

PART 1 - GENERAL

1.1 REFERENCES

- .1 ASTM International
 - .1 ASTM A 496/A 496M-07, Standard Specification for Steel Wire, Deformed, for Concrete Reinforcement.
- .2 CSA International
 - .1 CAN/CSA-A82-06, Fired Masonry Brick Made From Clay or Shale.
 - .2 CAN/CSA-A165 SERIES-04(R2009), CSA Standards on Concrete Masonry Units covers: A165.1, A165.2, A165.3.
 - .3 CAN/CSA-A179-04(R2009), Mortar and Grout for Unit Masonry.
 - .4 CAN/CSA-A370-04(R2009), Connectors for Masonry.
 - .5 CAN/CSA A371-04(R2009), Masonry Construction for Buildings.
 - .6 CSA G30.18-09, Carbon Steel Bars for Concrete Reinforcement.
 - .7 CSA S304.1-04(R2009), Design of Masonry Structures.
- .3 Green Seal Environmental Standards (GS)
 - .1 GS-11-2008, 2nd Edition, Paints and Coatings.
- .4 Health Canada / Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).

1.2 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
 - .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 2 copies of WHMIS MSDS in accordance with Section 01 35 29 - Health and Safety Requirements 01 35 43 - Environmental Procedures.
 - .1 Indicate VOC's in g/L for epoxy coatings and galvanized protective coatings and touch-up products to be applied within building envelope.
 - .3 Shop Drawings:
 - .1 Submit drawings as per section 01 33 00 - Submittals.
 - .2 Shop drawings consist of bar bending details, lists and placing drawings.
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.3 Placing drawings, indicate sizes, spacing, location and quantities of reinforcement and connectors.

1.3 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements and 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 indoors 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.
- .4 Packaging Waste Management: remove for reuse and return by manufacturer of pallets, crates, padding, and packaging materials as specified in accordance with Section 01 74 22 - Construction/Demolition Waste Management and Disposal.

PART 2 - PRODUCTS

2.1 MASONRY UNITS

- .1 Standard concrete block units: to CAN/CSA-A165 Series (CAN/CSA-A165.1).
 - .1 Classification: H / 15 / A / M.
 - .2 Size: Refer to Plans.
 - .3 Special shapes: provide square bull-nosed 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 CAN/CSA-A371 and CSA G30.18, Grade 400.
 - .2 Wire reinforcement: to CAN/CSA-A371 and ASTM A 496/A 496M, truss type.
 - .3 Connectors shall be corrosion resistant: to CAN/CSA-A370 and CSA S304.1.
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2.3 MORTAR AND GROUT

- .1 Mortar: to CAN/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 based on property specifications,
- .3 Mortar for foundation walls, manholes, sewers, pavements, walks, patios and other exterior masonry at or below grade: type M based on property specifications.
- .4 Following applies regardless of mortar types and uses specified above:
 - .1 Mortar for stonework: type N based on property specifications.
 - .2 Mortar for grouted reinforced masonry: type S based on property specifications.
- .5 Grout: to CAN/CSA-A179, Table 3.

2.4 ACCESSORIES

- .1 Nailing Inserts: 0.5 mm minimum thickness, galvanized.
- .2 Bolts: 12 mm diameter x 150 mm long with ends bent 50 mm at 90 degrees.
- .3 Primers, Paints, Coatings: VOC limit 50 g/L maximum.
- .4 Coatings: VOC limit 100 g/L maximum.

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.
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3.2 INSTALLATION

- .1 Do masonry work in accordance with CAN/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.
 - .3 Jointing: tool where exposed or where paint or other finish coating is specified to provide smooth compressed concave surface cut joints flush.
- .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.

3.3 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 as indicated on drawings.
 - .4 Support of loads:
 - .1 Use 35 MPa concrete to Section 03 30 00.01 - Cast-in-Place Concrete Short Form, where concrete fill is used in lieu of solid units.
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.2 Use grout to CAN/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.

3.4 REINFORCING AND CONNECTING

.1 Install masonry connectors and reinforcement in accordance with CAN/CSA-A370, CAN/CSA-A371 and CSA S304.1 unless indicated otherwise.

.2 Prior to placing concrete, mortar, grout, obtain Departmental Representative's approval of placement of reinforcement and connectors.

3.5 BONDING AND TYING

.1 Tie masonry veneer to backing in accordance with NBC, CAN/CSA-A371, CSA S304.1 and as indicated.

3.6 REINFORCED LINTELS AND BOND BEAMS

.1 Reinforce masonry lintels and bond beams as indicated.

.2 Place and grout reinforcement in accordance with CAN/CSA-A179, CAN/CSA-A371 and CSA S304.1.

3.7 GROUTING

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

3.10 SITE TOLERANCES

- .1 Tolerances of CAN/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: clean in accordance with Section 01 74 11 - Cleaning.
 - .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.
- .3 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 22 - Construction/Demolition Waste Management and Disposal.
 - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

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.