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GENERAL

110 EUROCODES

- National Annexes: Reference to a Eurocode, or to an execution or a material standard referenced therein, is deemed to include the appropriate United Kingdom National Annex, to the Eurocode or referenced standard. Nationally determined parameters shall apply. Non-contradictory complementary information: Applies when referenced in the National Annex.
- Substitution of alternative design rules for Eurocode Application Rules: Not permitted.

120 STRUCTURAL WORK

- Designated codes of practice: BS 449-2 for steel.
- Design working life: 50 years.
- Completed structure generally: To comply with the requirements of the designated codes of practice and the standards referenced therein. Deflections and other structural movements at serviceability limit state to be compatible with requirements of the building fabric, movement joints and weathertightness.
- Special requirements: None.

PERFORMANCE

220 EXPOSURE TO FIRE

- Building purpose group: School.
  - Height of top floor above ground: 9.5m.
  - Depth of lowest basement: 4.3m.
- Loadbearing capacity, integrity and insulation: Demonstrate adequacy of the structure to Building Regulations.
  - Criteria: Combined resistance of structure.
- Reaction to fire: To Building Regulations.
  - Requirements (minimum): To suit purpose and location within the building.

230 PERFORMANCE CRITERIA FOR STRUCTURE TO BE SUPPORTED ON PILES.

- Permitted settlement at serviceability limit state (maximum): Any part of the structure 1000 mm.

240 PERFORMANCE CRITERIA FOR RETAINING STRUCTURES Concrete Retaining Wall.

- Limits on movements:
  - Settlement (maximum): None other than those required for the integrity of the structure.
  - Forward movement (maximum): From combined slip and deflection: None other than those required for the integrity of the structure.

380 LOADS IN ROOF AND CEILING VOIDS

- Standard: To BS EN 1991-1-1.
- Access: None.
- Special requirements: None.
- Service loads: None.
THERMAL ACTIONS
- Standard: BS EN 1991-1-5.
- Design parameters:
  - Internal operating temperatures: As Standard.
  - Initial temperature: As BS EN 1991-1-5, Clause NA.2.21.
- Movement joints: Confirm adequacy of location and joint details or submit proposals for amendments.
  - Continuity: Make provision for movement in all elements bridging a joint and ensure continuity of joint through structure and finishes.

EARTH RETAINING LOADS - CONTRACTOR DETERMINED Concrete Retaining Wall, Gym, Basement Floor.
- Standard: To BS 8002.
- Retained height: As drawing - 4234mm.
  - Unplanned general excavation (minimum): Assumed over excavation in front of retention structure As design standard.
  - Trenches/ Pits in lower ground surface: None.
- Surcharge on upper ground surface: 10 kN/m².
  - Additional surcharge loads behind retaining structure: None.
- Loads due to compaction: Consider as design Standard.
- Additional horizontal loads: None.
- Actions during construction: If necessary, increase imposed surcharge load to cover anticipated use of area behind the retaining structure during construction.
- Restrictions: Submit for inclusion in geotechnical design report, details of restrictions upon the use of the area behind the retaining structure during construction.
D20 Excavating and filling
D21 Ground gas collection and venting systems

34 HARDCORE VENTING LAYER

- Fill: Clean granular material, well graded, passing a 75 mm BS sieve but retained on a 20 mm BS sieve. In each layer only one of the following:
  - Crushed hard rock.
  - Crushed concrete, crushed brick or tile, free from plaster, timber and metal.
  - Gravel.
- Filling: Spread and level in 150 mm maximum layers. Thoroughly compact each layer whilst maintaining enough voids to allow efficient venting.
D30 Piling

To be read with Preliminaries/ General conditions.

TENDERING

GENERAL

110 PILING SPECIFICATION
- Standard: Comply with the current edition of 'Specification for piling and embedded retaining walls' (SPERW).
- Substitution of British Standard for SPERW requirements: None.
- References to Engineer in SPERW: For the purpose of this contract, interpret such references as being to the person named in section A10 as administering the contract on behalf of the Employer.
- Design working life category: Category 4.

130 PILES
- Standard: To SPERW, sections B2-B6, as appropriate to the pile type.
- Permitted types: Any type of driven pile.
- Project specification: Submit proposals to cover the SPERW requirements in clause B1.2 and listed under this heading for the chosen pile type.
- Other requirements: None.

170 BORED CAST-IN-PLACE PILES
- Standard: To SPERW, section B3.
- Filling material: Designed concrete as clause E10.
- Pile group designation: All.
  - Diameter: As drawing.
  - Length: Submit proposals.
  - Reinforcement:
    - Quantity: Not required.
    -Extent: Submit proposals.
  - Other requirements: None.

195 PROTECTION AGAINST AGGRESSIVE GROUND/ GROUND WATER
- Purpose: To provide protection against water attack.
- Piles to be treated: All.
- Aggressive strata/ source of attack: Ground water.
- Extent of treatment: Full length of pile.
D40 Embedded retaining walls

To be read with Preliminaries/ General conditions.

GENERAL

110 EMBEDDED RETAINING WALL SPECIFICATION

• Standard: Comply with the current edition of 'Specification for piling and embedded retaining walls' (SPERW) except where specified otherwise.
• Substitution of British Standards for SPERW requirements: None.
• References to the Engineer in SPERW: For the purpose of this contract, interpret such references as being to the person named in section A10 as administering the contract on behalf of the Employer.
• Design working life category: Category 4.

130 EMBEDDED RETAINING WALL

• Standard: To SPERW, sections B8-B12, as appropriate to the pile type.
• Permitted types: Contractor’s choice.
• Particular specification: Submit proposals to cover the SPERW requirements in clause B1.2 and listed under this heading for the chosen wall type.
• Other requirements: None.
D41 Crib walls/ Gabions/ Drystack masonry
D45 Soil nailing
D50 Underpinning
**E05 In situ concrete construction generally**

To be read with Preliminaries/General conditions.

**210 CONTRACTOR’S STRUCTURAL DESIGN Concrete Retaining Wall**
- Design responsibility: Concrete retaining wall to basement area on Basement Floor.
- Requirement:
  - Generally: As section B50.
  - Modifications: None.
  - Structure: Complete the design and prepare reinforcement drawings and schedules in accordance with the designated code of practice and to satisfy the specified performance criteria.
  - Additional requirements: Deflection Stresses and Strains Induced by dynamic loading and Hydrostatic Pressure.
- Member sizes and locations: As drawing.
- Design and production information: As preliminaries.
- Timing of submissions: As preliminaries.

**210A CONTRACTOR’S STRUCTURAL DESIGN Strip Foundations**
- Design responsibility: Strip Foundations to Ground Floor.
- Requirement:
  - Generally: As section B50.
  - Modifications: None.
  - Structure: Complete the design and prepare reinforcement drawings and schedules in accordance with the designated code of practice and to satisfy the specified performance criteria.
  - Additional requirements: None.
- Member sizes and locations: As drawing.
- Design and production information: As preliminaries.
- Timing of submissions: As preliminaries.

**290 ACCURACY OF CONSTRUCTION**
- Setting out: To BS 5964-1.
- Geometrical tolerances: To BS EN 13670, Tolerance Class 1.
  - Conflicts: Notwithstanding tolerances specified elsewhere, do not exceed requirements for compliance with the designated code of practice.
  - Substitution of alternative requirements: None.
E10 Mixing/casting/curing in situ concrete

CONCRETE

101 SPECIFICATION
• Concrete generally: To BS 8500-2.
• Exchange of information: Provide concrete producer with information required by BS 8500-1, clauses 4 and 5.
E11 Sprayed in situ concrete
E20 Formwork for in situ concrete
E30 Reinforcement for in situ concrete

REINFORCEMENT

110 QUALITY ASSURANCE OF REINFORCEMENT

- Standards:
  - Reinforcement: To BS 4449, BS 4482, BS 4483 or BS 6744.
  - Cutting and bending: To BS 8666.
- Source of reinforcement: Companies holding valid certificates of approval for product conformity issued by the UK Certification Authority for Reinforcing Steels (CARES).

160 GALVANIZED STEEL REINFORCEMENT

- Galvanizing: To BS EN ISO 1461 after cutting but before bending.
E40 Designed joints in in situ concrete
E41 Worked finishes to in situ concrete
E42 Accessories cast into in situ concrete
E60 Precast/ Composite concrete floors/ roof decks

10 CONCRETE FLOOR SLAB

10A PRECAST SLAB
- Manufacturer: Kingspan Insulation Ltd.
  - Web: www.kingspaninsulation.co.uk.
  - Email: technical@kingspaninsulation.co.uk.
  - Product reference: Kooltherm® K10 FM Soffit Board
- Insulation thickness: 100 mm.
F10 Brick/ block walling

TYPES OF WALLING

355A BLOCKWORK
- Manufacturer: Masterblock, an Aggregate Industries Business.
  - Web: www.masterblock.co.uk.
  - Product reference: EnviroBlock
- Type: Dense, 440 x 215 x 100 mm.
- Strength: 10.4 N/ mm².
F11 Glass block walling
F20 Natural stone rubble walling
F21 Natural stone/ ashlar walling/ dressings
F22 Cast stone ashlar walling/dressings
F30 Accessories/ sundry items for brick/ block/ stone walling

110 CONCRETE FILL TO BASE OF CAVITY
   • Concrete generally: To BS EN 206-1 and BS 8500-2.
     - Designated concrete: GEN 1.
     - Workability: High.
   • Extent: Maintain 75 mm between top of fill and external ground level and a minimum of 225 mm between top of fill and ground level dpc.
   • Placement: Compact to eliminate voids.

120 CLEANLINESS
   • Cavity base and faces, ties, insulation and exposed dpcs: Free from mortar and debris.

155A PARTIAL FILL CAVITY INSULATION
   • Manufacturer: Kingspan Insulation Ltd.
     - Web: www.kingspaninsulation.co.uk.
     - Email: technical@kingspaninsulation.co.uk.
     - Product reference: Kooltherm® K12 Framing Board
   • Insulation thickness: 100 mm.

155B PARTIAL FILL CAVITY INSULATION
   • Manufacturer: Kingspan Insulation Ltd.
     - Web: www.kingspaninsulation.co.uk.
     - Email: technical@kingspaninsulation.co.uk.
     - Product reference: Kooltherm® K12 Framing Board
   • Insulation thickness: 120 mm.

155C COMPOSITE INSULATION BOARD
   • Manufacturer: Knauf Insulation Ltd.
     - Web: www.knaufinsulation.co.uk.
     - Email: info@knaufinsulation.com.
     - Product reference: Polyfoam® ECO Upstand Board

220A WALL TIES
   • Manufacturer: Ancon Building Products.
     - Web: www.ancon.co.uk.
     - Email: info@ancon.co.uk.
     - Product reference: PPV Frame Cramp Tie.
   • Length: 225 mm.

FLEXIBLE DAMP PROOF COURSES/ CAVITY TRAYS

320A DAMP PROOF COURSE
   • Manufacturer: Visqueen Building Products.
     - Web: www.visqueenbuilding.co.uk.
     - Email: riba@visqueenbuilding.co.uk.
     - Product reference: Polyethylene DPC
   • Width: 100mm.
   • Accessories: DPC Jointing Tape.

425 GROUND LEVEL DPCS
   • Joint with damp proof membrane: Continuous and effectively sealed.
445  SILL DPCS
   • Form and placement: In one piece and turned up at back when sill is in contact with inner leaf.

455  COPING/ CAPPING DPCS
   • Placement: Bed in one operation to ensure maximum bond between masonry units, mortar and dpc.
   • Dpcs crossing cavity: Provide rigid support to prevent sagging.

465A  HYLOAD DPC JOINTING TAPE, PRODUCT CODE: 29500000
   • Manufacturer: IKO PLC, Structural Waterproofing Division.
     - Web: www.ikogroup.co.uk.
     - Email: technical@ikogroup.co.uk.
     - Product reference: Hyload DPC Jointing Tape
   • Accessories: IKOPro Self-adhesive Bitumen Primer, Product code: On request.
   • Size:: Thickness: 1.0 mm.

560  VERTICAL DPCS GENERALLY
   • Form: In one piece wherever possible.
     - Joints: Upper part overlapping lower not less than 100 mm.

650  POINTING IN FLASHINGS
   • Joint preparation: Free of debris and lightly wetted.
   • Pointing mortar: As for adjacent walling.
   • Placement: Fill joint and finish flush.

655  POINTING IN ASPHALT SKIRTINGS
   • Joint preparation: Free of debris and lightly wetted.
   • Pointing mortar: 1:4 cement: sand incorporating a bonding agent.
     - Colour: Match adjacent work.
   • Placement: Fill joint and finish flush.
F31 Precast concrete sills/ lintels/ copings/ features
F42 Straw bale walling systems
G10 Structural steel framing

GENERAL REQUIREMENTS/ INFORMATION

110 CONTRACTOR'S DESIGN OF JOINTS OF MAIN STEEL FRAME
• Design concept: Beams designed to be supported under dead and imposed loads, but with rigid joints to columns for lateral stability and wind loading.
• Design responsibility: Design connections and detail steelwork and connections.
  - Other responsibilities: None.
• Structural requirements:
  - Generally: As section B50.
    Modifications: None.
  - Design: Complete in accordance with the designated code of practice to satisfy specified performance criteria.
  - Connections: Design and detail joints to designated code of practice.
  - Fixings to foundations and walls: As drawings and Design and detail fixings to concrete to designated code of practice.
  - Additional requirements: None.
• Design and production information: See Construction Details.

111 CONTRACTOR'S DESIGN OF MEMBERS AND JOINTS OF MAIN STEEL FRAME.
• Design concept: Beams designed to be supported under dead and imposed loads, but with rigid joints to columns for lateral stability and wind loading.
• Design responsibility: Design and detail members and joints to suit the conceptual layout detailed in the contract drawings.
  - Other responsibilities: None.
• Structural requirements:
  - Generally: As section B50.
    Modifications: None.
  - Design: Complete in accordance with the designated code of practice to satisfy specified performance criteria.
  - Connections: Design and detail joints to designated code of practice.
  - Fixings to foundations and walls: As drawings and Design and detail fixings to concrete to designated code of practice.
  - Additional requirements: None.
• Design and production information: See Construction Details.
112 CONTRACTOR’S DESIGN OF MAIN STEEL FRAME.
   • Design concept: Primary structures to warehouse to be two span propped portals with alternate central props omitted.
   • Design responsibility: Design and detail members and joints to suit the conceptual layout detailed in the contract drawings.
     - Other responsibilities: None.
   • Structural requirements:
     - Generally: As section B50.
     - Modifications: None.
     - Design: Complete in accordance with the designated code of practice to satisfy specified performance criteria.
     - Connections: Design and detail joints to designated code of practice.
     - Fixings to foundations and walls: As drawings and Design and detail fixings to concrete to designated code of practice.
     - Limitations on steelwork layout: Column centres in throughout school to be not less than 12 m in each direction.
     - Additional requirements: None.
   • Design and production information: See Construction Details.

115 DESIGN CONSTRAINTS - GENERAL
   • Members forming bracing systems or girders of lattice construction: Unless detailed or instructed otherwise, position so that their lines of action intersect at a point.
   • Bolts:
     - Diameter (minimum): As Engineers Design.
     - Number per connection (minimum): Two, unless otherwise indicated.
     - Other requirements: None.
   • Punching of bolt holes: As Engineers Design.
   • Welds: As Engineers Design.
   • Other constraints: As Engineers Design.
G12 Isolated structural metal members

PRODUCTS

320 STEEL

- Steel: To BS EN 10025-2.
  - Grade: S275JR.
  - Section properties and dimensions: To BS 4-1 and To BS EN 10055.
  - Surface condition: Free from heavy pitting and rust, burrs, sharp edges and flame cutting dross.
G20 Carpentry/timber framing/first fixing
G30 Metal profiled sheet decking

PROPRIETARY SPECIFIED ROOF/ FLOOR DECKING

110A METAL PROFILED SHEET DECKING
- Manufacturer: Tata Steel - Panels and Profiles.
  - Web: www.tatasteelconstruction.com/theworks.
  - Email: sales@coruspanelsandprofiles.co.uk.
  - Product reference: Structural Roof Decking
- Profile reference: D159.
- Material: Steel.
  - Gauge: 1.25 mm.
- Finish:
  - Top: As standard
  - Soffit: Galvanized.
H10 Patent glazing
H11 Curtain walling

TYPES OF CURTAIN WALLING

110A CURTAIN WALLING SYSTEM
- Manufacturer: Kawneer UK Ltd.
  - Web: www.kawneer.co.uk.
  - Email: kuk.kawneer@alcoa.com.
  - Product reference: AA100 Curtain Wall
- System: Vertical and horizontal caps.
- Internal framing member:
  - Material: Extruded aluminium
  - Finish: Anodized, colour white.
  - Minimum film thickness: 30 micrometres.
- External cover cap:
  - Material: Extruded aluminium
  - Finish: Anodized, colour White.
  - Minimum film thickness: 30 micrometres.
- Glazing: Single glazed panes, 6.35 mm thick.
- Glazing system: Kawneer gasket system
- Panel/ facing type: Glass.

GENERAL REQUIREMENTS/ PREPARATORY WORK

210 DESIGN
- Curtain walling and associated features: Complete the detailed design. Submit before commencement of fabrication.
- Related works: Coordinate in the detailed design.

215 DESIGN PROPOSALS
- Submission of alternative proposals: Preliminary design drawings indicate intent. Other reasonable proposals will be considered.

220 SPECIFICATION
- Compliance standard: The Centre for Window and Cladding Technology (CWCT) 'Standard for systemised building envelopes'.
- Reference information: For the duration of the contract, keep available at the design office, workshop and on site copies of:
  - The CWCT 'Standard for systemised building envelopes'.
  - Publications invoked by the CWCT 'Standard for systemised building envelopes'.

230 INFORMATION TO BE PROVIDED DURING DETAILED DESIGN STAGE
- Submit the following curtain walling particulars:
  - A schedule of detailed drawings and dates for submission for comment.
  - A schedule of loads that will be transmitted from the curtain walling to the structure.
  - Proposed fixing anchor details relevant to structural design and construction.
  - A detailed testing programme in compliance with the Main Contract master programme.
  - A detailed fabrication and installation programme in compliance with the Main Contract master programme.
  - Proposals to support outstanding applications for Building Regulation consents or relaxations.
232 QUALITY PLAN

- Requirement: Submit during detailed design.
- Content: In accordance with BS 5750, BS EN ISO 9001 and including the following:
  - Name of the quality manager.
  - Quality assessment procedures.
  - Inspection procedures to be adopted in checking the work.
  - Stages at which check lists will be used and samples of the lists.
  - List of work procedures on the correct use of materials or components, both off site and on site.
  - List of product information with latest revisions.
  - Subcontractors involved in the work.
  - Subcontractors' quality plans.
  - Storage, handling, transport and protection procedures.
  - Procedure for registering and reporting non compliances.
  - Maintenance procedures and calibration records.
  - Certification that completed work complies with specification.
  - Check list register to ensure all items have been inspected and non compliances discharged.

235 INFORMATION TO BE PROVIDED BEFORE COMMENCEMENT TESTING OR FABRICATION OF CURTAIN WALLING

- Submit the following curtain walling particulars:
  - Detailed drawings to fully describe fabrication and installation.
  - Detailed calculations to prove compliance with design/ performance requirements.
  - Project specific fabrication, handling and installation method statements.
  - Certification for incorporated components manufactured by others confirming their suitability for proposed locations in the curtain walling.
  - Recommendations for spare parts for future repairs or replacements.
- Recommendations for safe dismantling and recycling or disposal of products.

240 INFORMATION TO BE PROVIDED BEFORE COMMENCEMENT OF STRUCTURAL SEALANT GLAZING

- Submit structural bonding sealant manufacturer's project specific approval for:
  - Compatibility and adhesion of products and finishes.
  - Full details of structural sealant glazing design.
  - Structural sealant dimensions.
  - Project specific sealant application method statement.

260 SAMPLES OF FIXINGS

- General: During detailed design, submit labelled samples of each type of fixing anchor, including casting-in restraints and shims, together with manufacturers' recommended torque figures.

305 CWCT 'STANDARD FOR SYSTEMISED BUILDING ENVELOPES'

- General: Unless specified or agreed otherwise comply with:
  - Part 2 - Loads, fixings and movement.
  - Part 3 - Air, water and wind resistance.
  - Part 4 - Operable components, additional elements and means of access.
  - Part 5 - Thermal, moisture and acoustic performance.
  - Part 6 - Fire performance.
  - Part 7 - Robustness, durability, tolerances and workmanship.
- Project performance requirements specified in this subsection: Read in conjunction with CWCT performance criteria.
H20 Rigid sheet cladding

10A  CLADDING/ WEATHERBOARDING
   - Manufacturer: Marley Eternit Ltd.
     - Web: www.marleyeternit.co.uk.
     - Email: info@marleyeternit.co.uk.
     - Product reference: Textura Cladding
   - Thickness: 8 mm.
   - Colour: TA 305.
   - Panel size: As drawings.
   - Fixing: Rivet Fixing 4 x 18mm.
   - Joints: Aluminium joint profile HJP 70.
   - Support system: Ventisol.

10B  CLADDING/ WEATHERBOARDING
   - Manufacturer: Marley Eternit Ltd.
     - Web: www.marleyeternit.co.uk.
     - Email: info@marleyeternit.co.uk.
     - Product reference: Textura Cladding
   - Thickness: 8 mm.
   - Colour: TG 504.
   - Panel size: As drawings.
   - Fixing: Rivet Fixing 4 x 18mm.
   - Joints: Aluminium joint profile HJP 70.
   - Support system: Ventisol.

10C  CLADDING/ WEATHERBOARDING
   - Manufacturer: Marley Eternit Ltd.
     - Web: www.marleyeternit.co.uk.
     - Email: info@marleyeternit.co.uk.
     - Product reference: Textura Cladding
   - Thickness: 8 mm.
   - Colour: TG 504.
   - Panel size: As drawings.
   - Fixing: Rivet Fixing 4 x 18mm.
   - Joints: Aluminium joint profile HJP 70.
   - Support system: Ventisol.

10D  CLADDING/ WEATHERBOARDING
   - Manufacturer: Marley Eternit Ltd.
     - Web: www.marleyeternit.co.uk.
     - Email: info@marleyeternit.co.uk.
     - Product reference: Textura Cladding
   - Thickness: 8 mm.
   - Colour: TA 304.
   - Panel size: As drawings.
   - Fixing: Mechanical secret fix.
   - Joints: Aluminium joint profile HJP 70.
   - Support system: Mechanical FC.
H21 Timber weatherboarding
H22 Plastics weatherboarding
H30 Fibre cement profiled sheet cladding/ covering

50A PROPRIETARY BREATHER MEMBRANE
- Manufacturer: DuPont Tyvek.
  - Web: www.tyvek.co.uk.
  - Email: tyvek.construction@dupont.com.
- Accessories: Tyvek® Double Sided Acrylic Tape.
H31 Metal profiled/ flat sheet cladding/ covering

55A PROPRIETARY BREATHER MEMBRANE
- Manufacturer: DuPont Tyvek.
- Web: www.tyvek.co.uk.
- Email: tyvek.construction@dupont.com.
- Accessories: Tyvek® Double Sided Acrylic Tape.
H43 Metal composite panel cladding/covering
H60 Plain roof tiling
H61 Fibre cement slating

3A  SLATES
- Manufacturer: Marley Eternit Ltd.
  - Web: www.marleyeternit.co.uk.
  - Email: info@marleyeternit.co.uk.
  - Product reference: Rivendale Fibre Cement Slates
- Colour: Blue-black.
- Head-lap: 100 mm.
- Fixing: Two copper nails and one disc rivet each slate.

5B  VAPOUR BARRIER
- Manufacturer: Bauder Ltd.
  - Web: www.bauder.co.uk.
  - Email: info@bauder.co.uk.
  - Product reference: THERM DS1 DUO vapour barrier

25 UNDERLAY
- Laying: Maintain consistent tautness.
- Vertical laps (minimum): 100 mm wide, coinciding with supports.
- Fixing: Galvanized steel, copper or aluminium 20 x 3 mm extra large clout head nails.
- Eaves: Where exposed, underlay must be BS 8747 Annex B, type 5U, or equivalent UV durable type.
- Penetrations: Use proprietary underlay seals or cut underlay neatly.

25A UNDERLAY SEALANT
- Manufacturer: Klober Ltd.
  - Web: www.klober.co.uk.
  - Email: info@klober.co.uk.
  - Product reference: KU0129-01 Permo® Seal

30 BATTENS/ COUNTERBATTENS
- Timber: Sawn softwood.
  - Standard: BS 5534.
  - Moisture content at time of fixing and covering (maximum): 22%.
- Preservative treatment: As section Z12 and Wood Protection Association Commodity Specification C8.
  - Type: Contractor's choice.

32 BATTEN FIXING
- Batten length (minimum): Sufficient to span over three supports.
- Joints in length: Butt centrally on supports. Joints must not occur more than once in any group of four battens on one support.
- Additional battens: Provide where unsupported laps in underlay occur between battens.
35  SLATE FIXING
   • General: Fix slating and accessories to make the whole sound and weathertight at earliest
     opportunity.
   • Exposed fittings and accessories: To match slate colour and finish.
   • Setting out: To true lines and regular appearance. Lay slates to a half lap bond with not
     more than 5 mm gaps. Align tails.
   • Cut slates: Cut only where necessary, to give straight, clean edges.
   • Ends of courses: Use extra wide slates to maintain bond and to ensure that cut slates are
     as large as possible.
   • Top courses: Cut top two slate courses to maintain gauge. Head-nail top course.
   • Fixings: Nails/ rivets as recommended by slate manufacturer.
H62 Natural slating
H64 Wood shingle and shake roofing
H65 Single lap roof tiling
H67 Metal single lap roof tiling
H71 Lead sheet coverings/ flashings

30A FLASHING
- Manufacturer: Monier Redland Limited.
  - Web: www.redland.co.uk.
  - Email: sales.redland@monier.com.
  - Product reference: Rapid Flashing
- Size: 280 x 10000 mm.
H72 Aluminium strip/ sheet coverings/ flashings

2A TO BE READ WITH PRELIMINARIES/ GENERAL CONDITIONS.
   • Manufacturer: DuPont Tyvek.
     - Web: www.tyvek.co.uk.
     - Email: tyvek.construction@dupont.com.
     - Product reference: Tyvek® Metal
   • Accessories: Tyvek® Double Sided Acrylic Tape.

2B ALUMINIUM STRIP/ SHEET
   • Manufacturer: Kalzip Ltd.
     - Web: www.kalzip.com/kalzip/uk/home.
     - Email: enquiries.uk@kalzip.com.
     - Product reference: FalZinc
   • Type: Flat sheet.
   • Width: 600 mm.
   • Thickness: 0.7 mm.

7A UNDERLAY
   • Manufacturer: DuPont Tyvek.
     - Web: www.tyvek.co.uk.
     - Email: tyvek.construction@dupont.com.
     - Product reference: Tyvek® Metal
   • Accessories: Tyvek® Double Sided Acrylic Tape.
H73 Copper strip/sheet coverings/ flashings
H74 Zinc strip/ sheet coverings/ flashings
H75 Stainless steel strip/ sheet coverings/ flashings
J21 Mastic asphalt roofing/ insulation/ finishes

5A BITUMEN PRIMER
- Manufacturer: Delta Membrane Systems Ltd.
  - Email: info@deltamembranes.com.
  - Product reference: Köster Bitumen Primer

10A VAPOUR CONTROL LAYER
- Manufacturer: Visqueen Building Products.
  - Web: www.visqueenbuilding.co.uk.
  - Email: riba@visqueenbuilding.co.uk.
  - Product reference: Vapour Barrier
  - Accessories: Double-sided Bonding Tape.

10B WARM DECK ROOF COATING
- Manufacturer: Kingspan Insulation Ltd.
  - Web: www.kingspaninsulation.co.uk.
  - Email: technical@kingspaninsulation.co.uk.
  - Product reference: Thermataper® TT47 LPC/ FM
  - Insulation thickness: 220mm.
  - Standard Falls: 1 :30.

10C BITUMEN PRIMER
- Manufacturer: Delta Membrane Systems Ltd.
  - Email: info@deltamembranes.com.
  - Product reference: Köster Bitumen Primer

10D SINGLE LAYER BITUMINOUS ROOFING
- Manufacturer: Soprema UK Limited.
  - Web: www.soprema.co.uk.
  - Email: info@soprema.co.uk.
  - Product reference: Soprafix Unilay.
  - Colour: Black slate.
  - Accessories: Sopralene Flam 180 ARC SGALON.

10E WARM DECK ROOF COATING
- Manufacturer: Kingspan Insulation Ltd.
  - Tel: +44 (0)1544 387384.
  - Product reference: Thermaroof® TR21
  - Insulation thickness: 100 mm.

45 KEYING TO BRICKWORK/ DENSE BLOCKWORK
- Masonry: Clean and sound. Joints flush pointed.
- Surface preparation: Apply proprietary high bond primer.
60 LAYING VAPOUR CONTROL LAYER
- Attachment: Secure.
  - Bond: Continuous with no air pockets.
  - Appearance on completion: Smooth.
- Side and head laps: Seal using materials and method recommended by membrane manufacturer.
- Upstands, kerbs and other penetrations: Enclose edges of insulation. Fully seal at abutment by bonding or taping.

65 LAYING WARM DECK ROOF INSULATION
- Setting out:
  - Long edges: Fully support and run at right angles to structure.
  - Joints: Butt together.
  - End joints: Stagger.
  - Margin to walls, upstands, pipes and other projections (minimum): 25 mm.
- Bedding: Full bed of bonding compound.
- Mechanical fixing: Six screws and washers per board to agreed pattern.
- Margin infill: Mastic asphalt when laying roofing.
- Completion: Boards must be in good condition, well fitting and stable.

75 LAYING MASTIC ASPHALT
- Standard: To BS 8218.
- Suitability of substrate: Secure, even textured, clean, dry and frost free.
- Application:
  - In bays to even thickness.
  - Re-heated asphalt: Do not use.
- External angles, junctions and tuck-ins: Maintain full thickness of asphalt.
- Fillets at internal angles: Solid, fully fused to asphalt coating.
- Top edge: Tuck into 25 x 25 mm continuous splayed chase or groove.
- Previously laid coats: Protect whilst exposed.
- Successive coats:
  - Timing: Apply without delay.
  - Coats: Apply at right angles to preceding.
  - Stagger joints between bays in consecutive coats (minimum): 75 mm.
- Condition of contact edges of previously laid bays: Warm and clean.
- Blowing: Pierce and make good affected areas while mastic asphalt is still at working temperature.
- Unfinished areas of roof: Keep dry.
- Completion: During final floating operation, whilst asphalt is still warm, apply sand to horizontal surfaces and rub in well using wooden float. Remove surplus material.
- Completed coating: Smooth and free from imperfections. Firmly adhered, weatherproof and free draining.

95A ULTRA-VIOLET PROTECTIVE COATING
- Manufacturer: Bostik Ltd.
  - Web: www.bostik.co.uk.
  - Product reference: Aquamac Supersol
J30 Liquid applied damp proofing

10A GAS RESISTANT MEMBRANE
- Manufacturer: Visqueen Building Products.
  - Web: www.visqueenbuilding.co.uk.
  - Email: riba@visqueenbuilding.co.uk.
  - Product reference: Liquid Gas Membrane
- Primer: Liquid Gas Membrane Primer
- Application: 2 coats by brush
  - Coverage per coat (minimum): 0.5 litre/m².
- Accessories: Liquid Gas Membrane Reinforcing Strip
J31 Liquid applied waterproof roof coatings
J40 Flexible sheet waterproofing/ damp proofing

20A DAMP PROOF MEMBRANE
- Manufacturer: Visqueen Building Products.
  - Web: www.visqueenbuilding.co.uk.
  - Email: riba@visqueenbuilding.co.uk.
  - Product reference: BBA DPM
- Membrane:
  - Colour: Blue.
- Accessories: Double Sided Jointing Tape.

40A WATERPROOFING MEMBRANE
- Manufacturer: Visqueen Building Products.
  - Web: www.visqueenbuilding.co.uk.
  - Email: riba@visqueenbuilding.co.uk.
  - Product reference: Self Adhesive Membrane (SAM)
- Accessories: High performance tanking primer.

47A FLEXIBLE SHEET TANKING/ DAMP PROOFING
- Manufacturer: Triton Systems.
  - Web: www.tritonsystems.co.uk.
  - Email: technical@tritonsystems.co.uk.
  - Product reference: Platon P8 - Cavity Drainage Membrane 8 mm Stud
- Accessories:
  - Brick plug;
  - Sealer; and
  - Sealing tape.

50 WORKMANSHIP GENERALLY
- Condition of substrate:
  - Clean and even textured, free from voids and sharp protrusions.
  - Moisture content: Compatible with damp proofing/ tanking.
- Air and surface temperature: Do not apply sheets if below minimum recommended by membrane manufacturer.
- Condition of membrane at completion:
  - Neat, smooth and fully supported, dressed well into abutments and around intrusions.
  - Completely impervious and continuous.
  - Undamaged. Prevent puncturing during following work.
- Permanent overlying construction: Cover membrane as soon as possible.

55 ANGLES IN SELF-ADHESIVE DAMP PROOFING/ TANKING
- Preformed rot proof fillet to internal angles
  - Size (minimum): 50 x 50 mm splay faced.
  - Bedding: Bitumen mastic or bonding compound.
- Reinforcing strip to all angles:
  - Material: As damp proofing/ tanking.
  - Width (minimum): 300 mm.
  - Timing: Apply before main sheeting.
- Dressing of main sheeting onto adjacent surfaces (minimum): 100 mm.
60 JUNCTIONS WITH PROJECTING DPCS/ CAVEY TRAYS
- Adjoining surfaces: Clean and dry.
- Dpcs/ cavity trays: Lap and fully bond/ seal with sheeting.
  - Laps (minimum): 100 mm.
  - Bonding/ Sealing: Mastic tape.

65 JUNCTIONS WITH FLUSH DPCS/ CAVEY TRAYS
- Adjoining surfaces: Clean and dry.
- Dpcs/ Cavity trays:
  - Expose edge where concealed.
  - Lap and fully bond/ seal sheeting to wall.
  - Dressing of sheeting beyond dpc/ cavity tray (minimum): 50 mm.
  - Bonding/ Sealing: Mastic tape.
J41 Reinforced bitumen membrane roof coverings

10A VAPOUR BARRIER
- Manufacturer: Bauder Ltd.
  - Web: www.bauder.co.uk.
  - Email: info@bauder.co.uk.
  - Product reference: Bauder VA4
- Product: Bauder VA4.

15 ROOFING GENERALLY
- Substrates: Secure, clean, dry, smooth, and free from frost, contaminants, voids and protrusions.
- Adverse weather: Do not lay coverings in high winds, wet or damp conditions or in extremes of temperature unless effective temporary cover is provided over working area.
- Unfinished areas of roof: Keep dry. Protect edges of laid membrane from wind action.
- Completed coverings: Firmly attached, fully sealed, smooth, weatherproof and free draining.

40 LAYING VAPOUR CONTROL LAYER
- Attachment Securely bond or nail to substrate.
- Laps: 75 mm minimum, fully bitumen sealed.
- Penetrations: Fully seal using bonding or taping methods recommended by manufacturer.
- Exposed edges: Enclose with vapour control layer to provide an adequate seal when overlapped by roof covering. Form a complete envelope around insulation.

45 LAYING WARM DECK ROOF INSULATION
- Setting out:
  - Long edges: Fully support and run at right angles to structure.
  - End edges: Adequately support.
  - Joints: Butt together.
  - End joints: Stagger.
- Bedding: Full bed of bonding compound.
- Mechanical fixing: Six screws and washers per board to agreed pattern.
- Completion: Boards must be in good condition, well fitting and stable.

50 LAYING REINFORCED BITUMEN MEMBRANES GENERALLY
- Bonding: Continuous.
  - Pour and roll bonding: Use hot compound. Remove excess compound at laps of top layer/ capsheet.
  - Torch-on bonding: Leave a continuous bead of compound at laps of top layer/ capsheet.
- Laps:
  - Direction: Install membranes so that water drains over and not into laps.
  - Side and end laps: Minimum 75 mm and fully sealed.
  - Head and side laps: Offset.
- Successive layers: Apply without delay. Do not trap moisture.
- Details: Weathertight. Form with adequate overlapping, staggering of laps and full bonding.

60 PARTIAL BONDING OF REINFORCED BITUMEN MEMBRANES
- Venting first layer: Loose lay. Do not carry up angle fillets and vertical surfaces or through details.
  - Long edges: Overlap minimum 50 mm.
  - Ends: Butt together.
J42 Single layer polymeric sheet roof coverings

10A THERMAL INSULATION
   • Manufacturer: Kingspan Insulation Ltd.
     - Web: www.kingspaninsulation.co.uk.
     - Email: technical@kingspaninsulation.co.uk.
     - Product reference: Thermataper® TT47 LPC/ FM
   • Insulation thickness: 220mm.
   • Standard Falls: 1 :30.

10B THERMOPLASTIC WATERPROOFING MEMBRANE
   • Manufacturer: CETCO.
     - Email: info@cetco.co.uk.
     - Product reference: CoreFlex™

15 ROOFING GENERALLY
   • Surfaces to be covered: Secure, clean, dry, smooth, free from frost, contaminants, voids and protrusions.
   • Adverse weather: Do not lay membrane at temperatures below 5°C, in high winds, wet or damp conditions unless effective temporary cover is provided over working area.
   • Unfinished areas of roof: Keep dry and protect edges of laid membrane from wind action.
   • Completed coverings: Firmly attached, fully sealed, smooth, weatherproof and free draining.
K10 Plasterboard dry linings/ partitions/ ceilings

35A ACCESS PANELS
- Manufacturer: British Gypsum.
  - Email: bgtechnical.enquiries@bpb.com.
  - Product reference: Gyproc Profilex FR2 Performance Panel, 120 minutes fire rating
- Size: 550 x 550 mm

35B FIRE RESISTING BOARD
- Manufacturer: Euroform Products Ltd.
  - Web: www.euroform.co.uk.
  - Email: sales@euroform.co.uk.
  - Product reference: Versa Tecbor™
- Thickness: 15 mm.
- Edges: Square.

90 SEAMLESS JOINTING
- Filling and taping: Fill joints, gaps and internal angles with jointing compound and cover with continuous lengths of tape, fully bedded.
- Finishing: Feather out jointing compound to give a flush, smooth, seamless surface.
- Nail/ screw depressions and minor indents: Fill to give a flush surface.
K11 Rigid sheet flooring/ sheathing/ decking/ sarking/ linings/ casings
K20 Timber board flooring/ sarking/ linings/ casings
K21 Wood strip/ board fine flooring/ linings
K30 Panel partitions
K32 Panel cubicles/ duct and wall linings/ screens
K40 Demountable suspended ceilings

10A  CEILING SYSTEM
   • Manufacturer: Saint-Gobain Ecophon.
     - Web: www.ecophon.co.uk.
     - Email: marketing@ecophon.co.uk.
     - Product reference: Solo
   • Tile size: 1200 x 2400 mm.

40  WORKMANSHIP GENERALLY
   • Fixing: Secure. In accordance with manufacturers' recommendations and BS 8290-3.
     Provide additional bracing and stiffening to give a stable ceiling system.
   • Setting out: Accurate. Provide level soffits free from undulations and lipping.
   • Lines and joints: Straight and parallel to walls, unless specified otherwise.
   • Edge infill units size (minimum): Half standard width or length.
   • Corner infill units size (minimum): Half standard width and length.
   • Grid: Position to suit infill unit sizes. Allow for permitted deviations from nominal sizes of infill units.

50  WIRE HANGERS
   • General: Straighten before use.
   • Installation: Install vertical without bends or kinks. Do not allow hangers to press against fittings.
   • Fixing: Tie securely at top and bottom with tight bends to loops to prevent vertical movement.
K41 Raised access floors

130A RAISED ACCESS FLOOR
- Manufacturer: Kingspan Access Floors Ltd.
  - Web: www.kingspanaccessfloors.co.uk.
  - Email: info@kingspanaccessfloors.co.uk.
  - Product reference: Diamond Medium Grade.
- Pedestals: Europed II.
  - Fixing: Mechanical.
- Height:
  - Finished raised access floor height above sub-floor: 101 mm.
  - Under-floor void height: 75 mm.
- Accessories: Aluminium foil tape and Fixing screws.

GENERAL/ PERFORMANCE

210 GENERAL PERFORMANCE
- Structural requirement: Generally as section B50.
  - Additional requirements: None.

219 INSTALLATION
- Completed installation: Clean and stable. Free from bounce and vibration. No lipping between floor panels.

234 FIRE PERFORMANCE
- Reaction to fire: In accordance with Building Regulations, class 0.
- Resistance to fire: To BS EN 13501-2, RE 30.
K45 Suspended ceiling system alterations
L10 Windows/ Rooflights/ Screens/ Louvres

10B  FIXED WINDOWS
   • Manufacturer: Janex Ltd.
     - Web: www.janex.co.uk.
     - Email: info@janex.co.uk.
     - Product reference: Janex NexGen Fixed Window
   • Colour/ Finish: Black.
   • Glazing: NexGen™ Passive 0.8, Glazing Spacer: Warm Edge, 4EPlus-18-4-18-4 (Argon), 3 Glass layers.
   • Aluminium sill: 2mm.
L20 Doors/ shutters/ hatches
L30 Stairs/ ladders/ walkways/ handrails/ balustrades
L40 General glazing

10 WORKMANSHIP GENERALLY
   • Glazing:
     - Generally: To BS 6262.
     - Integrity: Wind and watertight under all conditions. Make full allowance for deflections and other movements.
   • Glass:
     - Standards: Generally to BS 952 and to the relevant parts of:
       BS EN 572 for basic soda lime silicate glass.
       BS EN 1096 for coated glass.
       BS EN 12150 for thermally toughened soda lime silicate glass.
       BS EN ISO 12543 for laminated glass.
     - Quality: Free from scratches, bubbles and other defects.
     - Dimensional tolerances: Panes/ sheets to be accurately sized.
   • Material compatibility: Glass/ plastics, surround materials, sealers primers and paints/ clear finishes to be compatible. Comply with glazing/ sealant manufacturers’ recommendations.

20 REMOVAL OF GLASS/ PLASTICS FOR REUSE
   • Existing glass/ plastics, glazing compound, beads, etc: Remove carefully, avoiding damage to frame, to leave clean, smooth rebates free from obstructions and debris. Clean glazing, beads and other components that are to be reused.
   • Deterioration of frame/ surround: Submit report on defects revealed by removal of glazing.
     - Affected areas: Do not reglaze until instructed.

30 PREPARATION
   • Surrounds, rebates, grooves and beads: Clean and prepare before installing glazing.
M10 Cement based levelling/ wearing screeds

4A QUICK DRYING CEMENT
- Manufacturer: Flowcrete UK Ltd.
  - Web: www.flowcrete.co.uk.
  - Email: uk@flowcrete.com.
  - Product reference: Isocrete Screedfast System
- Bonding agent: Isocrete M-Bond epoxy resin.
- Screedfast type: Screedfast 1000.
  - Reinforcement: None.

17A ISOWARM CASTLEBOARD SYSTEM
- Manufacturer: Flowcrete UK Ltd.
  - Web: www.flowcrete.co.uk.
  - Email: uk@flowcrete.com.
  - Product reference: Isowarm Castelboard Underfloor Heating System
- Insulation board: 75mm.
- Pipe material: 20 mm diameter cross-linked polyethylene (PEX).
- Floor type: 75 mm thick Anhydrite screed.
- Accessories: Edge separation and joints and Thermostats.

75 TROWELLED FINISH TO LEVELLING SCREEDS
- Floating: To an even texture with no ridges or steps.
- Trowelling: To a uniform smooth surface, free from trowel marks and other blemishes, and suitable to receive specified flooring material.

80 TROWELLED FINISH TO WEARING SCREEDS
- Floating: To an even texture with no ridges or steps.
- Trowelling: Successively trowel at intervals, applying sufficient pressure to close surface and give a uniform, smooth finish free from trowel marks and other blemishes.

90 CURING
- Curing period (minimum): As soon as screed has set sufficiently, closely cover with polyethylene sheeting for period recommended by screed manufacturer.
- Drying after curing: Allow screeds to dry gradually.
M12 Resin flooring

10A RESIN FLOORING
- Manufacturer: 3M United Kingdom plc.
  - Web: www.3M.co.uk/scotchkote.
  - Email: enquiries.cpp.uk@mmm.com.
  - Product reference: 3M™ Scotchkote™ Urethane Coating XF 129
- Primer: 3M™ Scotchkote™ WB Epoxy Primer GP 830.
- Colour: Pale Orange.
- Surface finish/ treatment: self finishing.
M13 Calcium sulfate based levelling screeds
M20 Plastered/ Rendered/ Roughcast coatings
M21 Insulation with rendered finish
M40 Stone/ Concrete/ Quarry/ Ceramic tiling/ Mosaic
M42 Wood block/ composition block/ mosaic parquet flooring
M50 Rubber/ plastics/ cork/ lino/ carpet tiling/ sheeting

15A CARPET TILE
- Manufacturer: Rawson Carpets Ltd.
  - Web: www.rawsoncarpets.co.uk.
  - Email: rcsales@rawsoncarpets.co.uk.
  - Product reference: Castle Tile
- Colour: CAST09.
M52 Decorative papers/fabrics
**M60 Painting/ clear finishing**

10A  **ACRYLIC PRIMER UNDERCOAT**
   - Manufacturer: Crown Trade, product of Crown Paints Ltd.
   - Web: www.crowntrade.co.uk.
   - Email: info@crowntrade.co.uk.
   - Product reference: Acrylic Primer Undercoat

12A  **UNDERCOAT**
   - Manufacturer: Crown Trade, product of Crown Paints Ltd.
   - Web: www.crowntrade.co.uk.
   - Email: info@crowntrade.co.uk.
   - Product reference: Next Generation Plus Undercoat
   - Number of coats: One.
R10 Rainwater drainage systems
R11 Above ground foul drainage systems
R12 Below ground drainage systems
R13 Land drainage
R16 Groundwater pressure relief drainage
R17 Soakaway, septic tank and sewage treatment units
R18 Pumping stations and pressure pipelines
20 DESIGN
• Design: Complete the design of the heating system.
• Proposals: Submit drawings, technical information, calculations and manufacturers’
literature.

21 BASIC DESIGN TEMPERATURES
• Room temperatures: Design the system to provide the following temperatures for the
specified air change rates and an external air temperature of -4°C:
  - Living rooms: 21°C, for 1.5 air changes per hour.
  - Dining rooms: 21°C, for 1.5 air changes per hour.
  - Bedsitting rooms: 21°C, for 1.5 air changes per hour.
  - Bedrooms: 18°C, for 1 air changes per hour.
  - Halls and landings: 18°C, for 1.5 air changes per hour.
  - Kitchens: 18°C, for 2 air changes per hour.
  - Bathrooms: 22°C, for 2 air changes per hour.
  - Toilets: 18°C, for 2 air changes per hour.
• Submittals: Submit heat loss calculations for each room using the HEVACOMP suite of
programmes.

22 THERMAL INSULATION OF BUILDING FABRIC
• Heat loss calculations: Base on the following maximum U-values:
  - Floors: 0.18.
  - Walls: 0.21.
  - Windows: 1.18.
  - Roofs: 0.17.
Z10 Purpose made joinery

10 FABRICATION
  • Standard: To BS 1186-2.
  • Sections: Accurate in profile and length, and free from twist and bowing. Formed out of solid unless shown otherwise.
    - Machined surfaces: Smooth and free from tearing, wooliness, chip bruising and other machining defects.
  • Joints: Tight and close fitting.
  • Assembled components: Rigid. Free from distortion.
  • Screws: Provide pilot holes. Heads of countersunk screws sunk at least 2 mm below surfaces visible in completed work.
  • Adhesives: Compatible with wood preservatives applied and end uses of timber.

20 CROSS SECTION DIMENSIONS OF TIMBER
  • General: Dimensions on drawings are finished sizes.
  • Maximum permitted deviations from finished sizes:
    - Softwood sections: To BS EN 1313-1.
    - Hardwood sections: To BS EN 1313-2.

30 PRESERVATIVE TREATED WOOD
  • Cutting and machining: Completed as far as possible before treatment.
  • Extensively processed timber: Retreat timber sawn lengthways, thicknessed, planed, ploughed, etc.
  • Surfaces exposed by minor cutting and/or drilling: Treat as recommended by main treatment solution manufacturer.

40 MOISTURE CONTENT
  • Wood and wood based products: Maintained within range specified for the component during manufacture and storage.

50 FINISHING
  • Surfaces: Smooth, even and suitable to receive finishes.
    - Arrises: Eased unless shown otherwise on drawings.
  • End grain in external components: Sealed with primer or sealer as section M60 and allowed to dry before assembly.
Z11 Purpose made metalwork

31 METAL PRODUCTS
   • Grades of metals, section dimensions and properties: To the appropriate British Standards and suitable for the purpose.
   • Fasteners: Generally, same metal as component, with matching coating and finish.

50 PREPARATION FOR APPLICATION OF COATINGS
   • General: Fabrication complete, and fixing holes drilled before applying coatings.
   • Paint, grease, flux, rust, burrs and sharp arrises: Removed.

51 FABRICATION GENERALLY
   • Contact between dissimilar metals in components: Avoid.
   • Finished components: Rigid and free from distortion, cracks, burrs and sharp arrises.
     - Moving parts: Free moving without binding.
   • Corner junctions of identical sections: Mitre.
   • Prefinished metals: Do not damage or alter appearance of finish.

52 COLD FORMED WORK
   • Profiles: Accurate, with straight arrises.

53 WELDING AND BRAZING GENERALLY
   • Surfaces to be joined: Clean thoroughly.
   • Tack welds: Use only for temporary attachment.
   • Joints: Fully bond parent and filler metal throughout with no inclusions, holes, porosity or cracks.
   • Surfaces of materials that will be self-finished and visible in completed work: Protect from weld spatter.
   • Flux residue, slag and weld spatter: Remove.

54 WELDING OF STEEL
   • Method: Metal arc welding to BS EN 1011-1 and -2.

56 FINISHING WELDED AND BRAZED JOINTS VISIBLE IN COMPLETE WORK
   • Butt joints: Smooth, and flush with adjacent surfaces.
   • Fillet joints: Neat.
   • Grinding: Grind smooth where indicated on drawings.

58 GALVANIZING
   • Standard: To BS EN ISO 1461.
   • Vent and drain holes:
     - Location: As all 1:5 Details.
     - Sealing after galvanizing: Required. Submit proposals.
Z12 Preservative/ fire retardant treatment

10 TREATMENT APPLICATION
- Timing: After cutting and machining timber, and before assembling components.
- Processor: Licensed by manufacturer of specified treatment solution.
- Certification: For each batch of timber provide a certificate of assurance that treatment has been carried out as specified.

20 COMMODITY SPECIFICATIONS
- Standard: Current edition of the Wood Protection Association (WPA) publication 'Industrial wood preservation specification and practice'.

25 PRESERVATIVE TREATMENT SOLUTION STRENGTHS/ TREATMENT CYCLES
- General: Select to achieve specified service life and to suit treatability of specified wood species.

40 ORGANIC SOLVENT PRESERVATIVE TREATMENT
- Solution:
  - Manufacturer: Contractor's choice.
  - Product reference: Contractor's choice.
  - Application: Double vacuum + low pressure impregnation, or immersion.
- Moisture content of wood:
  - At time of treatment: As specified for the timber/ component at time of fixing.
  - After treatment: Timber to be surface dry before use.

45 WATER-BASED MICROEMULSION PRESERVATIVE TREATMENT
- Solution:
  - Manufacturer: Contractor's choice.
  - Product reference: Contractor's choice.
  - Application: Double vacuum + low pressure impregnation.
- Moisture content of wood:
  - At time of treatment: As specified for the timber/ component at time of fixing.
  - After treatment: Timber to be surface dry before use.

47 BORON COMPOUND PRESERVATIVE TREATMENT
- Solution:
  - Manufacturer: Contractor's choice.
  - Product reference: Contractor's choice.
  - Application: High pressure impregnation.
- Moisture content of wood:
  - At time of treatment: Not more than 28%.
  - After treatment: Timber to be surface dry before using.

50 FIRE RETARDANT TREATMENT
- Solution type: Dry interior.
  - Manufacturer: Contractor's choice.
  - Product reference: Contractor's choice.
  - Application: Vacuum + pressure impregnation.
- Moisture content of wood:
  - At time of treatment: As specified for the timber/ component at time of fixing.
  - After treatment: Timber to be redried slowly at temperatures not exceeding 65°C to minimize distortion and degradation.
60 LEACH RESISTANT FIRE RETARDANT TREATMENT
   • Solution type: LR
     - Manufacturer: Contractor's choice.
     - Product reference: Contractor's choice.
     - Application: Vacuum + pressure impregnation.
   • Moisture content of wood:
     - At time of treatment: As specified for the timber/ component at time of fixing.

70 MAKING GOOD TO PROTECTION TREATMENT ON-SITE
   • Fire retardant/ preservative solution: Compatible with off-site treatment.
   • Application: In accordance with preservative manufacturer's recommendations.
Z20 Fixings and adhesives

10 FIXINGS AND FASTENERS GENERALLY
• Integrity of supported components: Select types, sizes, quantities and spacings of fixings, fasteners and packings to retain supported components without distortion or loss of support.
• Components, substrates, fixings and fasteners of dissimilar metals: Isolate with washers or sleeves to avoid bimetallic corrosion.
• General usage: To recommendations of fastener manufacturers and/ or manufacturers of components, products or materials fixed and fixed to.
• Fixings: To be in straight lines, at regular centres.

25 FASTENER DURABILITY
• Materials: To have:
  - Bimetallic corrosion resistance appropriate to items being fixed.
  - Atmospheric corrosion resistance appropriate to fixing location.
• Appearance: Submit samples on request.

30 FIXINGS THROUGH FINISHES
• Penetration of fasteners and plugs into substrate: To achieve a secure fixing.

35 PACKINGS
• Materials: Noncompressible, corrosion proof.
• Area of packings: Sufficient to transfer loads.

40 CRAMP FIXINGS
• Fasteners: Fix cramps to frames with screws of same material as cramps.
• Fixings in masonry work: Fully bed in mortar.

50 PELLETED COUNTERSUNK SCREW FIXINGS
• Finished level of countersunk screw heads: Minimum 6 mm below timber surface.
• Pellets: Cut from matching timber, grain matched, glued in to full depth of hole.
• Finished level of pellets: Flush with surface.

55 PLUGGED COUNTERSUNK SCREW FIXING
• Finished level of countersunk screw heads: Minimum 6 mm below timber surface.
• Plugs: Glue in to full depth of hole.
• Finished level of plugs: Projecting above surface.

60 APPLYING ADHESIVES
• Surfaces: Clean. Regularity and texture to suit bonding and gap filling characteristics of adhesive.
• Support and clamping during setting: Provide as necessary. Do not mark surfaces of or distort components being fixed.
• Finished adhesive joints: Fully bonded. Free of surplus adhesive.
Z21 Mortars

99A  RETARDED READY TO USE CEMENT GAUGED MASONRY MORTARS

Readymix traditional lime:sand mortar is convenient and simple to use, extremely effective and can be stored indefinitely. Lime is the key constituent of this mortar and is renowned for high efficiency, enhanced compressive and flexural strength, and outstanding performance.

Readymix lime:sand mortar promotes greater durability of the bond and joint.

The Readymix lime:sand mortar range offers the advantages of autogenous self-healing. Lime reacts with rainwater and heals hairline cracks in mortar, thus reducing rain penetration and improving the thermal properties of the building

- Manufacturer: CEMEX UK.
  - Web: www.cemex.co.uk.
  - Email: gb-enquiries@cemex.com.
  - Product reference: Readymix Lime:Sand Mortar
- Colour: Dark Brown.
- Shade: Medium.

Options

To achieve the required strength of mortar, the correct mix of sand & lime must be specified:

Designation 1: 1:3 cement to premixed lime & sand mix (at 1:12 lime to sand proportions) to produce mix proportions of 1:¼:3.