

***SPEC NOTE:** Text shown in italics is commentary to the content of the notes, and not intended for inclusion in the printed Standard Notes. The Guide Structural Notes shown below are intended for walls where specific engineering requirements for reinforcement, grouting, strength, etc. are not required. Where such details are required, they should be identified specifically in the drawings and specifications.*

1. Masonry design shall conform to CSA S304.1-04; Design of
Masonry Structures

2. Materials and work shall conform to the following standards:

Workmanship:	CSA A371-04; Masonry Construction for Buildings
Concrete Block:	CSA A165.1-04; Concrete Masonry Units, H/15/A/M
Structural Clay:	CSA A82-06; Fired Masonry Brick Grade EG, Type S
Masonry Mortar:	CSA A179-04; Mortar and Grout for Unit Masonry Type 'S' Site mixed by Proportion Specification Pre-mixed by Property Specification
Masonry Grout:	CSA A179-04; Mortar and Grout for Unit Masonry 12.5 MPa at 28 days by cylinder test under Property Specification Slump 200 to 250 mm

***SPEC NOTE:** Because a cylinder test for grout includes extra water, which would otherwise be absorbed in the masonry wall units, the test results will be lower than the actual in-the-wall grout strength. The latest CSA A179.04, therefore, mentions a 12.5 MPa value for cylinder tests, with the expectation that the in-place strength will exceed the typical block strength of 15 MPa, and will produce the necessary f'_m design strength. Local testing has shown in-place strengths over 20 MPa for 12.5 MPa cylinder strength grout. For pumpability reasons, cylinder strengths of 20 MPa are often provided in any case.*

Reinforcement:	CSA G30.18-M92 (R2002) Grade 400
Joint Reinforcing:	CSA G30.14-M1983; CSA G30.15-M1983 3.8 mm (9 ga.) galvanized ladder type
Masonry Connectors:	CSA A370-04 - Connectors for Masonry

REINFORCEMENT

3. Unless noted otherwise, provide minimum seismic reinforcement as follows:

SPEC NOTE: Reinforcement shown for B.C. coastal region. Additional reinforcement may be required to resist specific load conditions, and should be shown clearly on structural drawings.

Wall Thickness	Loadbearing or Shear Walls	Non Loadbearing Walls
150mm	Vert: 15M @ 800 Horiz: 3.8mm Joint Reinf. @ 400 1-15M @ 2400 in Bond Beam	Vert: 15M @1200 Horiz: 3.8mm Joint Reinf. @400 1-15M @ 2400 in Bond Beam
200mm	Vert: 15M @ 800 or 20M @1200 Horiz: 3.8mm Joint Reinf. @ 400 2-15M @ 2400 in Bond Beam	Vert: 15M @ 1200 Horiz: 3.8mm Joint Reinf. @ 400 1-15M @ 2400 in Bond Beam
250mm	Vert: 15M @ 600 or 20M @ 800 Horiz: 3.8mm Joint Reinf. @ 400 2-15M @ 2400 in Bond Beam	Vert: 15M @ 1200 Horiz: 3.8mm Joint Reinf. @ 400 1-15M @ 2400 in Bond Beam
300mm	Vert: 15M @ 400 or 20M @ 800 Horiz: 3.8mm Joint Reinf. @ 400 2-15M @ 2400 in Bond Beam	Vert: 15M @ 1200 Horiz: 3.8mm Joint Reinf. @ 400 1-15M @ 2400 in Bond Beam

Dowels in foundation are to match vertical bars. Vertical bars shall be centred in the wall. Provide 1-15M vertical bar at each side of door and window openings; at ends, corners and intersections of walls; and at each side of control joints. Bond beams shall be provided at all floor and roof locations, and at the top of parapets.

4. Lap reinforcement as follows:

Reinforcement::	Joint	10M	15M	20M
Lap:	150	450	650	900

5. Provide 2-15M in lintels over openings
- Extend 600mm beyond edge of openings
 - Lintel depth = 200mm up to 1.5M span
400mm 1.6 to 2.4M span

SPEC NOTE: Lintels carrying concentrated loads or heavy floor loads should be specifically designed.

GROUTING

6. Notify the Engineer min. 24 hrs prior to grout pours
7. Cores to be grouted shall be kept reasonably clear of mortar fins
8. Fill all bond beams, parapets, reinforced cores and cores at anchor bolts or embeds with grout. Consolidate grout by puddling or vibration
9. Provide clean-outs at bottom of all reinforced cores for pours over 1.5m

SPEC NOTE: Cleanouts are often waived on approval for non-critical walls, or based on demonstrated provisions to keep the grout space clean prior to grouting. CSA A371-04, Cl. 8.2.3.2.2

10. Max. total pour height 4 m. Pours of 3m or less may be placed in one lift. Pours exceeding 3m shall be placed in max. 2m lifts.

SPEC NOTE: If cores are congested by heavy reinforcement the pour height may have to be reduced or double bond beams used. Pour heights are often at 2.4 m heights at bondbeam locations.

MOVEMENT JOINTS

Unless noted otherwise, provide:

11. Vertical movement joints at a maximum spacing of 15 m and 7.5 from corners.
12. Bond beam reinforcing shall project from one side 300 mm through the joint into tight fitting tubes. Joint reinforcement shall be terminated.

SPEC NOTE: Bond beams used as diaphragm chords should be specifically detailed.

CONSTRUCTION

13. Masonry walls shall be laid in running bond; to CSA A371-04 tolerances for line, plumb, level and joints. Nominal joint width is 10 mm.
14. Exposed mortar joints shall be tooled concave, concealed joints may be struck flush.
15. Provide lateral top support to non-loadbearing walls as per details. Locate bond beams in second course from the top.
16. Cold and hot weather construction to CSA A371-04 requirements.
17. Protect masonry during construction as per CSA A371-04.