

GENERAL NOTES

- All Pattern Associates Ltd drawings are to be read in conjunction with all Architect's and Service Engineers drawings and specifications.
- All materials and workmanship shall be in accordance with the relevant British Standards or Codes of Practice and shall be to the approval of the Structural Engineer and Building Control Surveyor.
- Specialist working drawings i.e. steelwork fabrication details, prestressed/precast floor etc shall be submitted to the Structural Engineer for approval prior to commencement of works.
- The contractor will be responsible for the design, erection and maintenance of all temporary works to enable construction to be carried out without reducing the factors of safety within the building.

Do not scale from Pattern Associates Ltd drawings - All dimensions are to be confirmed by the Architect.

STRUCTURAL STEELWORK

- All structural steelwork to be grade 43 to BS 4360.
- Protection to dry lined fire protected steelwork to be as follows:
Preparation - Blast clean to second quality BS 4232.
Primer - Two coats of zinc rich primer min. 38 microns each coat.
- All connections to be designed by specialist steelwork fabricator, fabrication details to be forwarded to Structural Engineer for approval prior to commencement of works. All bolts to be minimum grade 8.8 unless otherwise noted.
- All steelwork is to be fabricated and erected in accordance with National Structural Steel Specification BSCA No. 1/89.

PADSTONES

- All beams to be installed centrally on padstones unless noted otherwise.
- Beams to bear on the full width of the padstone or the full length for padstones located at the end of a wall with a beam spanning in its plane unless noted otherwise.
- Padstones shall be mass concrete grade 35 N/mm2.
- Padstone sizes as indicated on drawings.
- Beams to be fixed to padstones with 2 No. 16mm diameter rag bolts at each end and or strapped or built into the support wall.
- Beams spanning over a supporting wall shall be continuous where practical or plated. It may be possible in some cases to stagger the beams side by side but they must bear fully on and be central over padstone.
- The end of a beam bearing onto the inner skin of a cavity wall must be a minimum of 50mm from the inner face of the outer skin.

FOUNDATIONS

- Foundations designed to a net bearing pressure of 100KN/m2.
- Foundations to be excavated to a min. depth of 1.0m or as shown on the drawings.
Overall depth subject to alteration on site due to possible sudden changes in sub-strata.
Foundation are subject to approval on site by the Structural Engineer or Local Authority Building Control Surveyor. Where foundations are constructed near trees then guidance on depth to be taken in accordance with N.H.B.C. Chapter 4.2 'Building Near Trees'.

- Concrete footings to be GEN 1 Recommended Consistence (workability) S3/S4 in accordance with BS 8500 2006. Concrete to ground slabs to be RC30 Recommended Consistence (workability) S2 in accordance with BS 8500 2006. Concrete to cavity fill to be GEN 1 Recommended Consistence (workability) S3 in accordance with BS 8500 2006.
- All footing concrete to be compacted by means of suitable mechanical plant.
- Adequate shoring is to be installed during the works to ensure stability of the excavated trenches and such shoring is to be adequately founded.
- Foundation daywork joints should not occur within 2.0m of a corner. The concrete should be battered down at an angle of 45 degrees with a minimum of 6 bars (R16) projecting 1.0m (Bars 2.0m long). Provide 3 No. bars top and 3 No. bars bottom.
Steps in foundations to be strictly in accordance with the Building Regulations and as directed on site by the Structural Engineer/Building Control Officer.
- Any significant depth of foundation concrete below the depth shown on the drawings may be in lean mix unless otherwise shown.

GROUND SLABS

- Concrete to ground slabs to be RC30 Recommended Consistence (workability) S2 in accordance with BS 8500 2006. 20mm Maximum aggregate.
- Concrete cover from underside of slab = 40mm
Concrete cover from top of slab = 40mm
- Reinforcement should be standard fabric reinforcement to BS 4483 grade 460 N/mm2.
Mesh to be lapped at ends and edges a minimum of 500mm.
- The slab must be kept moist and cured for a minimum of 7 days by covering with polythene sheeting or being sprayed with a resin curing membrane (not suitable for some applied finishes).

RESTRAINTS

- Wallplates - 30x5mm thick galvanised m.s. vertical restraint straps, minumum 1.0m long to be provided at maximum 2.0m centres and not less than 2 No. straps to be provided to any one wall plate.
- Floor Joists - 30x5mm thick galvanised m.s. parallel restraint straps, minumum 1.2m long to be provided at maximum 2.0m centres across minimum 3 No. joists, where joists run parallel to walls. Longitudinal straps minimum 1.2m long at maximum 1.8m centres or restraint type hangers are to be used at maximum 2.0m centres to tie floor joist end to wall.
- Rafters at Eaves - Rafters to be fixed to wall plate using framing anchors or truss clips and 30x5mm thick galvanised m.s. vertical restraint straps minimum 1.0m long straps to be provided at maximum 2.0m centres to tie rafter to wall.
- Rafters at Gables - 30x5mm thick galvanised m.s. parallel restraint straps minimum 1.2m long to be provided at maximum 2.0m centres across minimum 3 No. rafters where parallel to gable wall.
- Generally - Minimum 38x100mm softwood noggins to be provided between all joists, rafters and trusses, below restrain straps and between joist end above internal load bearing walls. Gaps between masonry and first adjacent strapped timber must be packed with timber minimum size as noggins. Restraint straps to be plugged and screwed to masonry using No. 1 12x50 screws minimum one per block course. Fixings to timber to be either No. 12x50 screws or 75mm nails, minimum one fixing to be provided per joist, rafter, wallplate and noggin. All fixings to be corrosion resistant.

MOVEMENT JOINTS

- Movement should be accommodated by the recommendations of B.R.E. Digest 164 and BS5628: Part 3:2001, as follows
Clay Brickwork - to be provided at 12m intervals. The width of the joint in millimetres should be about 30% more than the distance between joints in metres for example movement joints at 12m centres will need to be about 16mm wide. Wall ties should be provided at 300mm vertical spacing, on either side of the joint
Aggregate Concrete Blockwork - to be provided at 6.0 to 9.0m intervals, with a 10mm wide joint.
Aircrete Concrete Block - to be provided at max 6.0m intervals, with a 10mm wide joint.
Seals - Materials for joints to BS6213 to be one of the following
 - 2-part Polysulphide BS5212
 - 2-part Polyurethane BS5212
 - Bitumen Rubber type A1/A2 of BS2499
 - Flexible EpoxideThe depth of the seal should be at least between 2 x width and 1 x width of the joint.
Filling materials - a pressure of about 0.1N/mm2 should be sufficient to compress the material to 50% of its original thickness. Filling materials are usually Polymer Foams.
Materials NOT to be used are: Hemp, fibre board, cork.

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