROSS CRACKS TO FIRESURROUND

- Manufacturer: Helifix
 - Web: www.helifix.co.uk
- Ties/ Pins:
 - Type: 316 grade stainless steel helical bar
 - Diameter: 8mm
- Installation:
 - Carefully drill 5mm diameter pilot hole diagonally across crack to be stitched.
 - Fit special DryFix PDA instrtion tool to an electric hammer drill.
 - Load the DryFix tie into the insertion tool.
 - Power-drive the tie into position until its outer end is recessed below the face of the stone.
 - Make good hole: As clause 693.

693F MAKING GOOD TO INJECTION AND INSERTION HOLES

- Preparation: Clean out holes thoroughly.
 - Dampen inside of hole and surrounding stone to control suction.
 - Mortar: Coloured mortar to match
- Finish: Flush with surrounding stone

POINTING/ REPOINTING

805F COMPLETE REPOINTING

- Where complete repointing is indicated the whole are is to be prepared and repointed in accordance with clauses 810, 812, 813, 821, 822, 823 & 827

806F SELECTIVE REPOINTING

- Where selective repointing is indicated only joints that are open, or the mortar is eroded, loose or friable are to be prepared and repointed in accordance with clauses 810, 812, 813, 821, 822, 823 & 827
- For tender purposes it should be assumed that all joints in the areas shown as selective repointing will require raking out and repointing and this should be allowed for in the tender price.
- The final extent of selective repointing will be confirmed following cleaning as clause C40.843 and inspection as clause C41.122 and further clarification and guidance will be provided on site in discussion with site operatives carrying out the work.

840F 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.

860F 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.

C50*
Repairing/Renovating Metalwork

Section Revision History

No.	Purpose	
-	FOR TENDER	14th Jun 2020

Clauses amended in Revision -

This is the first revision stamp for this section. For all future revision stamps, details of all clauses amended at that revision will be included here.

C50* Repairing/Renovating Metalwork

WORKMANSHIP

Carry out ironwork repairs in accordance with current 'Conservation Principals' by the National Heritage Ironwork Group.

100F APPROVED METALWORKERS

- The work in this section (to include metalwork repairs and preparations) is to be carried out by one of the following metalworker conservators:

a) Calibre Metalwork Ltd

Hazel Knoll Farm, Torkington Road, Hazel Grove, Stockport SK7 6NW

Tel: 0845 6044553

b) Mullins Studio (co. Colin Mullins),

5 Huntersfield, Shavington, Crewe, CW2 5FB

Tel: 07948 309 677

c) Lost Art Ltd

1 Yewdale Crescent, Wigan, Lancashire, WN1 2HP

Tel: 01257 464 601

d) Hall Conservation Ltd (co. Brian Hall)

36 Shrewsbury Lane, London, SE18 3JF

Tel. 020 8855 8567

Mob. 07714 895072

e) Topp & Co. (co. Chris Topp)

Unit 5, The Airfield, Tholthorpe, North Yorkshire, YO61 1ST

United Kingdom

Tel: 01347 833173

Or another firm whose details are submitted before return of tender and agreed in writing by the CA.

200F RECORDING

- All areas are to be fully recorded by the contractor using photography and marked up record drawings prior to work commencing, and following removal of flaking/unsound paint build-up and corrosion.
- All materials resulting from and dismantling operations are to be carefully handled, salvaged and stored on site and will remain the property of the client until such time as they are instructed specifically for disposal.
- Following inspection with the CA mark out area to be treated or repaired on site and transfer onto record drawing. Photograph areas to be treated and cross refer photo to record drawing.

CLEANING

301F PARTIAL REMOVAL OF DECORATIONS

- Principal to be applied when areas of existing paint layers are sound. Ensure complete protection from all cleaning works to the Strict approval of CA.
- Clean surface with a wet air micro grit abrasive and aluminium oxide using a non aggressive high pressure needle guns with fine/medium/large attachments to suit element to be cleaned. The nozzle must have independent control over air, water and abrasive. Cleaning to begin at a pressure of 40psi and not exceed 70psi unless otherwise agreed with the Architect.
- Thoroughly go over to remove all oil, grease, dust and dirt and also scale, rust, old defective/unsound paint layers/coatings and foreign matter including in joints back to a sound metal and paint finish.

302F BLAST CLEANING - FULL LENGTHS/UNITS ONLY

- Principal to be applied when full lengths/units of existing paint layers are defective. Ensure complete protection from all cleaning works to the Strict approval of CA. Adequately protect adjacent sound finishes when undertaking blast cleaning.
- Thoroughly blast clean to level 'SA½' of BS7079: Part A1: 1989, to remove all visible oil, grease, dust and dirt and also scale, rust, old defective/unsound paint coatings and foreign matter including in joints back to a sound metal finish.
- Use hot air guns or an abrasive blast system using a non aggressive medium such as walnut or coconut shell in a dry formula.

305F HAND CLEANING

- Thorough hand power tool cleaning to level "St2" of BS7079 : Part A1 to be carried out in situ to leave the component free from visible oil, grease and dirt, and free from poorly adhering scale, rust, paint coatings and foreign matter.

MATERIALS**312F WROUGHT IRON REPAIRS**

- Hand forged solid wrought iron with profiles to match original component.
- Source:
The Real Wrought Iron Company
Carlton Husthwaite, Thirsk
North Yorkshire
Tel: 01845 501415
- Provide sample of each replacement embellishment for CA approval prior to proceeding.
- Or another firm whose details are submitted before return of tender and agreed in writing by the CA.

315F TREATMENT OF BARE METALWORK

Not required on internal metalwork.

316F STITCH PINS TO REPAIR CRACKING OF CAST IRON

- Manufacturer: Contractors choice.
 - Material: 316 grade stainless steel.
 - Type: Threaded bolts.
 - Size: Allow M10; to be confirmed by specialist to suit size of cracking.

317F METAL FILLER

Following cleaning preparation of metalwork, fill defect/opening between embellishment and framework with car body filler (pure epoxy resin) to prevent passage of moisture to forge weld; use sparingly and do not use to feather out paint layers. Specialist sub-contractor to submit written proposals to CA including confirmation of the suitability of the proposed filler for the purpose proposed and then undertake in situ sample repair for Architects approval. Allow 3 weeks prior to commencement of works.

SCHEDULE OF OPERATIONS

321F CLEANING AND TREATMENT OF METALWORK AS INDICATED ON DRAWINGS

- Record ironwork as C50*/200F and allow inspection by CA and to confirm precise scope of works.
- Preparation: Part removal as C50*/301F or full removal as C50B/302; including feathering-in of paint finishes by sanding.
- Scope of repairs:
 - Treatment of bare metalwork below areas of filler only as C50*/315F.
 - Fill minor defect/opening up between embellishment and framework as C50*/317F.
- Finish as M60/192F and application of high build primer to build up at edges of existing paint layers.

323F CONSERVATION REPAIR OF CORRODED METALWORK AS INDICATED ON DRAWINGS

- Record ironwork as C50B/200F and allow inspection by CA and to confirm precise scope of works.
- Preparation: Part removal as C50B/301F or full removal as C50B/302F; including feathering-in of paint finishes by sanding.
- Scope of repairs:
 - Treatment of bare metalwork below areas of filler only as C50B/315F.
 - Feather-in paint finishes by sanding.
 - Build up corroded areas using filler as C50B/317F.
 - Scribe filler using hand tools as C50B/317F to replicate missing decorative work where instructed; generally missing elements are to be replaced with hand forged iron.
 - Fill minor defect/opening up between embellishment and framework as C50B/317F.
- Finish as M60/192 and application of high build primer to build up at edges of existing paint layers.

325F RENEWAL OF MISSING COMPONENTS & MODERN INAPPROPRIATE REPAIRS

- Allow inspection by CA with specialist to confirm precise scope of works.
- Preparation: Cut out or remove defective/modern component.
- Scope of repairs:
 - Provide new hand forged wrought iron component as C50*/312F.
- Finish:
 - To match existing

329F SPECIALIST COLD STITCH REPAIRS TO CRACKED CAST IRON

The following works are to be undertaken by a specialist/metal fabricator who is competent in this type of repair. Refer to the pricing document for allowances.

- Drill a row of hit-and-miss blind holes along the length of the crack using a jig to suit the width/centres of the stitch pins as C50B/316F.
- Provide threads to the holes to suit the stitch pins.
- Smear holes with araldite glue and immediately screw in stitch pins.
- Break/cut off stitch pins nominal 2mm proud of metalwork.
- Grind off stitch pins to finish flush, being careful not to damage the adjacent metalwork.
- Complete the above process to fill the intermediate spacings.
- Finish: Decorate as adjacent and included/specified elsewhere.
- Other requirements: Indicate location of repair(s) on drawings within the Health & Safety File.

330F METALWORK REPAIRS TO HISTORIC GRATE

- Like for like repairs to of damaged or missing elements.
- Large sections forming a hazard are to be repaired throughout and smaller mainly visual defects are to be rectified within areas of very high significance.
- Metalwork specialist to advise on methodology for repair.
- Required to maintain significance within areas of very high significance, allow for continued use and avoid maintenance issues and rectify trip hazards.
- Following paint removal and repairs, grate to receive polish with traditional black grate polish or wax oil. Sample to be provided and approved by Architect.
- Product Ref: Stovax black Grate Polish or similar approved.

C51
Repairing/ Renovating/ Conserving timber

Section Revision History

No.	Purpose	
-	FOR TENDER	14th Jun 2020

Clauses amended in Revision -

This is the first revision stamp for this section. For all future revision stamps, details of all clauses amended at that revision will be included here.

C51 Repairing/ Renovating/ Conserving timber

TO BE READ WITH PRELIMINARIES/ GENERAL CONDITIONS

THE REPAIR OF JOINERY IS SUBJECT TO AGREEMENT ON SITE WITH THE ARCHITECT & SPECIALIST/CONSERVATOR & THE SPECIALISTS PAINT ANALYSIS & FINDING OF HISTORIC DECORATIVE SCHEME.

GENERAL

STRUCTURAL REPAIRS GENERALLY

Refer to structural engineers documentation.

110F INSPECTION

- Purpose: To confirm nature and extent of repair/ renovation/ conservation work shown on drawings and described in survey reports and schedules of work.
- Parties involved: Design team.
- Timing: Contractor to notify Design team that the area is ready for inspection and design team to inspect within 1 week.
- Instructions issued during inspection: any instructions to be confirmed in writing with specification and drawings if required.

150F TIMBER PROCUREMENT

- Timber (including timber for wood based products): Obtained from well managed forests and/ or plantations in accordance with:
 - The laws governing forest management in the producer country or countries.
 - International agreements such as the Convention on International Trade in Endangered Species of wild fauna and flora (CITES).
- Documentation: Provide either:
 - Documentary evidence (which has been or can be independently verified) regarding the provenance of all timber supplied.
 - Evidence that suppliers have adopted and are implementing a formal environmental purchasing policy for timber and wood based products.

NON-STRUCTURAL REPAIRS/ ALTERATIONS

270F REPAIR OF HAIRLINE CRACKING/SPLITTING, FILLING OF SURFACE DAMAGE TO FIRE SURROUND

- Items/locations: Refer to drawings/schedules/ room data sheets.
- Preparation of defective/damaged timber:
 - Thoroughly rub down previously painted surfaces, using 'wet flatting' methods where possible, then wipe off with a damp, lint free cloth.
 - Treat exposed knots with a suitable knotting solution.
 - New or bare surfaces to be primed in accordance with paint manufacturers recommendations.
- Filling defect: Use a non-shrinking or cracking interior timber filler in accordance with paint manufacturers recommendations.
 - Apply the filler and work well into the damage using a wet filling knife, leave the filler slightly proud for sanding once dried.
 - Allow filler to completely dry.
 - Sand the filler so it is even with the surface and dust off.
 - Lightly clean down with potable water and a damp, lint free cloth to remove dust.
 - If further holes, cracking occurs, cut out and repeat process.
- Generally: as M60/461F, 471F and 481F.
- Decorate: to match adjacent finish; refer to M60 and schedules for details.

278F REPLACEMENT OF INTERNAL TIMBER MOULDINGS TO FIRE SURROUND

- Items/locations: Refer to drawings/schedules/ room data sheets.
- Preparation:
 - Carefully release/cut out defective moulding so not to damage the adjacent finishes.
 - Provide a clean regular profile and where repairing existing provide a mitre; do not butt joint.
- Replacement timber: To match existing type; softwood as C51/360F and hardwood as C51/370F.
 - Size: Profile to match that which is being replaced; exact length to be confirmed on site to conserve as much of the original timber as possible.
 - Grain: The direction of the grain for the repair is to match the existing.
- Fixing:
 - Glue and clamp using stainless steel countersunk screws/lost head nails to suit repair; sized to suit application.
 - Fill lost heads/fixings with a non-shrinking or cracking interior timber filler in accordance with paint manufacturers recommendations.
- Decoration: to match adjacent finish; refer to finishes schedules for details.

PRODUCTS**360F SOFTWOOD FOR JOINERY REPAIRS GENERALLY; refer to drawings for locations**

- Species: Douglas fir.
- Quality: Generally to BS EN 942; free from decay and insect attack (except pinhole borers).
 - Appearance class: Class J2 for glazing beads, mouldings, linings and the like. J20 or better for all other members. Knots on arrises not permitted where exposed to view.
- Treatment: None required.
- Moisture content on delivery:
 - Externally: 13–19%.
 - Internally:
 - 9–13% for buildings with heating providing room temperatures in the range 12–21°C.
 - 6–10% for buildings with heating providing room temperatures in excess of 21°C .
- Moisture content upon fixing: to minimise cracking to match the timber being repaired in its normal conditions upon completion.

370F HARDWOOD FOR JOINERY REPAIRS GENERALLY; refer to drawings for locations

- Species: Oak.
- Quality: Generally to BS EN 942; free from decay and insect attack (except pinhole borers).
 - Appearance class: Class J2 for glazing beads, mouldings, linings and the like. J20 or better for all other members. Knots on arrises not permitted where exposed to view.
- Treatment: None required.
- Moisture content on delivery:
 - Externally: 13–19%.
 - Internally:
 - 9–13% for buildings with heating providing room temperatures in the range 12–21°C.
 - 6–10% for buildings with heating providing room temperatures in excess of 21°C .
- Moisture content upon fixing: to minimise cracking to match the timber being repaired in its normal conditions upon completion.

480F SCREWS & NAILS FOR NON STRUCTURAL TIMBER REPAIRS GENERALLY

- Standard: As section Z20.
- Material: 304 grade stainless steel.
- Tensile strength (minimum): Not applicable.
- Finish as delivered: None.

EXECUTION

600F WORKMANSHIP

- Skill and experience of site operatives: Appropriate for types of work on which they are employed.
 - Documentary evidence: Submit on request.

610F TEMPORARY SUPPORTS/ PROPPING

- General: Provide adequate temporary support at each stage of repair work to prevent damage, oversteering or uncontrolled collapse of any part of the structure.
- Bearings for temporary supports/ propping: Suitable to carry loads throughout repair operations.

620F PROTECTION OF REMOVED HISTORIC TIMBER AND WOOD COMPONENTS BEFORE AND DURING REINSTATEMENT:

- Storage: Ensure the timber is carefully removed, recorded correctly and temporarily stored in the room where the inspection is taking place, clear of the ground and with good ventilation. Support sections/ components on regularly spaced, level bearers on a dry, firm base.
- Handling: Do not oversteer, distort or disfigure sections or components during transit, storage, lifting, erection or fixing.
Area of timber boards removed to be loose laid in original position following inspection and identified using low tack tape - product to be agreed with CA

630F MATERIAL SAMPLES

- Representative samples of designated materials: Submit before placing orders.
 - Designated materials: For hardwood and softwood repairs.

650F DIMENSIONS GENERALLY

- Site dimensions: Take as necessary before starting fabrication.
 - Discrepancies with drawings: Report without delay and obtain instructions before proceeding.

680F WARPING OF TIMBER

- Bow, spring, twist and cup: Not greater than the limits set down in BS 4978, BS EN 519 or BS EN 14081-1 for softwood, or BS 5756 for hardwood.

690F PROCESSING TREATED TIMBER

- Cutting and machining: Carry out as much as possible before treatment.
- Extensively processed timber: Retreat timber sawn lengthways, thickened, planed, ploughed, etc.
- Surfaces exposed by minor cutting and/ or drilling: Treat with two flood coats of a solution recommended by main treatment solution manufacturer.

750F CLEANING DIRTY OR STAINED WOOD

- Generally: Scrub with neutral pH soap and clean, warm water.
- Old varnish: Remove using mixture of turpentine (not turpentine substitute) and acetone in proportions determined by experiment, followed by washing down.

850F ADHESIVE JOINTS

- Moisture content of sections to be joined: Within 5% of equilibrium moisture content for conditions of service, and differing from each other by not more than 3%.
- Surfaces to be bonded: Close fitting, structurally sound, dry, and free from contamination by dirt, dust, grease or other deleterious substances.

860F MOISTURE CONTENT CHECKING

- Procedure: When instructed, check moisture content of timber sections with an approved electrical moisture meter.
- Test results: Keep records of all tests. If moisture content falls outside specified range obtain instructions.

F10
Brick/ block walling

Section Revision History

No.	Purpose	
-	FOR TENDER	13th Jun 2020

Clauses amended in Revision -

This is the first revision stamp for this section. For all future revision stamps, details of all clauses amended at that revision will be included here.

F10 Brick/ block walling

TO BE READ WITH PRELIMINARIES/GENERAL CONDITIONS

See also Section C41 REPAIRING/ RENOVATING/ CONSERVING MASONRY

TYPES OF WALLING

111F CLAY FACING BRICKWORK TO AREA'S OF BRICK REPAIR

- Bricks: Salvaged second hand from site or new to match existing exactly (to approved sample)
- Sizes: Match existing adjacent bricks
- Colour: To match adjacent/existing brickwork
- Mortar: To match existing
- - Standard: [To BS EN 998-2].
- - Mix: [To match existing].
- - Additional requirements: [Mortar to match existing] .
- Bond: [To match existing].
- Joints: [To match existing].
- Features: [None].

315F CLAY COMMON BRICKWORK TO INTERNAL BRICKWORK

- No flettons are to be used in any situation.

WORKMANSHIP GENERALLY

491F REPOINTING

- Careful and sympathetic repointing is of the utmost importance in preserving the colour, texture and general character of old brickwork and stonework. Strong cement mortars are dark and harsh in colour; also they shrink and pull away the edges of the bricks. Flush pointing is unsuited to the irregularly shaped edges and faces of early brickwork and stonework and any form of struck pointing gives a hard and mechanical appearance to the wall. The following instructions are to be brought to the notice of every bricklayer and mason employed on the work and are to be carefully and fully carried out.
- Rake out joints to a depth of at least 25mm or more if the old mortar has perished; remove loose particles to make a good key for the new mortar. Press the new mortar well into the joints to assist adhesion and to ensure that no voids are left. When the joints are filled the mortar is to finish slightly recessed from the general face of the brickwork so that the mortar does not encroach upon the irregular arrisses or spread over any worn or rounded edges of the bricks or stone.
- As soon as the mortar has taken the initial set it is to be stippled with a stiff bristle brush to produce a slightly rough surface in keeping with the old work.
- Mortar: As section Z21, mix 1 part St Astier Hydraulic lime NHL 3.5 to 2:5 parts of local well graded sand.

496F JOINTING AND REPOINTING

- Unless specified otherwise, all joints in second-hand or repaired brickwork areas, or new work built to match existing.
- Finish joints as the work proceeds.
- Once the mortar has taken its initial set brush over with a Hessian rag, stick or bristle brush to leave slightly recessed joint and to give the mortar a slightly textured surface.

500F LAYING GENERALLY

- Mortar joints: Fill vertical joints. Lay bricks, solid and cellular blocks on a full bed.
- AAC block thin mortar adhesive and gypsum block adhesive joints: Fill vertical joints. Lay blocks on a full bed.
- Clay block joints:
 - Thin layer mortar: Lay blocks on a full bed.
 - Interlocking perpend: Butted.
- Bond where not specified: Half lap stretcher.
- Vertical joints in brick and concrete block facework: Even widths. Plumb at every fifth cross joint.

520F ACCURACY

- Courses: Level and true to line.
- Faces, angles and features: Plumb.
- Permissible deviations:
 - Position in plan of any point in relation to the specified building reference line and/ or point at the same level ± 10 mm.
 - Straightness in any 5 m length ± 5 mm.
 - Verticality up to 3 m height ± 10 mm.
 - Verticality up to 7 m height ± 14 mm.
 - Overall thickness of walls ± 10 mm.
 - Level of bed joints up to 5 m (brick masonry) ± 11 mm.
 - Level of bed joints up to 5 m (block masonry) ± 13 mm.

595F LINTELS

- Bearing: Ensure full length masonry units occur immediately under lintel ends.

610F SUPPORT OF EXISTING WORK

- Joint above inserted lintel or masonry: Fully consolidated with semidry mortar to support existing structure.

620F BLOCK BONDING NEW WALLS TO EXISTING

- Pocket requirements: Formed as follows:
 - Width: Full thickness of new wall.
 - Depth (minimum): 100 mm.
 - Vertical spacing:
 - Brick to brick: 4 courses high at 8 course centres.
 - Block to block: Every other course.
- Pocket joints: Fully filled with mortar.

671F FIRE STOPPING

- Avoidance of fire and smoke penetration: Fit tightly between cavity barriers and masonry. Leave no gaps.

750F COLOUR CONSISTENCY OF MASONRY UNITS

- Colour range: Submit proposals of methods taken to ensure that units are of consistent and even appearance within deliveries.
- Conformity: Check each delivery for consistency of appearance with previous deliveries and with approved reference panels; do not use if variation is excessive.
- Finished work: Free from patches, horizontal stripes and racking back marks.

760F APPEARANCE

- Brick/ block selection: Do not use units with damaged faces or arrises.
- Cut masonry units: Where cut faces or edges are exposed cut with table masonry saw.
- Quality control: Lay masonry units to match relevant reference panels.
 - Setting out: To produce satisfactory junctions and joints with built-in elements and components.
 - Coursing: Evenly spaced using gauge rods.
- Lifts: Complete in one operation.
- Methods of protecting facework: Submit proposals.

790 PUTLOG SCAFFOLDING

- Use: Not permitted in facework.

830 CLEANLINESS

- Facework: Keep clean.
- Mortar on facework: Allow to dry before removing with stiff bristled brush.
- Removal of marks and stains: Rubbing not permitted.

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

Section Revision History

No.	Purpose	
-	FOR TENDER	14th Jun 2020

Clauses amended in Revision -

This is the first revision stamp for this section. For all future revision stamps, details of all clauses amended at that revision will be included here.

F30 Accessories/ sundry items for brick/ block/ stone walling**To be read with Preliminaries/ General conditions****165F EXISTING CAST IRON AIR BRICKS**

- Apertures: Rectangular hole.
- Work sizes: Varies to be measured on site.
- Material/ Colour: Cast Iron/ To be determined by paint analysis.
- Other requirements:
 - Conduct paint analysis to establish paint archaeology. Subject to confirmation of paint analysis remove all paint back to metal.
 - Conduct metal repairs and redecorate (allow for polished metal finish)
 - Grille to be removed, work carried out in workshop and reinstated to existing location.
 - Metal repairs including crack repairs to cast iron to be by cold stitching or TIG welding to be appropriate to type of damage to be repaired. To clause Z11.
 - Install black pc insect mesh to rear of grille.
 - Following paint removal and repairs, grille to receive polished with traditional black grate polish or wax oil. Sample to be provided and approved by Architect. Product Ref: Stovax black Grate Polish or similar approved.

166F NEW CAST IRON AIR BRICKS

- Manufacturer: J & JW Longbottom Ltd, Bridge Foundry, Holmfirth, Nr Huddersfield HD9 7AW
 - Web: www.longbottomfoundry.co.uk
 - Tel: 01484 682 141
 - Product reference: Cast Iron Air Bricks
- Aperture Size: Varies as shown on drawings.
- Type: Type 974 School Board pattern.
- Finish: Standard (bare).
- Accessories/ Other requirements: n/a).

REINFORCING/ FIXING ACCESSORIES**221F WALL TIES FOR TYING BRICK SKIN S TOGETHER**

- Manufacturer and reference: to structural engineer's specification
- Material/finish: Austenitic stainless steel, minimum 18/8 composition and excluding free machining specifications.

222F WALL TIES FOR IMPROVING BOND

- Manufacturer and reference: to structural engineer's specification
- Material/finish: Austenitic stainless steel, minimum 18/8 composition and excluding free machining specifications

270F JOINT REINFORCEMENT FOR STITCHING ETC. IN BRICKWORK

- Manufacturer and reference: to structural engineer's specification
- Material: Austenitic stainless steel, minimum 18/8 composition and excluding free machining specifications
- Width: Approximately 40-50 mm less in width than wall or leaf.
- Lay 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.

INSTALLATION OF DPCS/ CAVITY TRAYS**610F MOVEMENT JOINTS IN BRICKWORK**

agree methods positions and procedures for providing movement joints with CA and CC before commencing any work.

650F POINTING IN FLASHINGS

- Remove dust, lightly wet and neatly point with mortar specified for walling.
- Ensure joint is completely filled and finish flush.

MISCELLANEOUS ITEMS**930F EXISTING FIREPLACE COMPONENTS**

Requirements:

- Replace defective/ missing ceramic tiles, remove bedding and grout, re-lay in bedding and regrout.
- Heritage clean to ceramic tiles with deionized detergent
- Clean paint off metal hearth surround and polish
- Pin and resin fix uprights and mantels where required
Resin Type: Acrylic resin with marble or granite dust mix to match colour. Sample to be approved.
" Manufacturer and reference: Sebralit Solid
" Source: As F21:426
Pins: Deformed Round Bar diameter TBC in Grade 18/8 Austenitic Stainless Steel 460 Nmm² complies with BS6744:1986. Spec 304531 - By George Clark (Sheffield) Ltd or Alexis basalt rods.
similar supplier approved by the CA.
- In situ repair to front edge of mantle. Clean the surround.
- Replace all fire bricks with new. Clean, black and polish Insert new register plate to be fixed shut.

M40

Stone/ concrete/ quarry/ ceramic tiling/ mosaic

Section Revision History

No.	Purpose	
-	FOR TENDER	12th Jun 2020

Clauses amended in Revision -

This is the first revision stamp for this section. For all future revision stamps, details of all clauses amended at that revision will be included here.

M40 Stone/ concrete/ quarry/ ceramic tiling/ mosaic

To be read with Preliminaries/ General conditions.

TYPES OF TILING/ MOSAIC

136F CLEANING TO FIRE SURROUND TILES

- Cleaning to all areas of ceramic tiles. Objective to remove adhered items discolouration and staining as a result continued use.
- Non abrasive techniques to be used and recommendation for future maintenance regime to be made.
- All tiles to be cleaned using non-abrasive brush with PH neutral soap and deionised water.

137F IN-SITU CONSOLATION REPAIR TO FIRE SURROUND TILES

- Repairs to tiles where replacement of decorative unit is not possible.
- Repair is to mitigate against further deterioration and improve the aesthetics of the damaged decorative finish.
- Subject to sample repair and intrusive surveys including mortar analysis.

138F REPLACE DAMAGED & REFIX LOOSE TILES TO FIRE SURROUND TILES

- Replace tiles to areas that are damaged.
- Make good substrate, bed and grout new tiles to match existing.
- New tiles to match in appearance, size, scale and colour to existing.
- Where possible same brand and stored original tiles to be used.

139F NEW ALTERATIONS TO FIRE SURROUND TILES

- Areas of new tiles to be installed to match existing in areas altered by proposals or areas to be relaid or altered after services installation.
- New tiles to match the existing in size, shape colour, material, quality and appearance.
- Areas that have screed repairs to be raked out and reinstated with tiles. Specification to be informed by assessment of mortar analysis and colour matched samples tiles..

158F TAP TEST- TILES TO FIRE SURROUND TILES

- Tap test to existing tiles to ascertain if there are any loose tiles, carefully record and remove for re-fixing.
- Areas of missing and damaged tiles to be recorded and replaced to match existing.
- Bedding mortar and grout to match existing.

GENERAL

250F SAMPLES

- General: Submit representative samples of the following: Each type of Tile.

260F CONTROL SAMPLES

- General: Complete sample areas, being part of finished work, in locations as follows: To be agreed with Architect.
 - Approval of appearance: Obtain before proceeding.
- Floor covering slip resistance testing: Not required.

PREPARATION

310F EXISTING BACKGROUNDS/BASES GENERALLY

- Efflorescence, laitance, dirt and other loose material: Remove.
- Deposits of oil, grease and other materials incompatible with the bedding: Remove.
- Tile, paint and other nonporous surfaces: Clean.
- Wet backgrounds: Dry before tiling.

FIXING

510F FIXING GENERALLY

- Colour/ shade: Unintended variations within tiles for use in each area/ room are not permitted.
 - Variegated tiles: Mix thoroughly.
- Adhesive: Compatible with background/ base. Prime if recommended by adhesive manufacturer.
- Use of admixtures with cementitious adhesives: Only admixtures approved by adhesive manufacturer.
- Cut tiles: Neat and accurate.
- Fixing: Provide adhesion over entire background/ base and tile backs.
- Final appearance: Before bedding material sets, make adjustments necessary to give true, regular appearance to tiles and joints when viewed under final lighting conditions.
- Surplus bedding material: Clean from joints and face of tiles without disturbing tiles.

MOVEMENT JOINTS/ GROUTING/ COMPLETION

875F GROUTING

- Sequence: Grout when bed/adhesive has set sufficient to prevent disturbance of tiles.
- Joints: 6 mm deep (or depth of tile if less). Free from dust and debris.
- Grouting: Fill joints completely, tool to profile, clean off surface. Leave free from blemishes.
 - Profile: Flush.
- Polishing: When grout is hard, polish tiling with a dry cloth.

876F RE-GROUT TO CERAMIC TILES

- Rake-out and renew grouting to areas that are a poor visual match, have deteriorated or become discoloured.
- Objective to to achieve consistent and renewed aesthetic.
- Rake out and replace existing grout with new.
- Subject to mortar analysis.

885F COLOURED GROUT

- Staining of tiles: Not permitted.
- Evaluating risk of staining: Apply grout to a few tiles in a small trial area. If discoloration occurs apply a protective sealer to tiles and repeat trial.

M60
Painting/clear finishing

Section Revision History

No.	Purpose	
-	FOR TENDER	14th Jun 2020

Clauses amended in Revision -

This is the first revision stamp for this section. For all future revision stamps, details of all clauses amended at that revision will be included here.

M60 Painting/clear finishing

To be read with Preliminaries/General conditions.

COATING SYSTEMS

GENERALLY

250F SURFACES TO BE CLEANED BUT NOT COATED

- Wash down existing coated and/or bare surfaces specified as 'to be cleaned' as follows:
- Undertake trial areas on each surface finish to be cleaned of approximately 0.5sq.m. and leave to dry thoroughly for inspection by the CA
- All work to be undertaken with care in order not to damage or mark the existing surfaces and undertaken with the minimum of water
- Procedure:
 - Brush down surface to remove dust and surface deposits.
 - Wipe whole surface with a solution of decorator's sugar soap diluted as recommended, carefully working into mouldings internal corners etc. using a suitable sponge or soft brush, but avoiding over-wetting.
 - Treat heavy deposits with second application and where instructed use a proprietary cleaner to remove grease, adhesive residues or other marks.
 - Thoroughly rinse surfaces without over-wetting by wiping with clean water, change water regularly to avoid leaving deposits/streaking.
 - Allow to dry and inspect, rinse further if necessary to remove deposits/streaking

PREPARATION

400F PREPARATION GENERALLY

- Standard: In accordance with BS 6150.
- Refer to any pre-existing CDM Health and Safety File.
- Refer to CDM Construction Phase Plan where applicable.
- Suspected existing hazardous materials: Prepare risk assessments and method statements covering operations, disposal of waste, containment and reoccupation, and obtain approval before commencing work.
- Preparation materials: Types recommended by their manufacturers and the coating manufacturer for the situation and surfaces being prepared.
- Substrates: Sufficiently dry in depth to suit coating.
- Efflorescence salts: Remove.
- Dirt, grease and oil: Remove. Give notice if contamination of surfaces/ substrates has occurred.
- Surface irregularities: Remove.
- Joints, cracks, holes and other depressions: Fill flush with surface, to provide smooth finish.
- Dust, particles and residues from preparation: Remove and dispose of safely.
- Water based stoppers and fillers:
 - Apply before priming unless recommended otherwise by manufacturer.
 - If applied after priming: Patch prime.
- Oil based stoppers and fillers: Apply after priming.

505F HERITAGE PAINT ANALYSIS TO CONFIRM PAINT ARCHAEOLOGY PRIOR TO REMOVAL OF MODERN PAINT FINISHES

- Location: Heritage Paint Analysis undertaken to record paint type and colour for each different substrate (all elements ie, skirting, wall, cornice, ceiling etc.) where it is proposed for the modern paint to be removed.
- Test to determine the various layers of paint, their composition and likely age.
- Method:
- Paint samples (approximately 6-8mm in size) will be carefully collected by experienced conservators from the agreed and specified spaces using a number of hand-held tools, including scalpels and fine, sharp wood and stone chisels and if required a Dremel, depending on type and condition of substrate.
- The samples will be labelled and bagged prior to being returned to our laboratory for further analysis. Sample locations will be recorded diagrammatically and photographically to floor plans prior to removal.
- Leave all working areas in clean and tidy condition and waste removed from site.
- The following non-exhaustive list of procedures should be allowed for as part of the testing:
 - Examination of the areas to be tested on site
 - Formulation of the sampling strategy based on documentation and on site observations
 - Careful removal of paint sampling in areas identified by Purcell
 - Examination of paint samples at low magnification and mounting of samples
 - Examination of paint samples in cross-section under high magnification
 - Stratigraphic interpretation (with reference to building development)
 - Material analysis to identify composition and likely age - including testing for the presence of lead
 - Presentation of a report documenting the findings of the tests

507F INTERNAL PAINT REMOVAL USING SUPERHEATED STEAM

- Method: Removal of interior paint coatings using superheated steam.
- Information before proceeding: Confirm results of paint sampling and analysis to ascertain the type of paint to be removed and whether the use of paint softener should be considered prior to the use of of superheated steam paint removal.
- Test area:
 - Agree location for test not exceeding 2m x 2m for carrying out a trial prior to proceeding with a larger area.
 - Carry out initial test using Therma-vac only without prior application of paint softener.
 - Review initial test and agree whether application of paint softener is required.
 - Apply agreed paint softener and accurately record dwell time prior to use of superheated steam.
 - Review results of test before proceeding with full area of work.
- Internal paint removal:
- Paint removal system: ThermaTech with ThermaVac Recovery System
- System Supplier:

Restorative Techniques Ltd, 67a Gloucester Road, Rudgey, Bristol BS35 3SG.

 - T el: 01454 417831 web:www.restorative-products.com
- System description: Hand-held containment and application tool designed for use with ThermaTech system allowing steam to be applied to a surface with an enclosure with waste water and residue directly drawn off to storage vessels.
 - A proved subcontractors/ operatives: Subcontractors and operatives employed are to be suitably trained and experienced in the use of the system.
- Paint softeners (use subject to trials and approval:
 - Restorative Acrylic Softener
 - Description: Thixotropic gel for softening plasticised masonry and emulsion paints. Water soluble.
 - Restorative Polyurethane Softener
 - Description: Thixotropic cream for softening polyurethane and oil based paints. Water soluble.
 - Application: Apply with a brush or roller. Leave for dwell time recommended and verified by test area before use of superheated steam paint removal system.
 - Paint removal to be an irritative process in order to establish and achieve the most suitable and appropriate method. Deviation from specification set out to be to conservation officer's and architect's approval.

528F REMOVAL OF EXISTING LEAD PAINT

- Care should be taken when rubbing down lead paint surfaces, even when using a wet abrasive. A dust mask should always be worn and hands should be thoroughly washed before eating, drinking or smoking.
- Removal of lead paint should be carried out in compliance with:
 - The Control of Lead at Work Regulation 1980
 - The Approved Code of Practice on Control; of Lead at Work
 - The Factories Act 1961
 - The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1985

531F PAINT REMOVAL TO STONE MANTEL

- Strip non breathable paintwork back to facing stonework finish and poultice to remove salts.
- Work required to restore breath ability of stonework and prevent further deterioration of the stonework
- Occurs throughout the building including corbels in high significance areas and exposed lintels in level 0
- Specification subject to intrusive survey trials.

532F PAINT REMOVAL TO MASONRY

- Strip painted masonry at level 0.
- Repair facing brickwork and seal with breathable sealant
- Reason is to improve breath-ability of building as part of wider strategy to mitigate further deterioration of building fabric.
- Subject to intrusive survey trials and rectification of route cause of damp / migration of salts.

535F CHEMICAL PAINT REMOVAL TO STONE MANTEL

- Method: Chemical paint removal
 - Description: Non-caustic paint removers formulated without metylene chloride.
- Manufacturer: Dumond Architectural, Industrial and Marine Solutions
- Product: Smart Strip Pro
 - Description: Professional strength paint remover for multiple coats of oil-based, water-based, acrylics, varnishes, epoxies, urethanes, elastomeric and lead paint.
 - It is formulated without methylene chloride, is non-carcinogenic, noncaustic, and non-flammable.
- UK Supplier: Sherwin-Williams Protective and Marine Coatings
 - Web: www.swpaintonline.com
 - Available pack sizes: 18.9 litres
- Application method: Apply paste using a brush or plastic trowel. Use nylon brush to apply paste into mouldings.
 - Dwell time: 3 to 24 hours
 - Removal: Using plastic scrapers and nylon brush. Care should be taken to avoid damage to mouldings and details. Rinse with clean water.
 - Allow for several applications of paint remover. It should not be assumed that all paint will be removed following one application.
 - Accessories: Dumond laminated paper.

539F CHEMICAL PAINT REMOVAL TO HERITAGE METALWORK

Method: Chemical paint removal

- Description: Non-caustic paint removers formulated without metylene chloride.
- Manufacturer: Dumond Architectural, Industrial and Marine Solutions
- Product: Smart Strip Pro
 - Description: Professional strength paint remover for multiple coats of oil-based, water-based, acrylics, varnishes, epoxies, urethanes, elastomeric and lead paint.
 - It is formulated without methylene chloride, is non-carcinogenic, noncaustic, and non-flammable.
- UK Supplier: Sherwin-Williams Protective and Marine Coatings
 - Web: www.swpaintonline.com
 - Available pack sizes: 18.9 litres
- Application method: Apply paste using a brush or plastic trowel. Use nylon brush to apply paste into mouldings.
 - Dwell time: 3 to 24 hours
 - Removal: Using plastic scrapers and nylon brush. Care should be taken to avoid damage to mouldings and details. Rinse with clean water.
 - Allow for several applications of paint remover. It should not be assumed that all paint will be removed following one application.
 - Accessories: Dumond laminated paper.

540F ACID PICKLING FOR PERVIOUSLY PAINTED GRILLES

- Preperation:
 - Chemical cleaning as clause 539
- Method Acid Pickling - Immerse components in warm bath of dilute phosphoric Acid
- Rinsing: Thouroughly rinse remove all acid.
- Treatment: rinse thouroughly to remove all acid.

541F PAINT REMOVAL TO FIRE SURROUND TILES

- Strip non breathable paintwork back to facing stonework finish and poultice to remove salts.
- Work required to restore breath ability of stonework and prevent further deterioration of the stonework
- Occurs throughout the building including corbels in high significance areas and exposed lintels in level 0
- Specification subject to intrusive survey trials.

543F PAINT REMOVAL TO DECORATIVE METALWORK

- Following paint analysis and recording; proceed with in situ chemical strip of paint back to a sufficient level as to not loose detail during redecoration.
- Original paint schemes to be retained and over-painted where appropriate.
- Inspect for metalwork defects and conduct repairs.
- Treat with rust inhibitor and redecorate with new painted finish.

548F GENERAL VARNISH REMOVAL TO FIREPLACE TIMBER SURROUND

- Varnish coatings to panelled timber surround and timber fretwork be removed using an acetone poultice comprising of cotton wool laid over, soaked in acetone and covered with coated paper and plastic sheeting.
- Allow to dwell for 18 hours and remove with plastic spatula with any remnants removed with fine grade stainless steel wool and acetone.

650F VARNISH RESTORATION TO FIREPLACE TIMBER SURROUND

- Renew decorative finish to restore significance of existing varnished joinery in rooms of Very High Significance - Considered Necessary in rooms of High Significance.
- Analyse varnished joinery to determine existing protective finish.
- Consider removal of any polyurethane varnish and finish with appropriate traditional finish such as French polishing with shellac finish

Section Revision History

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This is the first revision stamp for this section. For all future revision stamps, details of all clauses amended at that revision will be included here.

P12 Fire stopping systems

To be read with Preliminaries/ General conditions.

GENERAL

SYSTEM PERFORMANCE

210 DESIGN

- Design: Complete the design of the fire stopping system.
- Proposals: Submit drawings, technical information, calculations and manufacturers' literature.

PRODUCTS

305 PRODUCT CERTIFICATION

- Certification: For products specified generically, submit evidence of compliance with the specification.
- Acceptable evidence: Listing in CERTIFIRE Register.

335F INTUMESCENT FOAM

- Manufacturer: Hilti (Gt Britain) Ltd.
 - Web: www.hilti.co.uk.
 - Email: gbtas@hilti.com.
 - Product reference: CFS-F FX
 - Installed within flue void above fireplace opening as per schedule (OTH-PUR-TH-XX-SCH-A-5800)

EXECUTION

610 THIRD PARTY CERTIFIED INSTALLER

- Certification: For the technical competency of the installer of the evidence of compliance with a third party installation certification scheme.
- Acceptable evidence: FIRAS Installer Certification.

620 WORKMANSHIP GENERALLY

- Gaps: Seal between building elements and services, to provide effective resistance to fire and the passage of smoke. Allow for capping sealants where required. Finish flush with surrounds.
- Adjacent surfaces: Prevent overrun of filler, sealant or mortar on to finished surfaces.

660 APPLYING INTUMESCENT FOAM

- New joints: Remove builder's debris, mortar droppings, grease, and other contaminants.
- Old joints: Clean and remove existing sealant from each joint.
- Priming: Lightly moisten substrate with water.
- Application: Fill joint to approximately half its depth, and allow foam to expand to face of joint.
- Trimming: Do not trim or cut the face of the cured foam.

670 APPLYING INTUMESCENT MORTAR

- Sequence: Install mortar after services are permanently installed.
- Loose dust and combustible materials: Remove from the opening.
- Shuttering: Install suitable shuttering panels to the faces of the opening.
- Temperature: Do not apply mortar when it could be damaged by frost.
- Powder:water ratio: 2:1 for trowel grade by volume.
- Mortar cure: Do not disturb mortar before final set has taken place.
- Shuttering: Remove after mortar has cured.

690 APPLYING INTUMESCENT PUTTY

- Sequence: Install putty after services are permanently installed.
- Loose dust and combustible materials: Do not disturb putty before final set has taken place.

COMPLETION**910 CLEANING**

- Masking tapes: Remove.
- Cleaning: Clean off splashes and droppings. Wipe down finishes.

920 INSPECTION

- Notice for inspection (minimum): 4 working days.