

**Part 1 General**

**1.1 REFERENCES**

- .1 Canadian Standards Association (CSA International)
  - .1 CAN3 A165 SERIES-94(R2000), CSA Standards on Concrete Masonry Units covers: A165.1, A165.2, A165.3.
  - .2 CSA A179-94(R1999), Mortar and Grout for Unit Masonry.
  - .3 CSA-A370-94(C1999), Connectors for Masonry.
  - .4 CSA-A371-94(R1999), Masonry Construction for Buildings.
  - .5 CSA G30.14-M1983(R1998), Deformed Steel Wire For Concrete Reinforcement.
  - .6 CAN/CSA G30.18-M92, Billet-Steel Bars for Concrete Reinforcement.
  - .7 CSA-S304.1-94(R2001), Masonry Design for Buildings.
  - .8 CAN/CSA A82.1-M87(R1999), Burned Clay Brick (Solid Masonry Units Made From Clay or Shale).

**1.2 SUBMITTALS**

- .1 Product Data:
  - .1 Submit manufacturer's printed product literature, specifications and data sheet in accordance with Sections 01 33 00 - Submittal Procedures.
- .2 Shop Drawings :
  - .1 Submit shop drawings in accordance with Section 01 33 00 - Submittal Procedures.
  - .2 Shop drawings consist of bar bending details, lists and placing drawings.
  - .3 On placing drawings, indicate sizes, spacing, location and quantities of reinforcement and connectors.

**Part 2 Products**

**2.1 MASONRY UNITS**

- .1 Standard concrete block units: to CAN3-A165 Series (CAN3-A165.1).
  - .1 Classification: S/15/A/M for load bearing walls.
  - .2 Size: modular.
  - .3 Special shapes: provide square units for exposed corners. Provide purpose-made shapes for lintels and bond beams. Provide additional special shapes as indicated.

**2.2 REINFORCEMENT AND CONNECTORS**

- .1 Bar reinforcement: to CSA-A371 and CAN/CSA G30.18, Grade 400.
- .2 Wire reinforcement: to CSA-A371 and CSA G30.14, truss type.
- .3 Connectors shall be corrosion resistant: to CSA-A370 and CSA-S304.

### **2.3 MORTAR AND GROUT**

- .1 Mortar: to CSA A179.
  - .1 Use aggregate passing 1.18 mm sieve where 6 mm thick joints are indicated.
  - .2 Colour: ground coloured natural aggregates or metallic oxide pigments.
- .2 Mortar Type: S 25 MPa strength,
- .3 Grout: to CSA A179, Table 3.

### **2.4 ACCESSORIES**

- .1 Weep hole vents: purpose-made PVC, where required.
- .2 Nailing Inserts: 0.5 mm minimum thickness, galvanized.
- .3 Bolts: 12 mm diameter x 150 mm long with ends bent 50 mm at 90 degrees.

## **Part 3 Execution**

### **3.1 INSTALLATION**

- .1 Do masonry work in accordance with CSA-A371 except where specified otherwise.
  - .1 Bond: running stretcher bond with vertical joints in perpendicular alignment and centred on adjacent stretchers above and below.
  - .2 Coursing height: 200 mm, for one block and one joint, for three bricks and three joints. Jointing: tool where exposed or where paint or other finish coating is specified to provide smooth compressed concave surface.
- .2 Build masonry plumb, level, and true to line, with vertical joints in alignment.
- .3 Layout coursing and bond to achieve correct coursing heights, and continuity of bond above and below openings, with minimum of cutting.

### 3.2 CONSTRUCTION

- .1 Exposed masonry:
  - .1 Remove chipped, cracked, and otherwise damaged units, in exposed masonry and replace with undamaged units.
  - .2 Cut out for electrical switches, outlet boxes, and other recessed or built-in objects. Make cuts straight, clean, and free from uneven edges.
- .2 Building-In:
  - .1 Install masonry connectors and reinforcement where indicated on drawings.
  - .2 Build in items required to be built into masonry.
  - .3 Prevent displacement of built-in items during construction. Check plumb, location and alignment frequently, as work progresses.
  - .4 Brace door jambs to maintain plumb. Fill spaces between jambs and masonry with mortar.
  - .5 Install loose steel lintels over openings where indicated.
- .3 Concrete block lintels:
  - .1 Install reinforced concrete block lintels over openings in masonry where steel or reinforced concrete lintels are not indicated.
  - .2 End bearing: not less than 200 mm.
- .4 Support of loads:
  - .1 Use 25 MPa concrete, where concrete fill is used in lieu of solid units.
  - .2 Use grout to CSA A179 where grout is used in lieu of solid units.
  - .3 Install building paper below voids to be filled with concrete; keep paper 25 mm back from faces of units.
- .5 Provision for movement:
  - .1 Leave 3 mm space below shelf angles.
  - .2 Leave 6 mm space between top of non-load bearing walls and partitions and structural elements. Do not use wedges.
  - .3 Built masonry to tie in with stabilizers, with provision for vertical movement.
- .6 Interface with other work:
  - .1 Cut openings in existing work as indicated.
  - .2 Openings in walls: as reviewed by the Contract Administrator.
  - .3 Make good existing work. Use materials to match existing.
- .7 Build in flashings in masonry in accordance with CSA-A371.
  - .1 Install flashings under exterior masonry bearing on foundation walls, slabs, shelf angles, and steel angles over openings. Install flashings under weep hole courses and as indicated.
  - .2 In cavity walls and veneered walls, carry flashings from front edge of masonry, under outer wythe, then up backing not less than 150 mm, and as follows:
    - .1 For masonry backing embed flashing 25 mm in joint.

- .2 For concrete backing, insert flashing into reglets.
- .3 For wood frame backing, staple flashing to walls behind sheathing paper.
- .4 For gypsum board backing, bond to wall using manufacturer's recommended adhesive.
- .3 Lap joints 150 mm and seal with adhesive.
- .8 Install weep hole vents in vertical joints immediately over flashings, in exterior wythes of cavity wall and masonry veneer wall construction, at maximum horizontal spacing of 600 mm on centre.

### **3.3 REINFORCING AND CONNECTING**

- .1 Install masonry connectors and reinforcement in accordance with CSA-A370, CSA-A371 and CSA-S304.1 unless indicated otherwise.
- .2 Prior to placing concrete, obtain Contract Administrator's approval of placement of reinforcement and connectors.

### **3.4 BONDING AND TYING**

- .1 Bond walls of two or more wythes using metal connectors in accordance with CSA-S304, CSA-A371 and as indicated.
- .2 Tie masonry veneer to backing in accordance with NBC, CSA-S304.1, CSA-A371 and as indicated.

### **3.5 REINFORCED LINTELS AND BOND BEAMS**

- .1 Reinforce masonry lintels and bond beams as indicated.
- .2 Place and grout reinforcement in accordance with CSA-S304.1, CSA-A371, and CSA-A179.

### **3.6 GROUTING**

- .1 Grout masonry in accordance with CSA-S304.1, CSA-A371 and CSA-A179 and as indicated.

### **3.7 ANCHORS**

- .1 Supply and install metal anchors as indicated.

### **3.8 LATERAL SUPPORT AND ANCHORAGE**

- .1 Supply and install lateral support and anchorage in accordance with CSA-S304.1 and as indicated.

### **3.9 SITE TOLERANCES**

- .1 Tolerances in notes to Clause 5.3 of CSA-A371 apply.

**3.10 FIELD QUALITY CONTROL**

- .1 Inspection and testing will be carried out by Testing Laboratory designated by the Contract Administrator.

**3.11 CLEANING**

- .1 Perform cleaning after installation to remove construction and accumulated environmental dirt.
- .2 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

**3.12 PROTECTION**

- .1 Protect masonry and other work from marking and other damage. Protect completed work from mortar droppings. Use non-staining coverings.

**END OF SECTION**