

Part 1 General**1.1 RELATED REQUIREMENTS**

- .1 Section 03 30 00.01 – Cast-in-Place Concrete Short Form.
- .2 Section 05 12 23 – Structural Steel for Buildings.
- .3 Section 07 92 00 – Joint Sealants.

1.2 REFERENCES

- .1 CSA International
 - .1 CSA A165 SERIES-14, CSA Standards on Concrete Masonry Units.
 - .2 CSA A179-14, Mortar and Grout for Unit Masonry.
 - .3 CSA A370-14 Connectors for Masonry.
 - .4 CSA A371-14, Masonry Construction for Buildings.
 - .5 CSA G30.18-09, Carbon Steel Bars for Concrete Reinforcement.
 - .6 CSA S304-14, Design of Masonry Structures.
- .2 Health Canada / Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 00 10 – General Instructions.
- .2 Product Data:
 - .1 Submit manufacturer's instructions, printed product literature and data sheets for masonry products and include product characteristics, performance criteria, physical size, finish and limitations.
 - .2 Submit copies of WHMIS MSDS in accordance with Section 01 35 29.06 - Health and Safety Requirements.

1.4 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Storage and Handling Requirements:
 - .1 Store materials off ground, in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
 - .2 Store and protect masonry products from nicks, scratches, and blemishes.
 - .3 Replace defective or damaged materials with new.

1.5 SITE ENVIRONMENTAL CONDITIONS

- .1 Cold weather requirements. Supplement Clause 5.15.2 of CSA A371, with following requirements.
 - .1 Maintain temperature of mortar between 5 degrees C and 50 degrees C until batch is used or becomes stable.
 - .2 Maintain materials and surrounding air temperature at a minimum ambient temperature of 5 degrees C, prior to, during, and after 48 hours after completion of masonry work and protect site from wind chill.
- .2 Hot weather requirements.
 - .1 Protect freshly laid masonry from drying too rapidly, by means of waterproof, non-staining coverings.
 - .2 Keep masonry dry using waterproof, non-staining coverings that extend over walls and down sides sufficient to protect walls from wind driven rain, until masonry work is completed and protected by flashings or other permanent construction.
 - .3 Maintain materials and surrounding air temperature at a maximum ambient temperature of 32 degrees C and protect site prior to, during, and after 48 hours after completion of masonry work.

Part 2 Products**2.1 MASONRY UNITS**

- .1 Standard concrete block units: to CSA A165 Series (CSA A165.1).

2.2 REINFORCEMENT AND CONNECTORS

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

2.3 MORTAR AND GROUT

- .1 Use same brands of materials and source of aggregate for entire project.
- .2 Mortar: to CSA A179.
 - .1 Use aggregate passing 1.18 mm sieve where 6 mm thick joints are indicated.
- .3 Mortar for interior masonry Type: S based on property specifications.
- .4 Grout: to CSA A179, Table 3.

Part 3 Execution**3.1 EXAMINATION**

- .1 Verification of Conditions: verify conditions of substrates previously installed under other Sections or Contracts are acceptable for product installation in accordance with manufacturer's written instructions.
 - .1 Visually inspect substrate in presence of Departmental Representative.
 - .2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
 - .3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative.

3.2 CUTTING AND PATCHING

- .1 Do all cutting, fitting and patching of masonry to receive work of other trades, to make work properly come together and make good to match adjacent masonry.
- .2 When working with existing masonry wall, remove cut blocks where possible and replace with solid uncut masonry unit to tie infill portion into existing wall construction.

3.3 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.
 - .3 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.

3.4 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.

- .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 30 MPa concrete to Section 03 30 00.01 - Cast-in-Place Concrete – Short Form, 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 or grout; keep paper 25 mm back from faces of units.
- .5 Interface with other work:
 - .1 Provide openings in existing work where required or as indicated.
 - .2 Openings in walls shall be approved by Departmental Representative.
 - .3 Make good existing work. Use materials to match existing.
 - .4 Accurately locate chases and opening and neatly finish to required size.
 - .5 Where masonry encloses conduit or piping, bring to proper level indicated and as directed. Do not cover any pipe or conduit chases or enclosures until advised that work has been reviewed by Departmental Representative.
- .6 Fire and Smoke Separation:
 - .1 Supply and install masonry walls to provide fire and smoke separation to the minimum time resistance ratings shown on Drawings, if none are indicated provide a Fire and Smoke separation of 0 hours.
 - .2 Ensure materials employed, construction methods and seals to junctions to adjacent surfaces complement the fire and smoke separation requirements to approval of Authorities having jurisdiction.

3.5 REINFORCING AND CONNECTING

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

3.6 REINFORCED LINTELS AND BOND BEAMS

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

3.7 GROUTING

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

3.8 ANCHORS

- .1 Supply and install metal anchors as indicated.

3.9 LATERAL SUPPORT AND ANCHORAGE

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

3.10 SITE TOLERANCES

- .1 Tolerances of CSA A371 apply.

3.11 FIELD QUALITY CONTROL

- .1 Inspection and testing will be carried out by Testing Laboratory designated by Departmental Representative.

3.12 CLEANING

- .1 Progress Cleaning: Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment.

3.13 PROTECTION

- .1 Protect masonry and other work from marking and other damage. Protect completed work from mortar droppings. Use non-staining coverings.
- .2 Repair damage to adjacent materials caused by masonry products installation.

END OF SECTION