

1.1

DRAWINGS SHALL BE REFERRED TO FOR STRUCTURAL WORK ONLY, UNLESS OTHERWISE STATED AND READ IN CONJUNCTION WITH THE MAIN STRUCTURAL AND CIVIL SPECIFICATION AND ARCHITECT'S, SERVICE ENGINEER'S AND SUB-CONTRACTOR'S DRAWINGS AND ANY OTHER RELEVANT CONTRACT DOCUMENTATION.

1.2

MATERIALS AND WORKMANSHIP SHALL NOT BE INFERIOR TO THE REQUIREMENTS OF THE RELEVANT BRITISH STANDARD, THE NHBC BUILDING REGULATIONS AND/OR OTHER RELEVANT DOCUMENTATION REFERRED TO IN THE SPECIFICATION AND AS INDICATED IN BS 8000: "WORKMANSHIP IN CONSTRUCTION".

1.3

CONSTRUCTION TOLERANCES ARE TO BE IN ACCORDANCE WITH BS 5606: "GUIDE TO ACCURACY IN BUILDING", UNLESS NOTED OTHERWISE ON THIS DRAWING OR MATERIAL DESIGN SPECIFICATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT SUFFICIENT TOLERANCES ARE PROVIDED AND INTEGRATED THROUGHOUT ALL ELEMENTS OF THE WORKS.

1.4

REFERENCE MADE TO BRITISH STANDARD SPECIFICATIONS, CODE OF PRACTICE OR OTHER DOCUMENTS SHALL BE TAKEN TO REFER TO THE EDITION CURRENT ON THE DATE OF ISSUE OF THIS DRAWING, UNLESS ANOTHER EDITION IS SPECIFICALLY REFERRED TO.

1.5

THE CONTRACTOR SHALL CHECK ALL LEVELS AND DIMENSIONS, AND ANY ERRORS OR OMISSIONS ARE TO BE REPORTED AT ONCE TO THE ENGINEER.

1.6

THE CONTRACTOR TAKE ALL NECESSARY SITE MEASUREMENTS PRIOR TO UNDERTAKING ANY OFFSITE FABRICATION, OR MAKING PREFORMED AND PROPRIETARY ELEMENTS, INCLUDING, BUT NOT LIMITED TO: STEELWORK BALCONIES, JULIETTE BALCONIES, SPECIAL LINTELS, STEELWORK, PRECAST CONCRETE, MASONRY SUPPORT, WIND-POSTS, ETC.

1.7

THE DRAWINGS, DESIGN AND ALL INFORMATION CONTAINED HEREIN ARE THE SOLE COPYRIGHT OF RIDGE AND PARTNERS AND REPRODUCTION IN ANY FORM IS FORBIDDEN UNLESS PERMISSION IS OBTAINED IN WRITING.

1.8

ANY DISCREPANCIES BETWEEN THE INFORMATION GIVEN BY THE ENGINEER AND THAT PROVIDED BY OTHERS MUST BE REFERRED TO THE ENGINEER BEFORE THE AFFECTED WORKS PROCEED.

1.9

WORK TO STATED DIMENSIONS ONLY. DO NOT SCALE FROM THE DRAWINGS.

1.10

DIMENSIONS NOTED THUS [...] ARE SUBJECT TO CONFIRMATION BY SITE MEASUREMENT BEFORE CONSTRUCTION PROCEEDS.

1.11

NO HOLES, CHASES, CUT-OUTS OR THE LIKE MAY BE FORMED IN ANY STRUCTURAL ELEMENT UNLESS NOTED ON THE DRAWINGS, OR BY WRITTEN CONFIRMATION PROVIDED BY THE ENGINEER.

1.12

HOLES SMALLER THAN 300MM X 300MM THROUGH SLABS ARE NOT NECESSARILY SET-OUT ON THE ENGINEER'S DRAWINGS.

1.13

FIRE PROTECTION OF ALL ELEMENTS TO ACHIEVE 90 MINUTES, UNLESS OTHERWISE NOTED.

1.14

ALL DIMENSIONS ARE GIVEN IN MILLIMETRES (MM), AND LEVELS IN METRES (M) ABOVE ORDNANCE DATUM (AOD), UNLESS OTHERWISE NOTED.

1.15

BEFORE ANY NEW CONSTRUCTION COMMENCES, THE CONTRACTOR IS TO SET OUT THE MAJOR CONTROL GRIDLINES ON THE SITE AS SHOWN WITHIN THE ARCHITECT'S DRAWINGS. THE STRUCTURAL ENGINEER AND ARCHITECT SHALL BE INFORMED IMMEDIATELY OF ANY DISCREPANCIES, TO ALLOW FOR REVIEW AND RE-DESIGN, SHOULD IT BE NECESSARY.

1.16

THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL SITE SETTING-OUT DIMENSIONS AND LEVELS BEFORE COMMENCING THE WORK.

1.17

ALL DIMENSIONS ARE GIVEN TO STRUCTURAL SURFACES OR MEMBER CENTRELINES, UNLESS NOTED OTHERWISE.

1.18

THE CONTRACTOR IS ENTIRELY RESPONSIBLE FOR MAINTAINING THE STABILITY OF THE STRUCTURE WITHIN AND ADJACENT TO THE WORKS, FROM THE DATE OF POSSESSION OF THE SITE UNTIL HAND-OVER OF THE WORKS TO THE CLIENT. HE SHALL DESIGN, INSTALL AND MAINTAIN ALL NECESSARY TEMPORARY WORKS TO COMPLY WITH THE THIS REQUIREMENT.

1.19

WHERE THE TERM CONTRACTOR IS USED ON THESE DRAWINGS IT SHALL APPLY TO THE MAIN (OR PRINCIPAL) CONTRACTOR, AND ANY OF HIS APPOINTED SUB-CONTRACTORS.

1.20

THE DESIGN LIFE OF THE STRUCTURE TO THE BUILDING IS 60 YEARS.

5.0 CONCRETE-INSITU

5.1

ALL CONCRETE FRAMEWORK IS TO BE IN ACCORDANCE WITH BS EN 1992 "EUROCODE 2: DESIGN OF CONCRETE", THE NATIONAL STRUCTURAL CONCRETE SPECIFICATION FOR BUILDING CONSTRUCTION, AND AS NOTED BELOW.

5.2

ALL CONCRETE TO BE QUALITY CONTROLLED DESIGNATED MIXES AND SHALL BE IN ACCORDANCE WITH THE SPECIFICATION, BS EN 206 "CONCRETE SPECIFICATION PERFORMANCE, PRODUCTION AND CONFORMITY" AND BS 8500 "CONCRETE – COMPLEMENTARY BRITISH STANDARD TO BS EN 206-1", IN ADDITION TO THIS, ALL BURED CONCRETE SHALL BE DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF BRE DIGEST Sd1 AND BS 8500 PT.1

5.3

MASS CONCRETE BLINDING 50MM MIN. THICKNESS SHALL BE QUALITY CONTROLLED CONCRETE AS NOTE 5.2, PLACED UNDER REINFORCED CONCRETE IN CONTACT WITH THE GROUND, AND SHALL BE LAID ONTO FOUNDATION EXCAVATIONS AS SOON AFTER THE REQUED DIG IS COMPLETE OR SOON AS IS REASONABLY PRACTICABLE TO PREVENT DETERIORATION OF THE SOILS.

5.4

FOR INFORMATION REGARDING FIXINGS, POCKETS OR HOLES THROUGH CONCRETE MEMBERS SEE REINFORCEMENT DETAILS AND/OR ARCHITECT'S AND SUB-CONTRACTOR'S DRAWINGS. NO HOLES OTHER THAN THOSE INDICATED ON THE ENGINEER'S DRAWINGS SHALL BE FORMED WITHOUT PRIOR PERMISSION OF THE ENGINEER. FIXINGS FOR BRICKWORK ARE TO CAST INTO CONCRETE MEMBERS AS DETAILED ON THE STRUCTURAL DRAWINGS.

5.5

REINFORCED CONCRETE SHALL BE COMPACTED BY MEANS OF MECHANICAL VIBRATOR POKER AND THE WORKABILITY SHALL BE SUCH THAT, WHEN COMPACTED, A DENSE CONCRETE FREE FROM VOIDS SHALL BE PRODUCED.

5.6

UNLESS SPECIAL PRECAUTIONS ARE UNDERTAKEN, CONCRETING SHALL NOT PROCEED WHEN THE AIR TEMPERATURE IS, OR LIKELY TO FALL, BELOW 20 C. FROZEN MATERIAL SHALL NOT BE USED. CONCRETE SHOULD NOT BE PLACED IN ANY EXCAVATION IF THE GROUND OR OVERSITE IS FROZEN. ALL SURFACES WHICH COME INTO CONTACT WITH FRESH CONCRETE (FORMWORK, REINFORCEMENT, SOIL, ETC) AND OTHER CONCRETE SURFACES SHALL BE FREE OF SNOW, ICE AND FROST.

5.7

WHERE CONCRETING IS EXPECTED TO BE CARRIED OUT DURING COLD WEATHER, THE CONTRACTOR IS TO PROVIDE THE ENGINEER THEIR PROCEDURES FOR SUCH, WHICH SHALL BE REVIEWED BY THE ENGINEER AND ANY COMMENTS ADHERED TO BY THE CONTRACTOR.

5.8

THEN MINIMUM TEMPERATURE OF READY-MIXED CONCRETE WHEN DELIVERED SHALL BY 50C.

5.9

FRESH CONCRETE SHALL BE PROTECTED FROM FROST, SNOW, RAIN AND SUN, AND CURED AS RECOMMENDED IN BS EN 13670 "EXECUTION OF CONCRETE STRUCTURES".

5.10

ALL STRUCTURAL CONCRETE TO BE PRODUCED FROM A READY-MIXED PLANT WITH A THIRD PARTY QUALITY ASSURANCE SCHEME ACCREDITED BY UKAS (OS/RMC OR BSI).

5.11

CONCRETE CUBE TESTING FOR COMPRESSIVE STRENGTH COMPLIANCE TO BE CARRIED OUT FOR EACH DAY OF CONCRETE POURING AND FOR EACH MIX USED ON THAT DAY.

5.12

THE TYPE AND GRADE OF ALL STEEL REINFORCEMENT SHALL BE IN ACCORDANCE WITH BS 4449.

5.13

STEEL REINFORCEMENT WILL BE SCHEDULED IN STEEL IN ACCORDANCE WITH BS 8666.

5.14

AGGREGATES SHALL COMPLY WITH BS 8500 PT 2.

5.15

CANTILEVER BEAMS AND SLABS SHALL REMAIN PROPPED UNTIL INSTRUCTED BY THE ENGINEER. ALL CANTILEVER BALCONIES WITH THERMAL BREAKS TO BE CAST WITH A 1:100 UPWARD FALL AWAY FROM THE BUILDING.

5.16

INTERNAL AND EXPOSED CONCRETE FINISHES SHALL BE AS PER THE EMPLOYERS REQUIREMENTS, AND CONTRACT TEST PANELS SHALL BE PROVIDED AND AGREED. SURFACE FINISHES SHALL BE IN ACCORDANCE WITH THE QUALITY OF FINISHES AND TYPE OF SURFACE FINISH DEFINED IN BS 8000-2.

5.17

CEMENTS USED SHALL COMPLY WITH BS 8500 PT 2.

5.18

ALL HORIZONTAL HOLES DRILLED INTO CONCRETE FOR THE GROUTING OF ANCHORS OR DOWEL BARS TO BE INCLINED SLIGHTLY DOWNWARD TO FACILITATE THE RETENTION OF THE ANCHOR GROUT. NO REINFORCEMENT IS TO BE CUT OR DRILLED WITHOUT THE EXPRESS PERMISSION OF THE STRUCTURAL ENGINEER.

5.19

CONCRETE COVER TO REINFORCEMENT SHALL BE AS NOTED ON DETAIL DRAWINGS WITH A MIN. OF 50MM TO ALL REINFORCEMENT ON CONCRETE SURFACES EXPOSED TO THE ELEMENTS – FOR CONCRETE CAST AGAINST SOIL, FACES A MIN. COVER OF 75MM SHALL BE USED.

7.0 STEELWORK

7.1

ALL STRUCTURAL STEELWORK IS TO BE DRAWN, FABRICATED, ERECTED, ETC, IN ACCORDANCE WITH THE NATIONAL STRUCTURAL STEELWORK SPECIFICATION FOR BUILDING CONSTRUCTION, AND AS NOTED BELOW.

7.2

ALL STEELWORK HAS BEEN DESIGNED IN ACCORDANCE WITH BS EN 1993 "EUROCODE 3: DESIGN OF STEEL STRUCTURES", ALL STEELWORK IS TO BE TO BS EN 10025, EXCLUDING HOLLOW BOX SECTIONS WHICH ARE TO BE TO BS EN 10210. STEEL GRADES TO BE: • INTERNAL BEAMS AND COLUMNS – S275JR • EXTERNAL BEAMS AND COLUMNS – S275JO • HOLLOW SECTIONS – S355JOH

7.3

ALL STEELWORK IS TO BE DRAWN, FABRICATED, ERECTED, ETC, IN ACCORDANCE WITH THE NATIONAL STRUCTURAL STEELWORK SPECIFICATION FOR BUILDING CONSTRUCTION (NSSF) AND TO BE CE MARKED IN ACCORDANCE WITH BS EN1090-1 & BS EN1090-2 AS NOTED BELOW.

7.4

HAVING DETERMINED THE CONSEQUENCES CLASS FOR A BUILDING, THE REQUIRED EXECUTION CLASS IS TO BE DERIVED FROM TABLE NA.4 OF THE NATIONAL ANNEX TO BS EN1993-1-1 (SEE BELOW), ASSUMING CONSEQUENCE CLASS 2, THE REQUIRED QUALITY OF WORKS ARE TO BE CARRIED OUT TO A MINIMUM QUALITY AS SET OUT BELOW, UNLESS NOTED OTHERWISE. • THE WORKS AS A WHOLE – EXC2 • AN INDIVIDUAL COMPONENT – EXC2 • A DETAIL OF A COMPONENT – EXC2

7.5

STEELWORK SHALL BE CORROSION AND/OR FIRE PROTECTED IN ACCORDANCE WITH THE CLASSIFICATION OF ENVIRONMENT REFERENCED IN BS EN ISO 12944 AND TREATED AS FOLLOWS: WHEN FINISHING, REMOVE SURFACE LAMINATIONS, SHELLING, CRACKS, INCLUSIONS AND OTHER SURFACE FLAWS BY CHIPPING AND/OR GRINDING, DO NOT EXCEED THE LIMITS SPECIFIED IN CURRENT STANDARDS. REMOVE BURRS AND SHARP EDGES BY GRINDING. CAREFULLY DRESS WELDS TO REMOVE SLAG AND REMOVE SPOT WELD SPATTER BY GRINDING.

7.6

WHERE STEEL BEAMS BEAR ONTO PADSTONES, THEY SHALL BE MECHANICALLY FASTENED (UNLESS OTHERWISE NOTED) WITH M20, M10 CHEMICAL ANCHORS, ONE AT EACH END ON ALTERNATIVE SIDES TO PREVENT OVER-TURNING.

7.7

ALL STEELWORK CONNECTIONS ARE TO COMPLY WITH THE FOLLOWING, AND AS DETAILED THE DRAWINGS, UNLESS NOTED OTHERWISE:

a)

BOLTS TO BE GRADE 8.8 AND NOT LESS THAN M16, UNLESS SPECIFICALLY NOTED OTHERWISE.

b)

H.S.F.G BOLTS MAY BE USED, SUBJECT TO APPROVAL BY THE ENGINEER.

c)

MINIMUM WELD SIZE TO BE 6MM CONTINUOUS FILLET WELD TO BS EN 1011.

d)

ALL BUTT WELDS TO HAVE FULL PENETRATION

e)

SITE WELDING IS NOT PERMITTED UNLESS SPECIFICALLY AGREED WITH THE ENGINEER.

f)

SEAL ENDS OF ALL HOLLOW SECTIONS, ENSURING THAT THE INSIDE FACES OF THE SECTIONS ARE DRY AND CLEAR OF DEBRIS BEFORE SEALING ENDS AND OPENINGS.

7.8

ALL MEMBERS TO BE MARKED AS PART OF THE FABRICATION SO THAT POSITIONS CAN BE CHECKED AFTER ERECTION.

7.9

BEFORE COMMENCING ERECTION, CHECK FABRICATION AND OTHER STRUCTURES TO WHICH STEELWORK WILL BE ATTACHED, FOR ACCURACY OF SETTING-OUT AND HOLDING DOWN BOLTS FOR POSITION, PROTRUDING LENGTH, CONDITION AND SLACKNESS. REPORT ANY INACCURACIES AND DEFECTS WITHOUT DELAY.

7.10

SET OUT AND ERECT STEELWORK TO BS EN 1090. DESIGN AND PROVIDE ALL TEMPORARY BRACING NECESSARY TO ENSURE STABILITY OF THE STEEL FRAME AND THE STRUCTURE UPON WHICH THE STEELWORK IS TO BE ERECTED AT ALL TIMES DURING ERECTION.

7.11

WHERE STEEL TO STEEL CONNECTIONS ARE INDICATED ON THE STRUCTURAL DRAWINGS, THESE SHALL BE DESIGNED AND DETAILED BY THE FABRICATOR IN ACCORDANCE WITH THE ULTIMATE FACTORED LOADS AS INDICATED ON THE DRAWINGS. DESIGN AND FABRICATION DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER AND ARCHITECT A MINIMUM OF TWO WEEKS PRIOR TO FABRICATION COMMENCEMENT FOR THEIR COMMENT. WHEN INSTRUCTED, SUBMIT CALCULATIONS BEFORE PREPARING DETAILED FABRICATION DRAWINGS. THE FOLLOWING FORCES ARE THE MINIMUM ULTIMATE VALUES FOR WHICH ALL STEEL TO STEEL CONNECTIONS SHOULD BE DESIGNED, UNLESS GREATER VALUES ARE SPECIFIED ON THE DRAWINGS: VERTICAL SHEAR = 100kN HORIZONTAL SHEAR = 20kN AXIAL TENSION = 50kN

7.12

STEELWORK IS TO BE CASED/FIRE PROTECTED IN ACCORDANCE WITH THE ARCHITECT'S DETAILS. UNLESS NOTED OTHERWISE ON THESE OR ARCHITECT'S/SPECIALIST'S DRAWINGS, ALL STEELWORK IS TO BE BOARD PROTECTED TO ACHIEVE A MINIMUM FIRE RESISTANCE OF ONE HOUR.

7.13

BEFORE COMMENCING FABRICATION DRAWINGS, ENSURE ALL RELEVANT SITE LEVELS AND DIMENSIONS HAVE BEEN VERIFIED.

7.14

ALL STEELWORK BELOW DPC LEVEL TO BE ENCASED IN 50MM CONCRETE.

8.0 TIMBER

8.1

GENERAL

THE STRUCTURAL TIMBER SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF ALL RELEVANT BRITISH STANDARDS AND CODES OF PRACTICE AND IN ACCORDANCE WITH THE RECOMMENDATIONS OF TRADA (TIMBER RESEARCH AND DEVELOPMENT ASSOCIATION). IN GENERAL ALL WORKMANSHIP AND MATERIALS SHALL COMPLY WITH EUROCODE 5 BS EN 1995-1-1:2004+AL:2008. IN RELATION TO TIMBER FRAMED STRUCTURES DESIGNED BY THE TRADE SUPPLIER, THESE ARE TO BE DESIGNED, MANUFACTURED AND INSTALLED IN ACCORDANCE WITH EUROCODE 5: DESIGN OF TIMBER STRUCTURES.

8.2

STRENGTH GRADING

ALL STRUCTURAL TIMBER SHALL BE STRENGTH GRADED AND CLEARLY MARKED WITH THE GRADE AND/OR THE STRENGTH CLASS. STRUCTURAL TIMBER COMPOSITES OR ENGINEERED STRUCTURAL COMPONENTS ARE TO COMPLY WITH THE RELEVANT STANDARD. THIS TO INCLUDE GLULAMINATED TIMBER BEAMS, CROSS-LAMINATED TIMBER (CLT), LAMINATED VENEER LUMBER (LVL), PARALLEL STRAND LUMBER, LAMINATED STRAND LUMBER AND I-BEAMS MANUFACTURED WITH THE FLANGES OF SOFTWOOD OR LVL AND THE WEBS OF PLYWOOD, OSB OR HARDBOARD, AND OTHER CONFIGURATIONS WHICH COMBINE TIMBER FLANGES WITH METAL STRUTTING WEBS.

8.3

WALL FRAMING

SOFTWOOD FOR STRUCTURAL FRAMING SHALL BE SELECTED FROM THE SPECIES LISTED IN BS 5268-2. WALL FRAMING WILL NORMALLY BE OF STRENGTH CLASS C16 UNLESS NOTED OTHERWISE ON DRAWINGS.

8.4

TIMBER SIZES

TARGET SIZES FOR STRUCTURAL SOFTWOODS AT A MOISTURE CONTENT OF 20% ARE TO BE IN ACCORDANCE WITH BS EN 336 STRUCTURAL TIMBER. CONIFEROUS AND POPLAR, SIZES – PERMISSIBLE DEVIATIONS, THE SIZES AND ALLOWABLE TOLERANCES ARE AS LISTED IN THE NATIONAL ANNEX AND IN ACCORDANCE WITH TRADA WOOD INFORMATION SHEET SOFTWOOD SIZES.

8.5

DIMENSIONING

TIMBER FOR WALL FRAMING SHALL BE SURFACED ON ALL FOUR SIDES, WITH ROUNDED ARRISES.

8.6

FLOOR JOISTS

IN PLATFORM FRAME, FLOOR JOISTS SHALL NORMALLY BE THE SAME NOMINAL DEPTH THROUGHOUT IN ORDER TO STANDARDISE WALL PANEL HEIGHTS. JOIST DEPTHS SHALL GENERALLY BE MADE UNIFORM BY MACHINING THE TOP AND/OR BOTTOM FACES TO PROVIDE AN EVEN SURFACE FOR FLOOR AND CEILING FINISHES. ALS/CLS SURFACED TIMBER MAY BE SPECIFIED FOR JOISTS. I-BEAMS MAY BE USED FOR FLOOR JOISTS TO COMBINE LARGER SPAN CAPABILITIES WITH LOW MOISTURE CONTENT. SELECTION INSTALLATION AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE RELEVANT BS EN CODE AND THE RESPECTIVE MANUFACTURERS' LITERATURE.

8.7

MOISTURE CONTENT OF FRAMING TIMBER

STRUCTURAL SOFTWOOD FOR USE IN BUILDINGS (I.E. IN SERVICE CLASSES 1 AND 2 TO BS 5268-2 AND EUROCODE 5) SHALL BE STRENGTH GRADED AT AN AVERAGE MOISTURE CONTENT OF 20% AND MARKED DRY OR KD. THESE TIMBERS ARE TO BE PROTECTED FROM WETTING AND HIGH HUMIDITY DURING STORAGE. TIMBER OVER 100 MM THICK MAY BE GRADED AND MARKED WET, WHERE THE CONTRACTOR IS RESPONSIBLE FOR DESIGN CALCULATIONS SHALL BE BASED ON WET STRESSES.

8.8

SHRINKAGE

WHERE DESIGNED BY THE CONTRACTOR, THE TIMBER FRAME DESIGN IS TO ALLOW FOR SHRINKAGE IN SOLID TIMBER OF 1% CHANGE IN DIMENSION FOR EVERY 4% CHANGE IN MOISTURE CONTENT AND IN ACCORDANCE WITH TIMBER FRAME: STANDARD DETAILS FOR HOUSES AND FLATS AND THE TRADA TIMBER FRAME CONSTRUCTION BOOK. SPECIAL ATTENTION IS TO BE PAID TO THE MOISTURE CONTENT OF TIMBER USED IN MULTI-STOREY TIMBER FRAME BUILDINGS TO ENSURE THAT BY MINIMISING THE USE OF HORIZONTAL CROSS-GRAIN TIMBER, SHRINKAGE WILL BE MAINTAINED AT MANAGEABLE LEVELS.

8.9

PRESERVATIVE TREATMENT IS TO BE ASSESSED IN ACCORDANCE WITH BS EN 335 HAZARD CLASSES OF WOOD AND WOOD BASED PRODUCTS AGAINST BIOLOGICAL ATTACK (3 PARTS) AND IN BS 8417 PRESERVATION OF TIMBER – RECOMMENDATIONS). STRUCTURAL SOFTWOODS WHICH ARE CLASS 4, SLIGHTLY DURABLE, OR CLASS 5, NOT DURABLE (TO BS EN 350-1), TIMBER TREATMENT SHALL BE AS FOLLOWS:

TREATMENT ESSENTIAL: SOLID PLATES

BOTTOM MEMBERS OF LOADBEARING WALL FRAMES OR JOINERY RESTING DIRECTLY ON THE DPC

TIMBER CAVITY BARRIERS IN EXTERNAL CAVITY WALLS (ALSO TO BE PROTECTED BY SEPARATE DPC)

TIMBER IN COLD DESIGN FLAT ROOFS - CLADDING FIXING BATTENS

TILING BATTENS

ROOFING TIMBERS – PER BUILDING REGULATIONS REQUIREMENTS FOR SOFTWOOD ROOF TIMBERS IN SPECIFIED AREAS OF ENGLAND TO BE TREATED AGAINST ATTACK BY THE HOUSE LONGHORN BEETLE.

JOISTS IN SUSPENDED TIMBER GROUND FLOORS • LOADBEARING TIMBER EXTERNAL WALL FRAMES.

8.10

TREATMENT METHODS

METHODS OF TREATMENT TO BE GENERALLY PER BS 8417 AND THE WOOD PROTECTION ASSOCIATION MANUAL. SOFTWOOD IS TO BE TREATED BY DOUBLE VACUUM PRESSURE IMPREGINATION IN COMPLIANCE WITH NHBC REQUIREMENTS AND THE PRESERVATIVE IS TO COMPLY WITH BS EN 8417:2011 + A1:2014. CHROMATED COPPER ARSENATE (CCA) PRESERVATIVES SHALL NOT BE USED IN RESIDENTIAL OR DOMESTIC STRUCTURES. TREATED TIMBER SHALL NOT BE USED UNTIL ITS MOISTURE CONTENT IS BELOW 20%. CUTTING OR DRILLING TREATED TIMBER SHALL BE AVOIDED WHEREVER POSSIBLE, BUT IF UNAVOIDABLE THE CUT ENDS OR HOLES ARE TO BE LIBERALLY TREATED WITH APPROPRIATE PRESERVATIVE BY BRUSHING OR SWABING.

8.11

TIMBER TRUSSED RAFTERS

TIMBER TRUSSED RAFTERS ARE TO BE DESIGNED AND MANUFACTURED TO BS EN 1995-1-1:2004 +AL:2008 OR DESIGNED TO THE RECOMMENDED CRITERIA, IF NOT OF A CONFIGURATION SPECIFIED IN THE CODE (SEE TRADA WOOD INFORMATION SHEET TRUSSED RAFTERS). LONGITUDINAL AND DIAGONAL BRACING IS TO BE DESIGNED AND DETAILED IN ACCORDANCE WITH THE BRITISH STANDARD AND TRADA REQUIREMENTS. IT MUST BE CONTINUOUS OVER THE LENGTH OF THE BUILDING.

8.12

SHEATHING

MATERIAL FOR STRUCTURAL SHEATHING SHALL COMPLY WITH THE REQUIREMENTS OF BS EN 13986 WOODBASED PANELS FOR USE IN CONSTRUCTION – CHARACTERISTICS, WALL SHEATHING BOARDS SHALL BE CE MARKED AS WALL SHEATHING AND SUITABLE FOR STRUCTURAL USE IN HUMID (OR EXTERIOR) ENVIRONMENTS AND HAVE A DECLARATION OF CONFORMITY FROM THE PRODUCER THAT THEY COMPLY WITH THE REQUIREMENTS OF BS EN 12871 WOOD-BASED PANELS -PERFORMANCE SPECIFICATIONS AND REQUIREMENTS FOR LOAD BEARING BOARDS FOR USE IN FLOORS, WALLS AND ROOFS. THEY SHALL BE TESTED TO BS EN 594 TIMBER STRUCTURES - TEST METHODS - SOFT BODY IMPACT TEST OF TIMBER FRAMED WALLS. SHEATHING BOARD MATERIAL ARE TO COMPLY WITH RELEVANT STANDARDS: • ORIENTED STRAND BOARD (OSB); OSB3 OR OSB4 TO BS EN 300. • PLYWOODS TO BS EN 636 GRADE EN 636-2 OR EN 636-3.

8.13

RACKING RESISTANCE OF SHEATHING

RACKING RESISTANCE SHALL BE IN ACCORDANCE WITH BS EN 1995-1-1:2004+AL:2008 OR BY TEST IN ACCORDANCE WITH THE BRITISH STANDARD ON THE BASIS OF CHARACTERISTIC DENSITY (VALUES FOR SOME PRODUCTS GIVEN IN BS EN 12369 WOOD-BASED PANELS - CHARACTERISTIC VALUES FOR STRUCTURAL DESIGN. IN 2 PARTS) AND A KNOWLEDGE OF THE FASTENER PERFORMANCE OF THE PANELS.

8.14

FLOOR DECKS

WOOD-BASED PANELS FOR STRUCTURAL FLOOR DECKING SHALL COMPLY WITH THE REQUIREMENTS OF BS EN 13986 AND MUST BE CE MARKED. THE BOARD SHALL BE SUITABLE FOR STRUCTURAL USE IN A HUMID (OR EXTERIOR) ENVIRONMENT AND HAVE AVAILABLE A DECLARATION OF CONFORMITY WITH TECHNICAL INFORMATION AND SHALL ALSO COMPLY WITH THE REQUIREMENTS OF BS EN 12871 ANY CE MARK SHALL INCLUDE THE WORD "FLOORING" TO INDICATE THAT BS EN 12871 POINT LOAD AND IMPACT TESTS HAVE BEEN CARRIED OUT TO GIVE THE LOAD CATEGORY FOR USE IN DESIGN. MATERIALS FOR FLOOR DECKING MAY BE: • CHIPBOARD FOR FLOORING: TYPE P5 OR P7 TO BS EN 312. • PLYWOOD FOR FLOORING: GRADE EN 636-25 OR EN 636-35. DOMESTIC FLOOR DECK DESIGN SHALL BE BASED ON AN IMPOSED LOAD OF 1.5 KN/M2. DETAILED DESIGN CALCULATIONS SHALL BE UNDERTAKEN FOR FLOOR DECKING IN OTHER BUILDING TYPES TAKING INTO CONSIDERATION DESIGN LOAD, PURPOSE AND DURABILITY AND REFLECT WOOD-BASED PANEL MANUFACTURERS TEST RESULTS FOR PANEL THICKNESS AND JOIST SPACING.

8.15

WALL TIES IN TIMBER FRAME CONSTRUCTION

WHERE MASONRY CLADDING IS SPECIFIED THIS SHALL BE SECURED TO THE TIMBER STUDS WITH FLEXIBLE, STAINLESS STEEL TIES, USING STAINLESS STEEL FIXINGS. WALL TIES SHALL COMPLY WITH THE REQUIREMENTS OF BS EN 845-1 SPECIFICATION FOR ANCILLARY COMPONENTS FOR MASONRY - PART 1 TIES, TENSION STRAPS, HANGERS AND BRACKETS AND MAY BE CE MARKED IN ACCORDANCE WITH THIS STANDARD. FOR TIMBER FRAME THE TIES SHALL BE OF A MOVEMENT-TOLERANT TYPE WITH A MANUFACTURER'S DECLARATION OF THE MAXIMUM PERMISSIBLE RANGE OF MOVEMENT THAT THE TIE CAN ACCOMMODATE.

9.0 MASONRY

9.1

ALL STRUCTURAL MASONRY HAS BEEN DESIGNED IN ACCORDANCE WITH BS EN 1996 "EUROCODE 6: DESIGN OF MASONRY STRUCTURES".

9.2

ONLY STRUCTURAL LOADBEARING MASONRY WALLS ARE INCLUDED IN THE DRAWINGS. NON-STRUCTURAL WALLS, WHERE SHOWN, ARE SHOWN FAINT.

9.3

NON-LOADBEARING WALLS AND PARTITIONS AS NOTED ON THE ARCHITECT'S DRAWINGS SHALL BE SEPARATED FROM THE CONSTRUCTION ABOVE THEM TO ENSURE THEY DO NOT PROVIDE OR TRANSMIT LOADS.

9.4

MATERIALS AND WORKMANSHIP SHALL COMPLY WITH THE RECOMMENDATIONS OF BS EN 1996.

9.5

CLAY BRICKS SHALL COMPLY WITH ALL RELEVANT PARTS OF BS EN 771 & 772 AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 20N/mm² ABOVE DPC, AND A MINIMUM COMPRESSIVE STRENGTH OF 36kN/m2 BELOW DPC. ALL BRICKS TO BE F2 DURABILITY AND AN ACTIVE SOLUBLE SALT CATEGORY OF S1, IN ADDITION TO ANY REQUIREMENTS IN THE ARCHITECT'S SPECIFICATION FOR FACEWORK.

9.6

CONCRETE BLOCKS SHALL COMPLY WITH ALL RELEVANT PARTS OF BS EN 771 & 772 AND SHALL HAVE THE FOLLOWING PERFORMANCE REQUIREMENTS:

UNLESS NOTED OTHERWISE, THE STRUCTURAL DRAWINGS, ALL BLOCKWORK WITHIN THE BUILDING ENVELOPE SHALL HAVE A MINIMUM CRUSHING STRENGTH AS DETAILED BELOW: BLOCK STRENGTHS (MIN. VALUES) LOADBEARING WALLS.

FIRST FLOOR SLEEPER WALLS CAVITY WALLS (100THK INNER LEAF) 7.3 N/mm² PARTY WALLS (100THK X2) 7.3 N/mm² INTERNAL WALLS (100THK) 7.3 N/mm²

UNLESS NOTED OTHERWISE, ALL BLOCKWORK WITHIN THE BUILDING ENVELOPE SHALL HAVE A MINIMUM STRENGTH OF 7.3N/mm²

a)

BLOCKWORK BELOW DPC LEVEL SHALL BE OF SUITABLE QUALITY TO DESIGN SULPHATES CLASS DS-1.

b)

SEE ARCHITECT'S DRAWINGS/DETAILS FOR SOUND AND THERMAL REQUIREMENTS TO ALL WALL TYPES.

c)

100mm and 140MM BLOCKS SHALL NOT BE LAID FLAT TO FORM PARTY WALLS UNLESS THESE BLOCKS HAVE BEEN TESTED BY THE MANUFACTURER FOR THIS SPECIFIC PURPOSE. WALLS CONSTRUCTED WITH BLOCKS NOT SUPPORTED BY TEST DATA SHALL BE LIABLE TO REJECTION.

d)

NON-LOADBEARING PARTITIONS – TO ARCHITECT'S SPECIFICATION.

e)

REFER TO ARCHITECT'S DRAWINGS FOR BLOCKWORK DENSITY REQUIREMENTS ALONG WITH DESIGN REQUIREMENTS NOTED ABOVE.

f)

THE MAXIMUM WEIGHT OF ANY INDIVIDUAL MASONRY SHALL NOT EXCEED 20kg.

9.7

MASONRY BELOW DPC TO BE SET IN 1:3 (CLASS M12) CEMENT/SAND MORTAR, ABOVE DPC TO BE 1:1:6 (CLASS M4) CEMENT/LIME/SAND MORTAR, IN ACCORDANCE WITH BS EN 998.

9.8

WALL TIES TO COMPLY WITH BS EN 845-1. PROVIDE STAINLESS STEEL WALL TIES AS PER DRAWING DETAIL J ON DRAWING K170184-S(0)0007. TIES FOR EXTERNAL WALLS TO BE TYPE B ACOUSTIC PERFORMANCE IN ACCORDANCE WITH THE REQUIREMENTS OF BUILDING REGULATIONS PT E.

9.9

MASONRY SUPPORT ANGLES AND WINDPOSTS IN GRADE 304 (1.4301) STAINLESS STEEL. ANGLE DESIGN AND FIXINGS BY THE SPECIALIST MANUFACTURER TO CARRY LOADS SPECIFIED ON THE DRAWINGS.

9.10

ALL PADSTONES OVER 20kg SHALL HAVE A THREADED SOCKET TO RECEIVE A LIFTING EYE TO ALLOW FOR MECHANICAL LIFTING INTO POSITION.

9.11

WHERE ENGINEERING BRICKS ARE SPECIFIED ON THE DRAWINGS, THEY SHALL COMPLY WITH ALL RELEVANT PARTS OF BS EN 771-1: TABLE NA.6 WITH THE FOLLOWING MINIMUM COMPRESSIVE STRENGTHS:

CLASS A – 125N/mm²

CLASS B – 75N/mm²

9.12

STACK BONDED FEATURE BLOCKWORK TO HAVE STAINLESS STEEL BED JOINT REINFORCEMENT TO EVERY COURSE IN ACCORDANCE WITH BS EN 845 PT 3. PROVIDE BEKAERT BF40 OR SIMILAR APPROVED. WALL TIE SPACING TO BE REDUCED TO 450mm HORIZONTALLY AND VERTICALLY AT AREAS OF STACK BONDED MASONRY.

9.13

MOVEMENT JOINTS (MJ) TO BE LOCATED A MAXIMUM OF 12.0m CENTRES IN BRICKWORK, AND 6.0m CENTRES IN BLOCKWORK. FINAL LOCATIONS TO ARCHITECT'S DETAILS.

9.14

MASONRY WALLS PARALLEL TO PRECAST UNIT SPANS SHALL BE RESTRAINED WITH GALVANISED 30x5mm STRAPS, HAVING A SIZE NOT LESS THAN 100x900mm AT NO MORE THAN 2.0m CENTRES IN HOUSES AND 1.25m CENTRES IN FLATS.

9.15

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